Investing in Ghosts

Building and Construction in Nigeria's Oil Boom and Bust c.1960-2000

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New College, Trinity Term 2011

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SHORT ABSTRACT

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Nigeria, Africa's most populous country, has been portrayed in scholarly literature as a prominent case of postcolonial African 'growth failure'. Between 1960 and 2000 oil reserves were exploited resulting in revenues of more than $300 billion to the Nigerian government, while real per capita income fell over the same period. This thesis, by focusing on building and construction in Nigeria from 1960 to 2000, explains how and why Nigeria failed to invest its oil revenues to create long-term economic growth. Its findings have important implications for investment analyses of other commodity-rich countries in Africa and across the developing world. It draws on a wide range of primary quantitative and qualitative sources including government surveys, construction-related company financial data and project lists, industry publications, newspapers, and the correspondence files of a major Nigerian architecture firm. These are used to present a picture of historical building activity which includes a 40-year dataset of cement price and consumption, and a construction supply curve for both the oil boom and bust periods.

By quantifying for the first time the long-observed 'ghost construction' of the oil boom, this thesis finds that annually about two thirds of what scholars and national accounts statistics had estimated was being invested in construction was never actually invested, implying that what was invested offered a greater return than has previously been acknowledged. Although investment in construction was overstated during the oil boom, during the oil bust construction was understated as major government projects were funded off-budget and away from public scrutiny. This thesis demonstrates that the most productive area of public investment has been infrastructure, and further that the private sector construction industry was a valuable asset which greatly enhanced the government's ability to implement investment programmes, when it had the political will to do so.

LONG ABSTRACT

Nigeria, Africa's most populous country, has been portrayed in scholarly literature as a prominent case of postcolonial African 'growth failure'. Between 1960 and 2000 oil reserves were exploited resulting in revenues of more than $300 billion to the Nigerian government, while real per capita income fell over the same period. Detailed knowledge about the construction sector during this period is essential in order to understand Nigeria's growth pattern. For revenue derived from oil to be translated into growth, it needed to be converted into equipment and structures. Unlike equipment, structures need to be produced locally. This gives the construction sector a strategic role in supplying the non-tradable capital goods crucial for the economy to grow. The ability of the Nigerian economy to invest in construction during the oil boom was central to its ability to convert oil revenues into infrastructure, housing, factories and many other buildings needed for the provision of basic goods and services.

This historical analysis of building and construction in Nigeria from 1960 to 2000, explains how Nigeria failed to invest its oil revenues to create long-term economic growth. It reconstructs the historical narrative of the scale, nature and circumstances of Nigeria's investment in construction by combining published macroeconomic data with micro-level primary historical documents collected during fieldwork in Nigeria during 2008-2010. The thesis draws on a wide range of primary quantitative and qualitative sources, including construction firms', building material supply firms', and

manufacturing firms' financial data and annual reports, the contract archive and job lists of a major private architecture firm, historical editions of the construction industry magazine *Construction in Nigeria*, an archive of the Manufacturers Association of Nigeria's half yearly economic reports, the extensive newspaper archive of the Nigerian Institute for International Affairs, as well as personal interviews conducted in Nigeria and in the United Kingdom. This thesis develops its narrative in three parts: the period preceding 1970, the 'baseline', against which further change is compared; 1970-1985, the first Nigerian oil 'boom'; and 1986-2000, the oil revenue 'bust' characterized primarily by a prolonged period of depression in government revenue and spending.

On the eve of the oil boom, building demand was already exploding because of a commodity boom, the beginnings of large scale industrial production, and the ambitious development programme of the newly independent Nigerian government. An industry was emerging to supply the construction inputs needed to meet rapidly increasing demand. A domestic building materials industry was established in the 1950s and 1960s in order to compete with imports, and production in the cement industry in particular was growing, which caused the real price of cement to fall throughout the 1960s. The contracting industry, already well-established during the colonial period, was given a boost when over the decade of the 1950s public sector building contracts were almost completely privatized. The market coordination of booming demand from both the public and private sectors and an efficiently managed supply of materials and contractors during the 1960s provides a sharp contrast to what occurred during the later oil boom period. The existence of a relatively well-developed local construction sector capable of building sophisticated infrastructure projects *before* the boom in oil revenues made productive investment during the boom far easier for the public sector than would otherwise have been the case.

During the oil boom period (1970-1985), scholars have unanimously observed that there was a government-led construction boom which is also evidenced in Nigerian national accounts. Scholars have also noted, however, that some of that construction was 'ghost construction', paid for but never executed, as construction contracts were used as informal cash transfers to patronage networks. This thesis compares the construction boom portrayed in the national accounts as gross fixed capital formation to the total receipts of the construction industry over the same period, hypothesising that the difference between the two amounts was 'ghost construction'. On this basis, in any given year only about only one-third of what scholars and national accounts statistics had estimated as invested in construction actually occurred. This implies that what was invested was much more productive than has previously been realised. This underappreciated productive investment was almost exclusively in public infrastructure, as government involvement in other areas such as housing and industry was almost uniformly unsuccessful.

During the oil boom the cost of construction outpaced that of overall inflation until about 1977-1978. Scholars, citing Dutch disease, have assumed that this was due to local bottlenecks in the domestically produced aspects of construction including labour and contracting capacity. While initially the prices for these local inputs did rise, this thesis also found that shortages of the 'tradable' inputs of building materials were major drivers of construction inflation. This was because multi-year port congestion driven by the government 'cement armada' scandal and deterioration of the government controlled cement production facilities greatly reduced both the 'tradability' of materials and their domestic production. The relative price of construction only dropped when port congestion eased and private-sector production of cement increased.

This thesis uses cement consumption to capture the infrastructure-dominated public sector construction demand and roofing material consumption to indicate private sector industrial and residential building during the oil boom, and triangulates both series with construction industry job lists and industry market descriptions. It finds that contrary to scholarly assumptions about the non-competitive nature of the public-private sector relationship during the oil boom, in fact the inability of the public sector to moderate its demand for construction crowded out the private sector from contractor capacity and building materials. Delayed several years due to crowding out, the private sector construction boom started later and lasted longer than the public sector construction boom. The private sector was only able to finally enter the market when relative construction inflation eased. The price data and industry accounts support and help explain the findings of Tom Forrest, who documented a 'delayed' private sector industrial boom which trailed the public sector boom by several years.

Scholarly attention about the oil bust period (1985-2000) has been dominated by debate over the IMF-directed Structural Adjustment Programme (SAP). With severely reduced budgets reflecting lower oil revenues and a foreign debt crisis, a cessation of public sector building has been taken for granted as fiscally necessary. This thesis shows that while public sector construction did drop during the oil bust, the government's fiscal crisis was also used as a smoke-screen to cover a policy change with regard to public investment. Government funds were still spent on construction, but not on public goods which benefitted a wide range of people such as utilities and transportation. Instead, they were used, through a series of off-budget accounts, to build a new capital in Abuja for the primary benefit of bureaucrats and civil servants, as well as a range of other projects which similarly benefitted a narrow base of constituents. Notably, just as investment in construction was overstated during the oil boom, during the oil bust construction was understated as major government projects were funded off-budget and away from public scrutiny.

Having established and explained the pattern of construction activity before, during and after the oil boom, the thesis concludes by noting that official construction statistics are not a reliable measure of investment, especially in comparison to Nigeria's rich source of construction industry data. In addition, Nigeria's most productive area of investment, public infrastructure, deserves more attention than it has previously received. At the end of the 20th century, after more than a decade of severe underinvestment in transportation and utilities, Nigerians were left to provide these essential tools for growth as individuals, at a much higher cost than had they been supplied by a central authority. The infrastructure which was built was facilitated by the existence of a well-established construction industry which was able to offer the government the ability to large projects which it might not otherwise have had. These findings are an important contribution to historical literature, as they break down what appears to be an all-too-common 'intractable' growth problem faced by a range of African, post-colonial and developing economies into a detailed account highlighting exactly when and where market coordination and investment selection both succeeded and failed.

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LIST OF ABBREVIATIONS

AAS……………………………………………………………Annual Abstract of Statistics
C&D………………………………………………………………Cappa and D’Alberto
CBN………………………………………………………………Central Bank of Nigeria
CCNN…………………………………………...Cement Company of Northern Nigeria
CPI………………………………………………………………..Consumer Price Index
CWA……………………………………………………………….Costain West Africa
DM……………………………………………………………………….Deutsche Mark
DOS………………………………………………………………….Digest of Statistics
FOBACEC………Federation of Building and Civil Engineering Contractors (now FOCI)
FOCI ………………………………………………Federation of Construction Industry
FOS……………………………………………..Federal Office of Statistics (now NBS)
GDP……………………………………………………………Gross Domestic Product
GH…………………………Godwin and Hopwood (Godwin Hopwood Kuye from 1989)
GFCF…………………………………………………Gross Fixed Capital Formation
IDA……………………………………….........International Development Association
JB………………………………………………………………………..Julius Berger
m or MM…………………………………………………………………..Millions
MAN……………………………………………..Manufacturers Association of Nigeria
MW………………………………………………………………………...Megawatts
N………………………………………………………...…….……………………Naira
NBS………………………………………………………..National Bureau of Statistics
NCC………………………………………………………...Nigerian Cement Company
NEPA………………………………………………..National Electric Power Authority
NIIA…………………………………………Nigerian Institute for International Affairs
NIA…………………………………………………...Nigerian Institute of Architects
PWD…………………………………………………………Public Works Department
TPA………………………………………………….....Tonnes (or Tons) Per Annum
UN Comtrade……………………...United Nations Commodity Trade Statistics Database
WAPCO…………………………………………………West African Portland Cement

CHAPTER ONE: Introduction

An intractable problem

In the forty year period after Nigeria achieved independence from Britain (1960-2000), Africa's most populous country challenged the conventional wisdom that countries are poor because their governments lack resources to invest in economic growth. Oil reserves were exploited resulting in revenues of more than $300 billion to the Nigerian government. However, real per capita income (in purchasing power parity terms) fell from $1,521 in 1960 to $1,279 in 2000.[1] Nigeria has thus been portrayed by the economic growth literature as an intractable problem, a prominent case of postcolonial African 'growth failure' which occurred in spite of its natural resource abundance.

In order for long-term growth to have been created from Nigeria's oil wealth, income from hydrocarbons had to be invested in construction of productive physical assets. This thesis examines the history of construction in Nigeria from 1960 to 2000 in order to assess how much was invested in construction, in what kinds of assets, at what price, thereby directly addressing the root cause of Nigeria's 'growth failure'. Construction is the unavoidable bridge between income and the physical capital necessary to promote improvement in living standards, employment and productivity. Unlike equipment, which can be imported, buildings and other structures must be 'produced' domestically, giving

[1] Real GDP in 2005 constant prices. Alan Heston, Robert Summers, and Bettina Aten, *Penn World Table Version 6.3*, Center for International Comparisons of Production, Income and Prices, University of Pennsylvania (2009).

the construction sector a pivotal role in supplying the non-tradable capital goods critical for economic growth.[2] Any problems in transforming income into construction would also have affected returns on tradable capital goods, magnifying the impact of construction on economic growth. A study of construction provides insight into what was a historically significant missed opportunity in a major economy dependant on a depleting natural asset.

This thesis makes two original contributions to scholarly literature. First, it offers a new historical narrative explaining four decades of economic change in Nigeria through the prism of the crucial construction sector. As it is the oil boom that draws the 'growth failure' into sharp relief, this narrative is focused immediately before, during and after the 1970-1985 Nigerian oil boom. Second, it provides a methodological contribution: compiling its narrative required the simultaneous use of two distinct research methods. The first method was the use of standard historical research strategies of collecting macro-level and official data from sources such as government statistical records and newspapers. The second method was anthropological-style fieldwork conducted in Nigeria in 2008 and 2009, which was necessary in order to collect firm-level data from company and industry sources.

The anthropological-style fieldwork required for this project involved a large scale investigation into broad range of industries in the current and historical Nigerian private sector with the aim of discovering private repositories of historical data – anything which

[2] See David Bevan, Paul Collier, and Jan Willem Gunning, *Controlled Open Economies: a Neoclassical Approach to Structuralism* (Oxford, 1990), 152.

could conceivably demonstrate or impact construction or investment trends – which had managed to avoid loss or destruction. This required visiting companies, industry associations, the stock exchange, building sites and factories, and extensively interviewing current and retired business managers and owners in order to follow leads of potential data sources or to get proper context for data which had been found. This thesis therefore relies heavily on data found in private firm and industry archives (as well as the cooperation of a large number of very kind individuals) which would not have been available through a standard archival search, and indeed there was no national or other scholarly archive where the information necessary for this project would have been available.

The combination of these two research methods resulted in an unusual and varied dataset, in which there were multiples types of data available for overlapping time periods. This dataset allowed for the analysis in this thesis to triangulate various types of data sources against one another. It also allowed for the accuracy of official data to be tested and shed light on parts of the economy, such as the private or informal sectors, which might not have been accurately portrayed had the project been limited to the use of standard scholarly and government sources. For example, national building statistics could be compared and supplemented with cement production and roofing sheet sales data from multiple companies in Nigeria's major markets, as well as construction company financial results gathered from private sources, and any discrepancies in trends could be investigated and explained. It enabled the narrative to be far more nuanced than it otherwise would have been.

The use of construction as an economic indicator is common in developed countries but unorthodox for African studies. Historians have written extensively about factor markets in African history. This discussion has included everything from the role of social and human capital in African economies to the huge investment in working capital by European trading firms in African markets during the industrial revolution.[3] However, the creation of fixed capital, and specifically the construction of structures, has been relatively neglected by African historical research to date. This is despite the fact Sub-Saharan Africa's wealthiest businessman, Aliko Dangote, 'cut his teeth' importing cement into Nigeria, and one of Africa's best known developmental disasters of the 1970s, the 'cement armada', gave the stratospheric Nigerian demand for construction international notoriety.[4] Even within Nigerian popular culture, the idiosyncratic nature of construction projects frequently allowed public spending on structures to escape scrutiny.

Scholars of African urbanization who have embraced archaeology and urban building patterns have perhaps come closest to recognizing the importance of primary research on structures in African history, and this thesis draws significantly on that literature.[5] However, before the questions of social organization and culture raised by urbanization can be addressed, the more basic questions of who can afford to build, why, and with what materials, need to be confronted. The study of construction, as opposed to

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[3] Gareth Austin, 'Factor Markets in Nieboer Conditions', *Continuity and Change*, Vol. 24, Special Issue 1 (2009), 24; Joseph E. Inikori, *Africans and the Industrial Revolution in England* (Cambridge, 2002); Frederick Pedler, *The Lion and the Unicorn in Africa* (London, 1974), 171; Robert Bates, 'Capital, Kinship and Conflict: The Structuring Influence of Capital in Kinship Societies', *Canadian Journal of African Studies*, Vol. 24, No. 2 (1990).
[4] William Wallis, 'Humble Fare that Fed Trading Empire', *Financial Times*, 31/8/08.
[5] Akin L. Mabogunje, *Urbanization in Nigeria* (London, 1968).

urbanization, allows researchers to avoid bias towards urban settlements; buildings constructed at great expense in rural hometowns, built to stand empty as symbols of social prestige, can be just as historically meaningful as urban homebuilding. Gareth Austin, a leading economic historian of West Africa and of factor markets in particular, has lamented that 'the paucity of stocks of capital goods in relation even to labour supplies has often been taken as literally too obvious to be worth discussing…fixed capital formation requires more attention than it has traditionally received in the economic historiography of Africa.'[6] This thesis is an attempt to remedy some of that deficit.

Why is this important?

Strategically, Nigeria is arguably the most important piece in the puzzle of African economic growth. According to official statistics it is the most populous country in Africa and the second largest economy in Sub-Saharan Africa, after South Africa. It spans Saharan desert, tropical coastline and vast urban centres and has been a major agricultural exporter. It has much in common with both its African neighbours and oil-rich fellow OPEC (Organization of the Petroleum Exporting Countries) members and yet has followed a path of its own. In particular, the period from 1960 to 2000 has been a critical one in Nigeria's economic history, during which it attained political independence as a unified state for the first time and crucially, experienced a resource 'boom' and 'bust'. How Nigeria used its resource boom, which could have provided a foundation of wealth for the country for decades to come but did not, is a question of enduring fascination and

[6] Gareth Austin, 'Resources, Techniques and Strategies South of the Sahara: Revising the Factor Endowments Perspective on African Economic Development, 1500-2000', *Economic History Review*, Vol. 61, No. 3 (2008), 594, 597.

clear applicability in the study of what makes countries rich and poor throughout the world.

From an historian's perspective, building trends are an ideal window through which to identify economic shifts in history. Buildings in Nigeria, as elsewhere, were expensive, long-term investments, and therefore historically represented a meaningful asset allocation choice. This choice was made relative to other spending, saving and investment options, and so the choice to build reveals something about the relative attraction or availability of other asset classes. Importantly for historians, buildings are often large, lasting, visible, and less vulnerable to destruction and loss than, for instance, a traditional archive, and are likely to be mentioned in a variety of documentary sources. Even when buildings have been destroyed, traces can often be found, making them difficult to conceal. The types of buildings constructed are indicators of economic and social activity and preference. Schools, hospitals and stadiums indicate one set of priorities; factories, houses, mines and military installations indicate another. Nearly every economic activity, to some degree, requires building. When it is possible to identify who commissioned or financed buildings, historians may be able to learn about the distribution and level of purchasing power, and from that, broader trends in economic growth. Most importantly, unlike many other forms of economic data, including budgets, national accounts and policy statements, building data usually indicates what was actually done and money that was actually spent, not how it was recorded in official documents as having been spent.

The role of politics

In general, scholarly accounts of Nigerian history since independence have focused on politics, and political problems have generally been used to explain economic failure. This is partly because Nigeria's politics have been so volatile and dramatic: since independence there have been six military coups, a civil war, endlessly delayed and then disputed elections, conflicts over the distribution of oil revenues and political power (the reason why no credible population census has ever been produced), amongst other twists and turns. In addition, politics is relatively easy to document, as it plays out in the newspapers and is recorded in a wealth of official documents. While this focus has produced many valuable studies, it has also in some cases led the focus of scholars away from the critical drivers of the economic growth failure. This study takes a different approach. It investigates construction from a market perspective, as opposed to a political perspective, discussing political changes only for historical context or in order to note those political structures which had a direct impact on either supply or demand of construction. In doing so, it is able to draw attention to the specific factors that had the most impact in determining economic growth.

However, although this work does not primarily concern itself with politics, this does not mean that the Nigerian state was not a central actor in the events. A key finding of this thesis is that Nigeria's systemic failure to invest in the structures needed for economic growth was the result of construction market forces interacting with the Nigerian state, which had surprising and significant effects on both supply and demand. This role of 'market maker' was a new one for the newly independent Nigerian state. In the 1950s buildings were the most significant single category of capital formation and it was taken for granted that the private sector drove investment.[7] But by the late 1960s the state had undergone a metamorphosis, emerging as a major force bearing down on both construction supply and demand, and the more oil wealth it had, the more influence it could exert. A study of building in Britain notes that the availability of bank credit historically exacerbated any positive or negative shock to building levels.[8] In Nigeria, from the late 1960s, the wealth and power of the state played that role, swinging its weight and distorting what had been a fairly balanced market for construction.

In order to appreciate the role of the Nigerian state during this period, it is essential to consider that scholars have long observed a sharp conflict between the country's moral and legal codes, a conflict clearly evident in the findings of this thesis, particularly in Chapters Four, Six and Eight. A number of scholars have contributed influential frameworks within which this conflict can be understood. One of them is Peter Ekeh, who famously described this phenomenon as a conflict between two public spheres, one of which is based on pre-colonial institutions and has a moral basis consistent with private morality (the primordial sphere), the other based on modern state institutions inherited from the colonial administration but which lacks 'moral imperatives' (the civic sphere).[9] This is a useful distinction, though one might dispute how primordial his interpretation of private morality actually was. In a similar vein, Varda Eker recast this conflict as a clash between two moralities, one which prioritizes family and the other

[7] Ojetunji Aboyade, *Foundations of an African Economy: a Study of Investment and Growth in Nigeria* (New York, 1966), 71.
[8] J. Parry Lewis, *Building Cycles and Britain's Growth* (London, 1965), 25.
[9] Peter P. Ekeh, 'Colonialism and the Two Publics in Africa: A Theoretical Statement', *Comparative Studies in Society and History*, Vol. 17, No. 1 (1975), 92.

which is based on equal treatment for all, and both have a claim to legitimacy. She wrote that

> it may be fair to say that in countries where the moral code is deeply embedded in binding obligations and strong allegiances to kith and kin only, social norms that demand honest dealings with all are quite simply an artificial imposition…new norms have been adopted largely for utilitarian reasons, but they have neither replaced nor diminished the potency of old values…Morality is thus split into two layers which cannot be comfortably reconciled since they are in conflict with each other. The fundamental values of the society demand integrity, care, loyalty, duty, and selflessness in regard to the family alone, whereas western morality, which idealises the same values as principles of universal conduct, is veneer deep. The only occasions when the two moralities coincide are the eruptions of big national scandals.[10]

This conflict was not unique to Nigeria. Scholars have described similar conflicts affecting societies in a state of flux brought about by social change, urbanization and industrialisation. Both Ekeh and Eker, for example, identified similarities between this conflict in Nigeria and Edward Banfield's study of 'amoral familism' in rural Italy.[11]

What is important for this study is the impact that such a conflict had on the Nigerian economy and in particular the impact it had on the resources of the Nigerian government, including revenues from oil. Ekeh noted that '[t]he unwritten law of the dialectics is that it is legitimate to rob the civic public in order to strengthen the primordial public'. [12] In practical terms, this meant that in some cases there was a moral justification or even a moral imperative for individuals to use access to government funds to divert those funds away from their officially intended use to instead benefit their own private networks. [13] During the oil boom the scale of this diversion increased massively. Once diverted, the use of those funds could not be monitored by any formal or informal institution, creating often irresistible opportunities for state employees to appropriate funds for personal use, a

[10] Varda Eker, 'On the Origins of Corruption: Irregular Incentives in Nigeria', *The Journal of Modern African Studies*, Vol. 19, No. 1 (1981), 175-176.
[11] Edward C. Banfield, *The Moral Basis of a Backward Society* (New York, 1958).
[12] Ekeh, 'Colonialism and the Two Publics in Africa', 108.
[13] Ibid., 102-103.

far cry from any 'primordial public' use which may have originally given the action moral sanction.

There is a vast scholarly literature which discusses the evolving mechanisms, motivations and consequences of diversion of Nigerian government funds in the post-independence period, the most prominent of which is the work of Richard Joseph.[14] He refers to the use of state offices and the diversion of public funds to support personal or patronage networks as *prebendalism*. He and others identified construction as a major avenue for illegal public-to-private sector transfers of funds. Joseph's framework is now amongst the most widely accepted lens through which scholars understand the nature of the state in Nigeria, though it has been updated by Peter Lewis and others who observed the increasing centralisation and consolidation of state power during the oil bust from the late 1980s.[15] This thesis explores how both the notion and the reality of construction were used by actors within the Nigerian state, in a variety of ways, to impact Nigeria's ability to direct its income from oil towards growth-enhancing building and infrastructure projects.

The core argument

Up until now, the available evidence has allowed scholars to develop the following standard historical narrative of the modern Nigerian economy: the oil boom of the 1970s and early 1980s, the country's economic high point, was used by the Nigerian

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[14] Richard A. Joseph, *Democracy and Prebendal Politics in Nigeria* (Cambridge, 1987).
[15] Peter Lewis, 'From Prebendalism to Predation: The Political Economy of Decline in Nigeria', *Journal of Modern African Studies*, Vol. 34, No. 1 (1996), 80.

government to fund a large investment programme.[16] However the benefits from the boom seemed to evaporate when the oil bust and foreign debt crisis of the mid-1980s and 1990s forced cuts in public spending, and increasingly repressive political regimes frightened off foreign investment.[17] All the while, mismanagement and corruption leaked away government oil revenue. While the bare facts of this narrative are correct, this thesis offers an updated and detailed perspective on which known events and processes were the most critical for economic growth and introduces others which, although highly significant, have until now been overlooked by scholarly accounts.

In fact, Nigeria's growth failure is a story of consistent and deliberate underinvestment in physical, productive construction relative to the resources available, and of the remarkable dividends the economy enjoyed from the limited investment made. While all scholars acknowledge a large degree of mismanagement of Nigerian oil revenues, evidence in this study allows this leakage of funds nominally intended for construction to be quantified for the first time. This quantification indicates that not only was some of the so-called investment boom of the 1970s misspent, but that in fact most (but not all) of the recorded investment boom was pure fiction which existed in national accounts but did not actually occur on the ground. This government 'ghost' demand for construction dramatically reduced the pool of resources which could have been used for building and is the subject of Chapter Four of this thesis.

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[16] Toyin Falola and Mathew Heaton, *A History of Nigeria* (Cambridge, 2008), 183.
[17] Ibid., 219, 233.

At the same time, what public sector investment boom there was, much of which was in unproductive assets, absorbed the bulk of the building inputs available in the country. This caused unnecessary price inflation and is discussed in Chapter Seven. It crowded the private sector out of the building market for nearly a decade and compounding Nigeria's fixed capital shortage. Scholars have extensively discussed the impact of the public 'investment boom' on agricultural production, but not on private sector building trends and affordability, a key determinant of living standards and economic growth. Due to the non-tradable nature of construction, temporary bottlenecks arguably would have increased prices somewhat anyway when building demand increased on the back of larger government budgets, but state influence on both construction supply and demand exaggerated these bottlenecks in dramatic ways.

While the subsequent oil bust of the mid-1980s and 1990s did force a drop in government budgets which led to declines in public goods and services, this was in reality also due in large part to an unforced shift in government priorities away from true public investment in construction, more than was fiscally necessary. Government funds were still found for lavish construction projects in the new capital in Abuja to the benefit of a closed circle of politicians and bureaucrats, and to fund administrative buildings for newly created states. This priority shift away from public investment in areas such as infrastructure starved the private sector of the public goods it needed to function efficiently, a key factor in the dismal performance of the economy in the 1990s, and is explained in Chapter Eight.

The core argument of this thesis is highly relevant to debates in the economics literature about the role of construction investment, and its interaction with what scholars have called 'corruption', in developing countries. Since, as has already been mentioned, this thesis finds that much of what was recorded as 'investment' did not actually get invested, this thesis also questions the use of the term 'public investment' itself when it is based on computations using national accounts. The Nigerian case, with its vast amount of ghost construction and considerable crowding out effect generated at least in part by non-productive public 'investment', reinforces the question, raised by other scholars, about whether poor quality public investment should really be considered investment at all.[18] Certainly in the Nigerian case, both ghost construction and non-productive industrial facilities were never really intended to fulfil their stated purpose, and possibly fit the profile of consumption, not investment. This study finds that Nigeria's historical experience generally supports the suggestion from Philip Keefer and Stephen Knack that countries with poor governance will be drawn to relatively high levels of public investment in because it can provide opportunities to extract rent.[19] At the very least, the Nigerian case shows that investment data in national accounts should be considered, as it is in this study, in the context of primary data from the construction industry.

This is not to argue that legitimate public investment was not important; on the contrary, there was an entire area of state-led building during the oil boom period, namely infrastructure, which was a considerable success. This thesis shows that the infrastructure

[18] Lant Pritchett, 'Mind Your P's and Q's: The Cost of Public Investment is *Not* the Value of Public Capital', *World Bank Policy Research Working Paper*, No. 1660 (1996).
[19] Philip Keefer and Stephen Knack, 'Boondoggles, Rent-Seeking, and Political Checks and Balances: Public Investment under Unaccountable Governments', *The Review of Economics and Statistics*, Vol. 89, Iss. 3 (2007), 570.

that was erected during the oil boom was far more productive, relative to the price paid, than has previously been understood and forms the foundation on which the Nigerian economy of today almost completely depends. Nigeria's competitive and technically sophisticated private sector construction industry, which developed well before the oil boom, played an important part in supplying the country with the necessary capacity to build these productive projects. This thesis therefore suggests that continued investment in infrastructure, and other public goods, is a crucial step Nigeria must take before it can overcome the hurdles to its further economic development. The conclusion for the Nigerian economy is therefore hopeful, though positive developments will certain require better awareness of an existing view within the economics literature, which stresses that 'it is not the *quantity* of public investment that matters, but rather the *quality*.'[20]

The scope of the project

Construction in this thesis is defined as the process of creating fixed capital in the form of structures, although observations relating to broader investment, construction and capital formation trends are included where available and relevant. Although structures include a huge range of goods including houses, factories, infrastructure and ceremonial buildings, which can variously be used for anything from income generation to conspicuous consumption, they all share the common characteristics of capital assets, and can be considered valuable, long-term investments, intended to yield social or economic returns, though social returns are generally not evaluated in this study. To some degree what is included in construction here is dictated by sources available; this thesis generally

[20] Eduardo Cavallo and Christian Daude, 'Public Investment in Developing Countries: A Blessing or a Curse?', *Journal of Comparative Economics*, Vol. 39 (2011), 78.

includes as construction everything that is built by a construction contractor, or any structure which uses cement and other key building materials.

The scope of the project is Nigeria and, for the sake of focus, it neither juxtaposes Nigeria to other African or post-colonial nations, nor for the most part does it distinguish between foreign and domestic funding of investment. The thesis frequently broadly refers to the Nigerian ‘government’, a term which could include federal, state, or local bodies, as in many cases limited data means it cannot always distinguish the specific authority in more detail. It uses the term ‘Nigeria’ when broadly referring to the national economy and society, including its government, as a whole. It takes a national perspective and is limited in its geographical specificity by the data available, and only in select instances does it draw distinctions in activity between the various parts of Nigeria. A limitation of both the primary data and the secondary sources is that much of it represents activity in Nigeria’s commercial capital and largest city, Lagos, and may be weighted towards urban areas and southern Nigeria generally. It broadly covers the period from 1960 to 2000, though its focus largely ends with the downfall of the Abacha regime in 1998. The primary interest is the oil boom and bust, but one of the key contributions is the identification of where patterns of oil revenues and construction trends diverged.

Although this thesis addresses official construction statistics, and finds large inaccuracies, it is beyond the scope of this thesis to reassess broad economic growth and per capita income statistics. The likely inaccuracy of the population statistics on which income per capita statistics are based alone is an obvious and often cited reason why broader economic growth conclusions could be very inaccurate indeed.[21] Its conclusions do suggest that reassessing historical Nigerian national accounts, as others have done, will continue to be a fruitful area for future research. What this thesis does do is treat construction as an economic indicator implying a variety of possible and likely circumstances including affordability and investment confidence, though the more contextual meaning of any given construction activity is suggested where indicated by the available data.

Given that this thesis is an examination of the construction industry in the context of Nigeria's oil boom and bust, it is natural to ask how this thesis considers theory and evidence about the incidence of Dutch disease in Nigeria during the period under examination. Dutch disease broadly examines the effect of a resource-driven export boom on other sectors of an economy. The term 'Dutch disease' was coined with reference to the impact of the 1960s discovery of natural gas on the economy of the Netherlands. Where Dutch disease is present, it causes the appreciation of the real exchange rate, or the purchasing power of the boom-economy currency relative to other currencies. One well-known consequence may be the reduced competitiveness of the economy's other exports, which has been much cited in the Nigerian case. In W. M. Corden's classic paper, he mentions Nigeria as possibly having suffered from 'deagriculturalisation' as a result of Dutch disease, and Nigeria scholars have offered evidence as to the decline of

[21] S.A. Aluko, 'How Many Nigerians? An Analysis of Nigeria's Census Problems, 1901-63', *The Journal of Modern African Studies*, Vol. 3, No. 3 (1965); Aderanti Adepoju, 'Military Rule and Population Issues in Nigeria', *African Affairs*, Vol. 80, No. 318 (1981).

the country's export-oriented agricultural sector, and an 'extraordinary increase in imports' as evidence of this effect.[22]

Does Dutch disease matter for this study of the construction industry? Apart from possibly contributing important effects to the macroeconomic context in which construction took place, another possible consequence of Dutch disease is what Corden and J. Peter Neary called the *spending effect*, in which the higher income from the boom is spent on non-tradable sectors such as services, which would include construction services.[23] The theory predicts the increasing price of non-tradable goods (for which there is greater demand, from the spending effect) relative to tradable goods (which can be imported at the world market price, regardless of demand). This greater level of spending might also increase the profitability of the services sectors, and may draw resources, including labour, out of export-oriented industries such as agriculture.

While this thesis is not focused on using its evidence about construction to examine the incidence of Dutch disease in Nigeria *per se*, and any related findings are not the principal basis for any of the thesis' core arguments, the claims of the spending effect clearly overlap with its principle areas of investigation. This study does therefore address Dutch disease hypotheses, indirectly and directly, in several places. They are indirectly addressed in Chapter Four, which is an examination of the overall level of spending on

[22] W. M. Corden, 'Booming Sector and Dutch Disease Economics: Survey and Consolidation', *Oxford Economic Papers*, New Series, Vol. 36, No. 3 (1984), 362-363; Fidel Ezeala-Harrison, 'Structural Re-Adjustment in Nigeria: Diagnosis of a Severe Dutch Disease Syndrome', *American Journal of Economics and Sociology*, Vol. 52, No. 2 (1993), 197-199.

[23] W. Max Corden and J. Peter Neary, 'Booming Sector and De-Industrialisation in a Small Open Economy', *The Economic Journal*, Vol. 92, No. 368 (1982), 827.

construction during the oil boom. They are directly addressed in Chapter Seven, the chapter principally concerned with the price of construction during the oil boom. That chapter includes three discussions highly relevant to Dutch disease: an attempt to measure the price of construction relative to the consumer price index (CPI), a discussion of the evidence about the level and drivers of the price of contracting services relative to 'tradable' inputs such as construction materials, and the drawing of labour out of export driven sectors like agriculture into construction. The findings are mixed; some Dutch disease effects are clearly evident, such as the rise in the relative price of construction, while others are inconclusive, such as movement of labour out of agriculture and into construction. Overall, they note the central role of Nigerian government policy and other factors played alongside possible Dutch disease effects in determining relative prices levels and the broader fate of the Nigerian economy. This is consistent with the recent findings of other scholars, who argue that Dutch disease cannot be the primary culprit for Nigeria's poor growth record.[24]

Methods and sources

Studies of building trends in other parts of the world have used a variety of source materials and methodological approaches to quantifying and interpreting building trends. Where detailed and accurate government statistics are available, with census results and building permits registrations, it can be relatively easy to access building trends. In such situations, the challenge is in interpreting the data and attempting to deduce the cause and effect of building over time, as well as relating the relationship between the local

[24] Xavier Sala-i-Martin, and Arvind Subramanian, 'Addressing the Natural Resource Curse: An Illustration from Nigeria', in Paul Collier, Chukwuma C. Soludo, and Catherine Pattillo, eds., *Economic Policy Options for a Prosperous Nigeria* (Basingstoke, 2008), 79.

experience and the national one. As J. Parry Lewis noted in his 1960s study of British building cycles from 1700 onwards, '[v]arious national factors like, perhaps, the rate of interest, peace or war, and so forth clearly affected building everywhere: but in the last resort the demand for a building is a function of local conditions'.[25] He was right, of course, but in places or time periods where comprehensive both local and national trends are not clear, the research problems are different. In Nigeria building permits were not routinely registered, the census is not reliable and other detailed, fully disaggregated data is not available. A local dataset often has often had to substitute for a national one, and vice versa. For Nigeria, a picture was built with what was available.

The building data that was available for Nigeria in the decades following its independence from Britain was limited. As is discussed in more detail in Chapter Two, the first published attempts at compiling Nigeria's national accounts during the 1950s used a combination of government surveys and building materials sales data to estimate a national picture of building trends. These included the studies done by A.R. Prest and I.G. Stewart and later, Pius Okigbo, and their work formed the foundation for later attempts.[26] Since then, the quality and availability of national level construction data in Nigeria has not improved and in some cases has deteriorated, especially with respect to government survey data.[27]

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[25] Lewis, *Building Cycles*, 2.
[26] A.R. Prest, and I.G. Stewart, *The National Income of Nigeria, 1950-51* (London, 1953); P.N.C. Okigbo, *Nigerian National Accounts 1950-57* (Enugu, 1962).
[27] Samuel O. Adamu, *National Accounting in a Developing Country, The Case of Nigeria* (Ibadan, 1996), 5-6.

This thesis uses government-collected survey and statistical reports, as well as data from nongovernmental organizations such as the United Nations and World Bank, both as 'best-available' sources and for comparison purposes against other secondary sources and primary documents. Macroeconomic data used mostly came from the Central Bank of Nigeria (CBN) annual reports, as well as a 50th anniversary of Nigeria compilation of statistical data from 1960 to the present, documents published by the Nigerian National Bureau of Statistics (NBS, formerly Federal Office of Statistics or FOS) and other government agencies. A major component of this thesis is a comparison of capital formation statistics from Nigeria's national accounts with privately collected data, but otherwise it does not generally use government budgets, spending plans or most official records of total spending as important sources of evidence, on the assumption that unless there is supporting evidence available, it is likely that not all of what was planned or budgeted or recorded as spent or built was actually built, unless shown otherwise.

An important set of official sources which are often overlooked are the Nigerian government reports into public scandals. These summarize investigations based on dozens of interviews and access to primary documentation and often contain detailed descriptions of major events which are both eloquent and candid. While they also document the startling lack of official punishment on those involved and who appear to have taken illegal advantage of public office, this very fact likely made participants in the inquiries all the more willing to be truthful, and the reports remain an important historical record of often very dramatic events. This author found the reports into the 'cement armada' incident and the scandal involving the Nigeria Construction and Furniture Company (NCFC) particularly helpful.[28]

Due to the well-recognized deterioration of the quality of many Nigerian official statistics over time, the flow of building materials as a measure of construction has taken on an even more important role for a historian of Nigerian building now than it did for Prest, Stewart and Okigbo. In the twentieth century Nigeria transitioned from using primarily locally available building materials such as mud to using manufactured building materials. By the 1950s, there is evidence to indicate that while this transition was not complete, the new materials had made significant inroads into the construction market and that cement and roofing sheet sales were representative of overall trends in new and replacement building, and accordingly this thesis includes extensive discussions of manufactured building material sales data.

The use of building material sales as a construction indicator, which has a long history amongst scholars of European economies, has tremendous value as well as particular challenges.[29] Its greatest strength is the commercial nature of its sources, as the government bodies that collect material import data for customs purposes, and the large scale companies who domestically produce material are easily identifiable and typically publically release their operational data, which they have a commercial interest in

[28] Federal Ministry of Information, *Report of the Tribunal of Inquiry into the Importation of Cement*, (Lagos, 1976); East-Central State (Nigeria), *Report of Administrative Board of Inquiry into the Nigeria Construction and Furniture Company Limited From 1970 to 30 November, 1975*, Official Document No. 1 of 1976 (Enugu, 1976).

[29] Nicholas Dimsdale, 'Building Activity and the British Economy: A Long Run View 1750-1913', unpublished paper (2011).

collecting. The purchase of building materials is an investment itself because it is a costly expression of intention or expectation. It normally incorporates material to be used by both the formal sector and the informal sector. Jill Wells, one of the few scholars who has worked on construction in Sub-Saharan Africa, and who has focused in particular on East Africa, has used cement sales trends to infer construction trends not reflected in national accounts.[30]

The challenge of using building materials is that even this data was not always collected centrally and reliably. In Nigeria during this period distortions of normal commercial incentives meant that building material data was often unreliable or missing, and does not account for what may have been considerable smuggling. One of the most instructive original contributions of this thesis, and one of the most challenging, was the collection of a 40-year dataset of cement imports, production, and price, with consumption by necessity assumed to be the sum of annual imports plus annual local production or sales volume. There was no single source which produced consistent and reliable data for the entire period. The approach taken by this thesis was to show the available sources for each of these metrics for every year in the period under study, in order to demonstrate the range of possible historical outcomes and the degree of consensus between the sources. In addition, the narrative of what drove cement supply and demand was presented where possible, in order to best explain consumption and price trends. The project combined data from the extensive and well-preserved newspaper archive of the Nigerian Institute for International Affairs (NIIA) in Lagos – which was most helpful for individual

[30] Jill Wells, 'Construction and Capital Formation in Less Developed Economies: Unravelling the Informal Sector in an African City', *Construction Management and Economics*, Vol. 19, Iss. 3 (2001), 268.

observations of prices and details about the travails of individual cement companies – and official sources including the CBN and the NBS, supplemented by data from cement companies. Annual reports from West African Portland Cement Company (WAPCO), and the WAPCO company history, written by Peter Pugh and J.F. Ade Ajayi, were further useful sources.[31]

This thesis' analysis did extend to other building materials, but for the sake of focus, not in the same depth as cement. While an in-depth look at other important materials, including steel, would have been informative, this thesis chose to focus on cement as it was almost exclusively used for building and not for other forms of capital formation, including vehicles and equipment. Timber was also used in Nigeria and may well have been a substitution good for cement blocks when cement was expensive or unavailable, but is not included in this study. The press in Nigeria recorded many attempts to build and design bricks which could be a replacement for cement during shortages but these seemed to have never taken off and bricks were not considered as essential a building material as cement.

The major exception to the focus of this thesis on cement was fibre cement roofing material, for which this thesis had access to a rare company archive. This archive contains some of the records of Nigerite, a large Nigerian-Belgian Lagos-area roofing material company which has been in continuous operation in Nigeria since before 1960. Its marketing department recorded volumes of fibre cement roofing materials sold by

[31] Peter Pugh and J.F. Ade Ajayi, *Cementing a Partnership: The Story of WAPCO 1960-90* (Cambridge, 1990).

month continuously from 1970 to 2000. This data is an invaluable indicator of a crucial building material of the middle to high end housing market in Nigeria's largest city. The measure does have some limitations: fibre cement was not the only roofing material used in Nigeria during the period under examination. Various types of corrugated iron roofing were cheaper than fibre cement and were very popular for a variety of building types. In addition, although Nigerite was a local producer of roofing materials, since the company was a joint venture with a larger foreign industrial group, data may have included imported as well as locally produced material. Nigerite fibre cement data is used here as a proxy for the mid to high-end housing market and broader retail market due to the limited reliable and long-term data available about other roofing types.

The major disadvantage of using building material sales data as a construction indicator is that it can rarely be strictly disaggregated by purpose or client, since it is normally recorded before the point of retail distribution. It does not normally distinguish between replacement and new building, nor can it adjust for smuggling or the stockpiling of materials, which in a high inflationary environment may very well have taken place. Its relative contribution to different kinds of buildings is uneven, and even its impact on infrastructure is not always clear: cement plays a comparatively small role in roads, but a major one in bridges and dams. This has particular impact on the analysis of building during the oil boom, when cement was heavily used for infrastructure projects which made it difficult to use cement as an indicator for other forms of building including housing.

This thesis frees itself from the near complete reliance of earlier works on government statistics and building material sales volumes by incorporating into the analysis a wide variety of firm and industry data, which allows it to both examine the veracity of official statistics and see how common the firm experience was with broader building material and national trends. Crucially, the disaggregation of data into individual firms breaks down national trends into local and sector ones, where further detail may have been preserved. Firm and industry data also presents the other side of the incentives to invest in construction: the costs of construction, including the price of materials, labour, land and contracting services.

The firm-level data was collected during fieldwork in Nigeria. Amongst the most unique and perfectly preserved historical sources was the complete contract and correspondence archive of Godwin and Hopwood (referred to as GH in this thesis), architects in Nigeria since October 1955. Interviews with the firm's founders as well as published and unpublished papers they have written were also crucial to gain long-term insight into the challenges facing the Nigerian building industry. The historical job lists of the architecture firm James Cubbitt from 1977 onwards supplemented by interviews with its architects added another broad individual firm perspective on new construction.

In a happy historical accident for economic historians, the Indigenization Decrees of 1972 and 1978 in effect forced the listing of Nigeria's largest firms, including the contracting and construction materials companies on the Lagos stock exchange. All companies listed on the exchange were required to submit summary financial data from both their income statements and balance sheets, which were then published in an annual stock exchange handbook, preserving them for future historical research. This thesis was therefore able to compile approximately 25 years of financial data from the approximately ten listed construction and construction services companies and seven listed cement and construction materials companies, which included sales, profit, and balance sheet data. This comparable company analysis allowed as comprehensive a view as possible of trends affecting the entire large-scale construction industry from about 1975 to 2000, and is a key original contribution of this thesis.[32]

Use of the listed construction company data was supplemented by annual reports from several of the largest contractors, which provided more detailed financial statements and notes to the financial statements, as well as annual management commentary on the state of the industry, job lists and photographs. Two of Nigeria's largest construction contractors, Julius Berger and Cappa and D'Alberto, made available near complete sets of their historical annual reports. In addition, Julius Berger has published extensively about its role in building Nigerian infrastructure and the capital of Abuja.[33] Cappa and D'Alberto's commemorative 50th anniversary volume contained invaluable job lists from one of Nigeria's longest surviving building firms, listing their major projects by client and year.[34] An unpublished company history from Costain West Africa (CWA) was also

[32] The dataset includes many Nigerian construction firms which appear to have foreign names. In fact, many of these firms, especially after the Indigenization Decrees of 1972 and 1978, have significant Nigerian shareholdings and often have local management.

[33] Dieter Blum, *Construction in Nigeria* (Wiesbaden, 1981); Dieter Blum, *Julius Berger in Nigeria* (Wiesbaden, 1990); Julius Berger Nigeria PLC, *Abuja Projects 30 Years* (2006); Julius Berger Nigeria PLC, *Abuja the City 30 Years* (2006).

[34] Cappa and D'Alberto Limited, *50th Anniversary in Nigeria 1932-1982.*

helpful.[35] However, indices of listed contractors and evidence from individual firms can reflect some survivor bias, where unlisted firms and the exit of building firms from the market may not appear. Dantata and Sawoe, which was important in road building in particularly northern Nigeria, is an example of an unlisted firm whose full role is not reflected by many indicators included here.

Industry associations have also preserved data, analysis of building trends and interviews with principals. In particular, historical editions of the construction industry magazine *Construction in Nigeria*, published by the Federation of Construction Industry (FOCI, formerly FOBACEC) gave colour and additional data about building materials and labour relations. The same organization periodically published a price list of basic materials. These price lists were complemented by additional prices series, most significantly Sunday Oyediran's meticulous compilation of quarterly price movements of a wide range of building materials from 1986-2000 in his unpublished dissertation.[36] This thesis compiles an index of building costs, though the components included are not always precisely known.

Evidence for an index of rents or land prices is difficult to find in published data. Modupe Omirin's unpublished dissertation, a long-term study of low income housing from 1968-1988, includes a discussion of these trends from her own fieldwork and a range of other

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[35] Peter Farrington, 'Costain (West Africa) Plc. A History of the Company 1948-2005, A Personal Narrative', unpublished (2005).
[36] Sunday Olukayode Oyediran, 'Effects of Macro-economic Variables on Construction Costs in Nigeria: An Econometric Model', Ph.D. thesis, Department of Building, University of Lagos (2002).

sources.[37] This thesis combines this work with a limited historical sample from one estate agent in Lagos to give some insight into changing land values and rental yields. Speculation in land and building is similarly difficult to quantify but has at points been observed by contractors and researchers.

Capital expenditure by industrial companies is recorded in such sources as the United Africa Company (UAC) company history, and in the annual reports from the conglomerates Flour Mills of Nigeria and Nestle Nigeria.[38] Tom Forrest's collection of Nigerian company and individual biographies based on extensive interviews with businessmen and businesswomen offered unique insights.[39] This thesis also relied on the underutilised biannual private investment survey of the Manufacturers Association of Nigeria (MAN), which was conducted from 1987 onwards and which included most of the Nigerian industrial sector. Analysis of investment trends was also generally aided by the clippings files on the construction, cement and housing industries in the NIIA newspaper archive.

Secondary works

Due to the chronologically segmented nature of the secondary literature used in this thesis, this introduction does not contain a comprehensive survey of all the secondary works consulted. Instead, each subsequent chapter of this thesis discusses the applicable

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[37] Modupe Mononke Omirin, 'Land for Private Low Income Housing: An Evaluation of the Effect of Land Nationalisation Policy in Lagos Metropolitan Area, 1968-1988', PhD thesis, Queens College, University of Cambridge (1991).
[38] D.K. Fieldhouse, *Merchant Capital and Economic Decolonization: The United Africa Company, 1929-1987* (Oxford, 1994).
[39] Tom Forrest, *The Makers and Making of Nigerian Private Enterprise* (Ibadan, 1995).

secondary literature relevant to its own topic and time period. However, several previously unmentioned secondary sources deserve special mention, and they are highlighted below.

This thesis is a direct successor to Ojetunji Aboyade's 1966 landmark work *Foundations of an African Economy: A Study of Investment and Growth in Nigeria*, which was focused on capital formation and its drivers in 1950s Nigeria, and was based on Aboyade's experience in the national accounts collection efforts. Writing prior to the Nigerian oil boom of the 1970s, Aboyade attempted to explain the growth problem of his own period, which was that despite apparent rising rates of investment as a proportion of national income, economic growth was falling.[40] This thesis uses his findings and methods both as a foundation and as a model. Peter Kilby's *Industrialization in an Open Economy: Nigeria 1954-1966* is the most comprehensive study of the Nigerian economy of the 1960s available and was especially helpful to the 'pre-oil boom' section of this thesis.[41]

Since the 1960s, there have been very few detailed surveys of the Nigerian economy. Forrest's *Politics and Economic Development in Nigeria* is one long-term study of the Nigerian economy which is exception to this rule.[42] David Bevan, Paul Collier and Jan Willem Gunning's book comparing the growth trajectories of Nigeria and Indonesia contains the most up to date and complete work of long-term Nigerian economic history

[40] Aboyade, *Foundations of an African Economy*, 21.
[41] P. Kilby, *Industrialization in an Open Economy: Nigeria 1945-1966* (Cambridge, 1969).
[42] Tom Forrest, *Politics and Economic Development in Nigeria* (Oxford, 1993).

based on official statistics, including construction and investment data so far available.[43] The best survey of building during the oil boom only covers public housing, by I.E.S. Amdii, and was based on extensive field surveys with contractors and government officials. He followed up official documentation of projected housing units with research on actual built housing, and was a pioneer in systematically quantifying how actual buildings fell short of planned and paid for units.[44] Gilbert Walker's survey of transportation infrastructure during the colonial period and Ayodeji Olukoju's economic history of the port of Lagos from 1900-1950 are both valuable accounts.[45]

However, with the exceptions of the works previously mentioned, in the existing secondary literature construction is rarely addressed directly or in much detail, though some have stressed its importance. Joseph, in his work covering the periods of the 1970s and 1980s, explained the crucial role of construction in patronage networks. Sara Berry's fieldwork amongst cocoa farmers in Western Nigeria, documented the relationship between rural-urban distributive networks and building demand over the same period.[46]

Some secondary works have investigated a counterfactual approach to explain economic growth during the oil boom in Nigeria. Bevan, Collier and Gunning and Peter Lewis have written books comparing the oil booms in Nigeria and Indonesia, two seemingly similar

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[43] David Bevan, Paul Collier and Jan Willem Gunning, *The Political Economy of Poverty, Equity, and Growth: Nigeria and Indonesia* (New York, 1999).
[44] I.E.S. Amdii, *Analysis of Government Housing Policy in Nigeria* (Zaria, 1993).
[45] Gilbert Walker, *Traffic and Transport in Nigeria: the Example of an Underdeveloped Tropical Territory* (London, 1959); Ayodeji Olukoju, *The Liverpool of West Africa: The Dynamics and Impact of Maritime Trade in Lagos 1900-1950* (Trenton, 2004).
[46] Sara Berry, *Fathers Work for Their Sons* (Berkeley, 1985); Sara S. Berry, 'Cocoa and Economic Development in Western Nigeria', in Carl K. Eicher and Carl Liedholm, eds., *Growth and Development of the Nigerian Economy* (East Lansing, 1970).

underdeveloped economies with large populations whose oil booms resulted in strikingly different outcomes.[47] This thesis does not take a counterfactual approach but does discuss pivotal points in Nigeria's economic history which relate to construction as they arise in the thesis narrative, such as the privatization of government construction contracts in the 1950s and the 'cement armada' of the mid-1970s.

Theoretical approaches

This introduction does not review here the extensive body of economic theory which addresses the role of construction in economic growth, as it has mostly been written in reference to either industrialized economies or countries with reliable economic data in areas such as crop prices, food prices, or even manufacturing, which make it a less useful methodological comparison. It was not helpful to approach this topic with a pre-existing theory about the expected pattern of investment or the role of construction in the wider economy, as the volatility of the economy and society may have made it easy to draw statistical relationships where none existed. However, historical studies of building and growth in other contexts demonstrate a raft of typical sources of building data and plausible explanatory factors that should be considered for their potential roles in the Nigerian case. Lack of national independently scrutinized data limits these postulations to suggestion, until more work can verify the economic and social trends which may have driven building, but where possible they are explored in this thesis.

[47] Peter Lewis, *Growing Apart: Oil, Politics, and Economic Change in Indonesia and Nigeria* (Ann Arbor, 2007).

For example, the so called 'Atlantic economy thesis' theorizes that the building cycle in Britain in the 19th century was a migration cycle in disguise, a representation of the waves of migration between the United States and Britain more than any local British factors which might have been driving the building.[48] In a similar vein, scholars have extensively cited a popular theory that Nigerian building activity during the oil boom caused the decline of Nigerian agriculture by pulling population away from the countryside with higher urban wages. This theory is considered here in Chapter Seven, though conclusions are not definitive due to lack of reliable agricultural and population data. Foreign workers played an important role in the Nigerian economy during the oil boom,[49] but internal migration and urbanization is normally understood to have been more significant. The informal nature of much of the economy meant that the character of the labour force in general for the period considered here is unclear.

Studies of building often see relationships between yields of alternative financial investments, such as government bonds, and rental or equivalent yields on buildings. Access to these investments can influence the difference in building trends between urban and rural areas. In Nigeria, access to alternative investments was an important factor in building, but most of these alternative investments were either not public or were in the informal economy, making them difficult to measure. As a result, building trends end up informing about these other investments, not the other way around. For example, Chapter Eight of this thesis notes that lucrative bank rents in foreign exchange trading drew

[48] For a discussion, see Harry W. Richardson and Derek H. Aldcroft, *Building in the British Economy Between the Wars* (London, 1968), 28-32.
[49] Roger Gravil, 'The Nigerian Aliens Expulsion Order of 1983', *African Affairs*, Vol. 84, No. 337 (1985), 527, 533.

investment away from construction. In other countries too the role of the army and wars play a significant role in building, sometimes because of their impact on government debt and bond yields which provide more lucrative alternative investments which detract from investment in construction. War played a very different role in Nigeria's building trends, and in any case its impact was overshadowed by the oil boom. While resources (and imports in particular) were constrained during the civil war of 1967-1970, after the war soaring oil revenues and the need for rebuilding in general and new barracks in particular stimulated investment.

In Nigeria, many formal housing credit institutions were not generally accessible, and had low subscription rates. Bank credit records for Nigeria are difficult to find outside of government accounts and are not available in much detail[50] but where relevant, trends are noted. There is every indication that for many people, informal credit arrangements were made in order to finance building, and scholars have documented the long history of such arrangements including the *esusu* rotating credit associations found in the Yoruba regions of Nigeria. According to one account, even into the 1990s in Nigeria 'most economic actors continue to depend for their credit needs on some form of rotating credit society or the other',[51] but due to the lack of data these are not discussed here.[52]

Narrative structure

[50] P.N.C. Okigbo, *Nigeria's Financial System* (Harlow, 1981), 63.
[51] Akin L. Mabogunje, 'The Capitalization of Money and Credit in the Development Process: The Case of Community Banking in Nigeria', in Jane I. Guyer, ed., *Money Matters: Instability, Values and Social Payments in the Modern History of West African Communities* (London, 1995), 285.
[52] For discussion, see William R. Bascom, 'The Esusu: A Credit Institution of the Yoruba', *The Journal of the Royal Anthropological Institute of Great Britain and Ireland*, Vol. 82, No. 1 (1952); Toyin Falola, 'My Friend the Shylock': Money Lenders and Their Clients in South-Western Nigeria', *The Journal of African History*, Vol. 34, No. 3 (1993).

The substantive chapters of this thesis are arranged as a chronological history, with two chapters giving the historical background to demand and supply of construction before the oil boom, four chapters analysing construction during the oil boom, and two further chapters investigating how construction changed after the end of the oil boom.

PART I: Before the oil boom

Part I consists of two chapters which give the historical background of the construction industry necessary to give context to the central period of the thesis, the oil boom and bust. Chapter Two discusses the history of building demand in Nigeria before the oil boom, and shows that permanent buildings were a relatively recent phenomenon in Nigeria, and demand for them was already booming when the oil boom began. In the 1950s and 1960s an agricultural export boom created demand for housing, large scale industry was introduced for the first time, and the new government was beginning its development programme, funded through taxation of export agriculture.

Chapter Three introduces the structure and major companies of the construction industry on the eve of the oil boom, and describes the relatively balanced and efficient building materials market which had developed to meet the booming demand.

Part II: The oil boom

Part II includes four chapters which cover the oil boom period. Chapter Four examines the nominal value of investment in Nigerian construction during the oil boom, considering in particular the accuracy of the national accounts estimates of gross fixed capital formation (GFCF). It finds that investment in construction was substantially overstated during the oil boom.

Chapter Five measures the volume of construction during the oil boom and uses historical evidence to suggest trends in the types of construction projects built and the relative contributions of the private and public sectors. It shows evidence confirming a lag between public and private sector investment.

Chapter Six investigates the uniform failure of the government contribution to the supply during the oil boom, including the 'cement armada' and government-owned construction, cement and steel companies. It uses a variety of historical sources, including the reports of government investigations, to explain how and why the failure occurred.

Chapter Seven discusses the price of construction during the oil boom compared to general price levels. It demonstrates that the private sector was crowded out of the building market during the mid-1970s due to the unrestrained buying power of the state, accounting for the previously demonstrated lag between public and private sector building activity.

Part III: The oil bust

Part III contains two chapters concerned with the oil bust. Chapter Eight examines the demand for construction in the aftermath of the end of the oil boom. It explores the two big shifts of the period: the dramatic drop in the volume of construction and the change in the way the public sector allocated construction.

Chapter Nine compares the price of construction during the oil boom to the price during the oil bust and the cost implications of concentrating building during a boom.

Chapter Ten concludes the thesis by discussing the overarching narrative of the study as well as the contribution of the work to broader debates in the scholarly literature about the nature and pattern of ‘corruption’ in the economic development of resource-rich countries.

Note

References to so called ‘tribes’ such as the Yoruba, Hausa, Fulani and Ibo are made to describe general trends and are not intended to affirm a ‘tribal’ view of Nigerian history and politics. It should also be noted that it has been difficult to trace from some data sources whether their quantitative data is organized by calendar or fiscal years. The Nigerian government account year was generally April to March until 1980, after which it switched to January to December. Where possible the difference is noted and fiscal year end data is at times calendarized to make data series more comparable. Annual statistical abstracts and digests and the *Report of Building and Construction Survey*, unless otherwise noted, were published by the Federal Office of Statistics (FOS) in Lagos except for the 1998 and 1999 editions which were published in Abuja. The Nigerian currency was linked on a 1:1 basis to the pound sterling until the sterling devaluation in 1967, after which it was pegged to the US dollar for most of the oil boom. The currency was renamed Naira, which replaced the Nigerian pound in 1973 at a rate of 2:1. In this thesis, ‘N’ denotes Naira, and ‘£’ denotes the Nigerian pound. Where other scholars are cited, for the pre-1973 period their use of either pound or Naira is retained here, except for cement and other building material prices, which are in most cases converted in to Naira for the sake of comparison with later periods. Inflation data used is from the CBN consumer price index (CPI), 12 month moving average (12MMA) shown in Appendix A.1 except where indicated. While there have been indications from many historical sources that official Nigerian inflation statistics are inaccurate or in particular understated during some periods, this series is used for consistency. Before the mid-1970s sources normally gave cement weights in ‘long’ tons, and (metric) tonnes thereafter. The less than 2% difference between the two measures means any inconsistency is relatively immaterial to the narrative, but Appendix C describes the convention used here in detail. Where possible data is cited in the same denomination (currency or measurement) given by the source.

PART I: BEFORE THE OIL BOOM

CHAPTER TWO: Pre-Oil Boom Demand for Building

The economy before the oil boom

The oil boom of the 1970s was not the first time Nigerians experienced commodity-linked prosperity and the ability to import an ever-wider array of foreign manufactured goods. In the early decades of the 20th century, Nigeria experienced rising incomes from an agricultural export boom. While over time the prices of the agricultural commodities exported fluctuated, the income they generated became the most important funding source for both the Nigerian public and private sectors up until the oil boom. Incomes from agricultural exports developed the expectations and conventions of the economy and political system in place at the start of the oil boom. Higher incomes spurred increases in public and private sector demand for construction and developed a new industry to meet that demand, which are discussed in this and the following chapter.

The region which became Nigeria had maintained international trade linkages for centuries. The trans-Sahara trade route crossed through northern Nigerian cities, and Nigeria's southern coast had a long history of producing palm oil and kernels and, until the early 19th century, slaves for export. Despite the cosmopolitan reputation of its fringes, economic historians have typically characterized pre-colonial Nigeria, along with the rest of West Africa, as relatively land abundant.[1] They have described Nigeria at the

[1] Gareth Austin, 'Resources, Techniques and Strategies South of the Sahara: Revising the Factor Endowments Perspective on African Economic Development, 1500-2000', *Economic History Review*, Vol.

beginning of the 20th century as primarily engaged in the 'traditional' sector of domestic food production and small-scale handicraft manufacturing.

Over the 19th century to the early decades of the 20th century, trading opportunities for Nigerian producers expanded. This resulted in a substantial increase in agricultural exports. The export trade in the 19th century Niger Delta was initially dominated by mostly Liverpool-based companies exporting goods such as palm oil, ivory and timber and importing salt, textiles, and other manufactured goods, but the introduction of regular mail steamship service between Europe and West Africa from Europe in 1852[2] and up the Niger River from 1857 increased access to and competition for the Nigerian market.[3] At the same time, world demand was growing for palm oil, which had industrial uses and was a key ingredient in soap. Although prices for export produce fluctuated,[4] the goods that African traders and producers were receiving in exchange for their produce appear to have been improving in quality.[5]

The export market for Nigerian crops, which had been principally focused around Nigeria's river system, was significantly widened by the building of a railway network between 1898 and 1916.[6] The railway had a particularly explosive impact on the terms of

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61, No. 3 (2008), 614. He also notes that certain parts of Nigeria had high population densities in comparison to the rest of the region.

[2] Frederick Pedler, *The Lion and the Unicorn in Africa* (London, 1974), 41. A royal charter was granted for the mail service to West Africa from 1852 but there was an earlier service which called at Freetown from 1851.

[3] K. Onwuka Dike, *Trade and Politics in the Niger Delta 1830-1885* (Oxford, 1956), 114, 213.

[4] Pedler, *The Lion and the Unicorn*, 285-286.

[5] Dike, *Trade and Politics in the Niger Delta*, 112-113.

[6] Gilbert Walker, *Traffic and Transport in Nigeria: the Example of an Underdeveloped Tropical Territory* (London, 1959), 67-70.

trade for exports coming from the north, where groundnut production boomed.[7] Other changes such as improvement of the Lagos port facilities also helped to facilitate the rise in exports, but the railway had an immediate, transformative impact.[8] Broadly, palm oil and kernels were exported from the east, cocoa and palm kernels from the west, and groundnuts and cotton from the north.

Beginning in the 1950s, economic historians used a series of conceptual frameworks to understand the extent of this economic transformation, which has much in common with what took place in other African colonies, and which has been laid out in detail by Gareth Austin, Tony Hopkins and others.[9] Among the most influential frameworks was the one developed by Hlya Myint, who adapted Adam Smith's vent-for-surplus model to explain this rise in exports in developing countries including West Africa. Myint describes international trade, facilitated by the introduction of transport infrastructure, as introducing new sources of demand which provided a 'vent' for the output of previously underutilized land and labour.[10] Gerard Helleiner and others have applied this framework to Nigeria and described in effect an 'industrious revolution'[11] of longer and more

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[7] For a description of the Kano 'groundnut boom' in 1912, the year after the railway opened, see Pedler, *The Lion and the Unicorn*, 168.
[8] Walker, *Traffic and Transport in Nigeria*, 28-29; Ayodeji Olukoju, *The Liverpool of West Africa: The Dynamics and Impact of Maritime Trade in Lagos 1900-1950* (Trenton, 2004), 15-17.
[9] Gareth Austin, 'Reciprocal Comparison and African History: Tackling Conceptual Eurocentrism in the Study of Africa's Economic Past', *African Studies Review*, Vol. 50, No. 3 (2007); A.G. Hopkins, 'The New Economic History of Africa', *Journal of African History*, Vol. 50, Iss. 2 (2009), 155-177.
[10] H. Myint, 'The 'Classical Theory' of International Trade and the Underdeveloped Countries,' *The Economic Journal*, Vol. 68 (1958), 327.
[11] I borrow the term 'industrious revolution' from Jan de Vries, who used it to describe longer working hours during the British Industrial Revolution. See Jan de Vries, 'The Industrial Revolution and the Industrious Revolution', *The Journal of Economic History*, Vol. 54, Iss. 2 (1994), 255-257.

working hours so the increase in export production could be satisfied with no change to the size of the pre-existing 'traditional' food production sector and population.[12]

Historians of Africa have increasingly responded to the vent-for-surplus framework by criticizing it as oversimplified or simply incorrect. Specialists in Western Nigerian agriculture such as Sara Berry have characterized it as an underestimation of the economic sophistication of indigenous export agriculture and the centuries of Nigerian international trade experience before the British colonial period.[13] She agreed however that the spread of cocoa growing, from the turn of the 20th century through the 1940s, did cause the farming of what had been uncultivated land.[14] Austin redirected the debate by suggesting that the increase in cocoa farming for export 'should be seen, like the adoption of the plough, as a shift to new and higher production functions rather than simply as 'vent for surplus' growth within the same production function',[15] and that the seasonal nature of farming traditional food crops meant that 'the opportunity cost of labour was low for a few months each year' when non-farm activities were concentrated, which explained how cash crop farming could increase without disrupting existing agricultural production.[16] It is important to note, as Hopkins does, that the extraordinary rise in export production was not due to the introduction of colonial institutions – 'the greater part of

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[12] Gerald K. Helleiner, *Peasant Agriculture, Government, and Economic Growth in Nigeria* (Homewood, 1966), 10-12.
[13] Sara S. Berry, 'Cocoa and Economic Development in Western Nigeria', in Carl K. Eicher and Carl Liedholm, eds., *Growth and Development of the Nigerian Economy* (East Lansing, 1970), 17-18.
[14] Ibid., 18.
[15] Austin, 'Resources, Techniques and Strategies South of the Sahara', 614.
[16] Ibid., 598, 603.

export production remained in the hands of the indigenous people and was organized through indigenous institutions' – nor was it disturbed by 'ethnic fragmentation'.[17]

Demand for building

How the market for construction was impacted by this new source of income as well as simultaneous economic and political events in the decades preceding the oil boom is the broad subject of this chapter. Rising incomes from the initial agricultural export boom of the early 20th century and a spike in agricultural prices during the 1950s revolutionized the market for construction by greatly expanding the affordability and availability of 'permanent' building materials such as cement and metal roofing. The use of these new materials fundamentally changed the relationship between land and structures, and spurred the development of widespread demand for 'modern' buildings. Income from agriculture flowed both to private farmers and, through government-controlled marketing boards, to the expanding Nigerian colonial and post-colonial government; the extent to which each of these groups benefitted from agricultural prices was reflected in their participation in the growing market for construction. That the transition to 'modern' buildings occurred when it did – namely in the decades before the end of the colonial period – was highly significant for fixed capital formation patterns during the later oil boom. The demand for building rapidly expanded in the 1950s and 1960s, yet the financial, political and social institutions required to manage this demand were in varying states of maturity. It was in this turbulent landscape, already booming without the help of oil, that the oil boom unexpectedly occurred.

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[17] Hopkins, 'The New Economic History of Africa', 169.

The first section of this chapter describes the historical background to 'modern' building in Nigeria. The second section analyses the level and sources of building demand building in the 1950s and 1960s, examining the burgeoning private residential, private industrial and public sectors. The third section draws attention to the role of well-established rural-urban patronage networks in distributing resources around the country and which played a vital role in shaping the Nigerian economy in later decades, in particular its ability to generate construction.

2.1 The changing nature of buildings and land

Building patterns in Nigeria were innovating and changing well before the colonial period. Traditionally Nigerian families lived in multiple huts/structures, and in polygamous areas multiple wives often lived in multiple huts. Mabogunje recorded that by the 19th century '[t]he use of clay for house-building was the hall-mark of urban construction as distinct from the thatch buildings of the rural areas.'[18] Mabogunje also cited an early example of a baked-brick kiln in Lagos in 1859 and a report indicating that by 1865 many merchant houses were built of brick walls.[19] Dike gave a snapshot of what southern trading town looked like when he noted that during a mid-19th century civil war in the southern coastal town of Bonny one side of the conflict put aside funds 'to purchase clay and bamboo mats to rebuild their town' if it became necessary and that a meeting with the British Consul had to take place in a market as 'the impressive brick

[18] Akin L. Mabogunje, *Urbanization in Nigeria* (London, 1968), 65.
[19] Ibid., 118.

building' where it would ordinarily have met had been destroyed in the war.[20] Building trends in southern Nigeria normally started in the port of Lagos, where imports and ideas entered the country, and spread inland. For example, freed slaves returning from Brazil in the 19th century brought the ornamental 'Brazilian' building styles which became popular in cities across in southern Nigeria, and which are still in evidence today.[21]

However, the most widespread shift in building construction was towards the use of imported cement and iron.[22] Thatch roofs were a known fire hazard, prompting European missionaries to bring the first corrugated iron roofs to Ibadan in 1854.[23] By the end of the 19th century thatch was replaced where possible by imported corrugated iron roofing in towns, though northern Nigeria homes historically often already had flat mud roofs instead of thatch. Rising incomes from the export boom greatly increased imports of new building materials and Nigeria imported approximately 6,000 tons of cement in 1913,[24] 40,000 to 80,000 annually between 1925 and 1945[25] and 368,100 in 1954,[26] all of which preceded the establishment of the domestic cement industry. Cement was used both as a plaster over the older materials and for cement blocks.[27] By the 1930s corrugated galvanized iron roofing and cement block walls were widespread, especially in cities.

[20] Dike, *Trade and Politics in the Niger Delta*, 151.
[21] Mabogunje, *Urbanization in Nigeria*, 118-119.
[22] In his examination of European goods exported to the West African coast prior to the 19th century, Joseph Inikori cites textiles and metal products (including nails) as significant but does not specifically cite the use of metal products as building materials. Joseph E. Inikori, *Africans and the Industrial Revolution in England* (Cambridge, 2002), 288, 456-458.
[23] Mabogunje, *Urbanization in Nigeria*, 193.
[24] Peter Pugh and J.F. Ade Ajayi, *Cementing a Partnership: The Story of WAPCO 1960-90* (Cambridge, 1990), 10.
[25] P. Kilby, *Industrialization in an Open Economy: Nigeria 1945-1966* (Cambridge, 1969), 101.
[26] Federal Office of Statistics, *Annual Abstract of Statistics 1961* (Lagos).
[27] Mabogunje, *Urbanization in Nigeria*, 118.

Asbestos cement roofing was introduced in the 1950s, followed by aluminium roofing material in the 1960s.[28] Thatch roofing had mostly been replaced by the 1960s.

Figure 1: Photograph of 1930s cement containers

Typical Lagos bungalow of the 1930s under construction.
The wooden barrels supporting the scaffolding were empty cement containers.

Source: Cappa and D'Alberto Limited, *Cappa and D'Alberto 50th Anniversary in Nigeria 1932-1982*, 15.

Economists writing in the 1960s could visibly observe the link between investment in buildings and Nigeria's export-led economic transformation with one noting that 'significant growth must have taken place in the decades following the First World War. For example, of the existing residential buildings in the towns, those constructed with corrugated iron sheets and aged between fifteen and forty years seem to dominate the

[28] Yemisi Shyllon, 'The Roofing Materials Industry in Nigeria and Incentives for Increased Production', *Construction in Nigeria*, Vol. 11, No. 2 (1995).

sprawling landscape.'[29] One of Berry's informants who had left Ondo in 1910 noted on his return in 1926 that 'many houses had iron roofs and people told him that the money to buy such roofs came from cocoa', which led the man to decide to grow cocoa himself.[30]

This transition from building structures with local materials to those made with more durable imported materials changed the nature of investment in buildings. In the first published Nigerian national accounts in 1953, written by Prest and Stewart, 'traditional' African huts (those made without modern materials) were treated as durable consumer goods, as opposed to capital goods, and were excluded from capital formation estimates altogether because of their low cost. Prest and Stewart point out that in the north (except for the *sabon gari* migrant colonies) and the rural south rent was 'virtually unknown' as huts were 'built for owner-occupation…are left to decay and never sold…nor is there any question of borrowing in acquiring such huts'.[31] Their analysis implies five general economic features of the 'traditional' buildings that they observed: they were low cost, non-income generating, were not funded by debt, had a short life, and could not be sold. If true, this meant that buildings had a different economic and cultural character prior to the use of durable and expensive imported materials.

The precise economic nature of 'traditional' buildings has been a subject of debate amongst scholars. Berry notes that building a house was a 'special project' requiring help from friends and neighbours, which was expected to be reciprocal. When agricultural

[29] Ojetunji Aboyade, *Foundations of an African Economy: A Study of Investment and Growth in Nigeria* (New York, 1966), 13-14.
[30] Berry, 'Cocoa and Economic Development in Western Nigeria', 25.
[31] A.R. Prest and I.G. Stewart, *The National Income of Nigeria, 1950-51* (London, 1953), 17.

activities seasonally restricted the potential sources of assistance, other forms of labour such as pawn labour (*iwofa*) were used.[32] This involvement of non-family labour implies that such buildings were potentially not as inexpensive as has been described. Other scholars take a more disposable view towards buildings and cite the migrant nature of Nigerian farming dictating that in years when land had to lie fallow 'entire villages may be deserted. The peasant moves on to the next patch, taking his family with him and leaving his compound to stand untenanted.'[33] Berry notes that in parts of Yorubaland 'man-made improvements on the land have always been treated as the property of the individual who made them' and that in cocoa growing land, fixed productive assets were cocoa trees, and they were used as security for cash loans.[34] She does not mention buildings being used in a similar way in agricultural areas. Austin also notes that 'fixed capital formation was an integral part of pre-colonial economic activity', but he points to canoes, looms and smelters, not structures.[35] Buildings were not income-generating nor could they be used as security. Ojetunji Aboyade summed up the widely held view that

> in the traditional society, decisions about new building expenditure are taken by the heads of individual households…They are also built almost exclusively for owner occupation…until recently, there was not much speculative building outside the major cities.[36]

When Pius Okigbo compiled the official published national income figures for 1950-1957, he rejected Prest and Stewart's treatment of mud buildings as durable consumer goods, and classified them instead as capital goods.

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[32] Berry, 'Cocoa and Economic Development in Western Nigeria', 23.
[33] Gilbert Walker, *Traffic and Transport in Nigeria* (London, 1959), 4.
[34] Berry, 'Cocoa and Economic Development in Western Nigeria', 22.
[35] Gareth Austin, 'Resources, Techniques and Strategies South of the Sahara', 595.
[36] Aboyade, *Foundations of an African Economy*, 212-213.

The idea that the definition for fixed capital itself should perhaps be altered to suit tropical environments was also raised by Aboyade. He notes that the United Nations standardization guidelines for calculating capital formation that 'producer goods are those goods with a life expectancy of more than one year', which influenced early Nigerian estimates, should potentially not have been applicable to the Nigerian tropical climate and cultural context. The lack of maintenance infrastructure and high weather related wear and tear of physical assets made labour intensive investment instead of capital intensive investment a rational choice given the relative cost of durable materials.[37] This observation agrees with Austin's finding that at least in the pre-colonial period, 'the supply of fixed capital was indeed largely a function of inputs of labour, using simple tools'. [38]

There is strong evidence that with the use of more durable modern materials the economic character of buildings did indeed change. During the colonial period buildings, specifically those in town made with modern materials, became income-generating. Berry's finds in her fieldwork that successful cocoa growers and traders diversified their investments by investing cocoa earnings in 'income-earnings assets such as lorries or buildings in town…in Ibadan, private investment in buildings and motor vehicles was very much in evidence by the early 1920s', and specifically those buildings had corrugated iron roofs. [39] During the colonial period the rental market for buildings in cities became well established, and a study in the mid-1960s indicates that the average annual return on investment for urban residential units was 5-10%. Real estate was seen

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[37] Aboyade, *Foundations of an African Economy*, 62, 69.
[38] Austin, 'Resources, Techniques and Strategies South of the Sahara', 595.
[39] Berry, 'Cocoa and Economic Development in Western Nigeria', 25.

as a safe place to investment and one 'which would provide an "annuity" if the individual were to become sick and unable to manage his other undertakings.'[40]

Land

With the rise of the export-led economy, the nature of the land on which buildings were constructed also changed before and during the colonial period. Hopkins has described how the beginnings of British imperialism in Nigeria was focused around an attempt to stifle one property rights institution, the slave trade, and institute another, the ability to use land as security for debts which was crucial to the development of the 'legitimate commerce' the British Empire was seeking to promote. [41] Urban land in and around Lagos, where the British presence was concentrated, was rising in value before the colonial period formally began, on the back of demand for building from commerce and administration. Kristin Mann wrote that between 1850 and 1900

> [c]ommercial development and population growth in Lagos…increase[s] the demand for dwellings, stores and storehouses, or land on which to build them. At the same time, colonial rule and missionary activity created a need for houses, offices, churches, schools and other structures, putting further pressure on urban real estate. [42]

Hopkins noted that the Lagos land market was well developed by 1898 'for virtually all of the inhabited parts of the island'.[43]

In other parts of Nigeria, for political reasons, but also to encourage local farmers to produce crops for export, [44] the British administration passed a series of ordinances

[40] John Harris, 'Nigerian Entrepreneurship in Industry' in Carl K. Eicher and Carl Liedholm, eds., *Growth and Development of the Nigerian Economy* (East Lansing, 1970), 313.
[41] Antony G. Hopkins, 'Property Rights and Empire Building: Britain's Annexation of Lagos, 1861', *The Journal of Economic History*, Vol. 40, No. 4 (1980), 787-788, 791.
[42] Kristin Mann, *Slavery and the Birth of an African City: Lagos, 1760-1900* (Bloomington, 2007), 237.
[43] Hopkins, 'Property Rights and Empire Building', 791.

preventing foreigners from buying land (in northern Nigeria in 1900, 1902, 1910, and in southern Nigeria 1900, 1903, 1917).[45] By the turn of the century the colonial government decided to promote communal ownership instead of private ownership, the latter of which, as has been mentioned, had already developed in Lagos by the 19th century. Communal ownership would strengthen those who the administration saw as 'traditional rulers'.[46] The colonial government therefore largely attempted to maintain, or utilize, what they perceived to be the existing 'traditional' land tenure systems in place. However, as has been well documented in the academic literature, this caused problems as different groups advanced competing claims to 'traditional' ownership.[47]

In northern Nigeria this task was simpler as the British passed ordinances placing almost all land under ultimate government jurisdiction, which largely reinforced the status quo. In the pre-colonial period there were a range of land use customs which included property related tax obligations[48] and there were extensive private estates all over Northern Nigeria. Paul Lovejoy and Jan Hogendorn have demonstrated that at the time of the colonial conquest parts of northern Nigeria were heavily dependent on slave labour, which provided much of the agricultural labour force. Immediately after the conquest, the colonial land system was designed to keep slaves with their existing owners by preventing them from getting independent access to farmland.[49] Under the colonial

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[44] Mann, *Slavery and the Birth of an African City*, 274.
[45] Carl Liedholm, 'The Influence of Colonial Policy on the Growth and Development of Nigeria's Industrial Sector', in Carl K. Eicher and Carl Liedholm, eds., *Growth and Development of the Nigerian Economy* (East Lansing, 1970), 55, 60.
[46] Mann, *Slavery and the Birth of an African City*, 275.
[47] Ibid., 238.
[48] Paul E. Lovejoy and Jan S. Hogendorn, *Slow Death for Slavery: the Course of Abolition in Northern Nigeria, 1897-1936* (Cambridge, 1993), 134.
[49] Ibid., 127.

government land could no-longer be sold freely to foreigners, though land could still be sold, leased or otherwise transferred, and those transactions were recorded.[50] A 'customary right of occupancy' could be revoked by the government. [51]

Across southern Nigeria local ownership rules were governed by local code, which varied considerably. Generally land was rented but not bought and sold, and in many areas, land was communal.[52] In Ibadan land was held in patrilineages, and agreement had to be sought from the head of the family in order to use land, and which often meant its use was exchanged for an item of value – food, alcohol and later cash. [53] In Ondo all land was owned by every member of the community, and anyone could use any unused piece of land.[54] Most historical sources imply that outside of urban areas land remained in the ownership of the original families and communities who owned them and transactions were normally for land use and not for land sale. Retaining ownership had cultural significance. Studies of land and housing in southern Nigeria have asserted that culturally

> land is the most valuable asset to a Yorubaman and he will do anything to keep his family or personal land…[Yorubas] are loath to buy old houses or dispose of their houses after acquisition…They want to preserve ancestral homes and to sell a house was culturally regarded as a curse and a misfortune. This attitude has not helped the mobility of housing. [55]

Prest and Stewart working on the national accounts in the early 1950s likewise found that '[p]ersonal ownership of buildings rented by firms is unimportant outside Lagos.'[56]

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[50] Ibid., 156.
[51] C.O. Olawoye, 'Statutory Shaping of Land Law and Land Administration up to the Land Use Act', in J.A. Omotola, ed., *The Land Use Act* (Lagos, 1982), 17.
[52] M.O. Onajide, *The Development of Housing Policy in Nigeria 1952-1982: A Case Study of Western Nigeria* (Lagos, 1988), 5.
[53] Berry, 'Cocoa and Economic Development in Western Nigeria', 21-22.
[54] Ibid., 21.
[55] Onajide, *The Development of Housing Policy in Nigeria*, 5, 35.
[56] Prest and Stewart, *The National Income of Nigeria*, 46.

Partly because of the increased economic activity during the cash crop boom, and partly because it is made up of a series of islands, Lagos land values rose in the 1950s and 1960s. Documentation in 1956 by Lagos architects Godwin and Hopwood regarding the planned building of a Lagos office and showroom for the British pharmaceutical manufacturer Allen and Hanbury, one of the first office buildings in the city allowed to use high stress concrete,[57] offered a local view that land costs in Lagos were increasing dramatically, noting that '[i]n most of Lagos Island land values are extraordinary high (and have reached £100 per yd. super) due partly to the limited land available and partly to the poor bearing capacity of the ground, most of which is reclaimed swamp'.[58]

This trend of rising urban land values was not limited to Lagos and was connected to the introduction of modern building materials. In towns across Nigeria, Mabogunje shows that rents became high when buildings became costly and permanent. In Ibadan's 350 acre modern business district, the

> area was divided into leasehold plots early in the [20th] century and allocated by the Ibadan Council on an annual rental basis of between £5 and £8…whereas the position in the market [a trader's small position in the indigenous Iba Market] carried no investment, the commercial plot received large-scale investment in the form of shop-buildings, offices, banks and stores. Once these buildings had been put up, it was not easy to relocate them. They were space-consuming and fairly permanent…the great demand for land gives scarcity value to plots within the district and encourages competition for choice sites.[59]

Mabogunje notes that the companies with the most scale, almost always those with foreign connections, were best able to pay the higher rents.

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[57] "Hanbury House', Tinubu Square, Lagos for Allen & Hanbury's (Nigeria) Ltd., A Brief Description of the Buildings', 21/2/59, GH Archive Job 9, Box 9.
[58] 'Offices and Showrooms for Allen and Hanburys (Nigeria) Ltd. in Tinubu Square, Lagos' (date unknown), GH Archive Job 9, Box 9.
[59] Mabogunje, *Urbanization in Nigeria*, 209-210.

The expansion of the export-based economy during the colonial period also made rural land more valuable. Although time series of land values are difficult to find, studies indicate that '[b]efore the advent of colonialism the demand for land was not only limited, but was of little value.'[60] In agricultural southern Nigeria, Berry found that in Ibadan the customary 'rent' required for land use increased demand for cocoa growing land grew.[61] This was part of a more general trend across West Africa where, as Hopkins puts it, 'land in areas that were able to participate in the new economy began to acquire scarcity value'.[62]

2.2 Construction in the 1950s and 1960s

If the initial agricultural boom of the early decades of the 20th century established the construction market, the 1950s and 1960s transformed it. High commodity prices and pent up residential demand from the Second World War combined with the introduction of industry and economic development planning on a large scale essentially for the first time caused the market for construction to grow exponentially. These new sources of demand played a crucial role in developing, and indeed crowding, the construction market on the eve of the oil boom.

2.2.1 Quantification of building patterns in the 1950s

[60] Onajide, *The Development of Housing Policy in Nigeria*, 5.
[61] Berry, 'Cocoa and Economic Development in Western Nigeria', 21.
[62] Hopkins, 'The New Economic History of Africa', 169-170.

The impressive growth and significance of the building sector became visible over the 1950s after several attempts to systematically quantify building levels and costs as part of the compilation of the Nigerian national accounts. The first published attempt was done by Prest and Stewart in 1953, as has been mentioned, though it was only a snapshot of a single year, 1950-51. They measured the population of those living in 'traditional African huts' as the total population, minus the rent paying population (which they estimated as the number of those living in cement buildings, calculated using a supply-side estimate, as discussed below). They estimated that the average cost of building, supplying and erecting a hut 'cannot possibly be less than £5', that the life of a hut was five years, and that therefore the annual cost of a hut was approximately £1.They generally estimated one hut per person, as (in their thinking) each wife would sleep in her own hut, and in any case additional huts used for non-residential purposes needed to be included.[63]

For the 'modern' building sector, Prest and Stewart used the two major imported materials, cement and corrugated iron roofing, to calculate the annual volume of building. They first calculated a cement-output ratio by dividing the cement used by the Public Works Department (PWD) by its building output value over a year, to conclude that 7.4% of building costs was cement. To apply this to the whole industry, they used 9%. They then adjusted the total value of imported cement for the year by a landing and transportation cost, to calculate the gross 'modern building' value for the country for a year. They applied the same exercise to corrugated iron roofing assuming the material represented 9-11% of building value, while subtracting for 'African huts' which used iron

[63] Prest and Stewart, *The National Income of Nigeria*, 41.

roofing, and reached a similar result. They adjusted their final figure for the use of locally sourced timber for building. [64]

Okigbo published the official published national income results for the 1950-1957 period in 1962. They were compiled specifically to assist with national development planning.[65] He attempted for the first time to move beyond the material-output ratio to a more illustrative calculation of *what* was being constructed.[66] Government building records and spending for Western Nigeria (including the spending by the Lagos Executive Development Board) and some parts of Eastern Nigeria were fairly easy to access, and Okigbo deflated the values by his estimate of building costs. Major companies and local authorities reported their building investment to the Federal Office of Statistics.[67] He applied the ‘commodity flow’ import method for the north and an expenditure ‘bottom-up’ approach for the south. He also amended Prest and Stewart’s estimate of mud huts, by assuming that in the north huts cost £10 instead of £5, and that they lasted 10 years instead of five as Okigbo thought that Prest failed to appreciate the durability of mud. Okigbo only assumed one hut per person for women aged 15 and over and men aged 50 and over.[68]

Okigbo’s work was subsequently used by Aboyade, who wrote his 1960 Cambridge doctoral thesis on capital formation in Nigeria and was part of Okigbo’s national accounts team. He documented in the chart below the differences in the early approaches

[64] Ibid., 39-41.
[65] P.N.C. Okigbo, *Nigerian National Accounts 1950-57* (Enugu, 1962), 3.
[66] Ibid., 127.
[67] Ibid., 128.
[68] Ibid., 135-136.

to measure capital formation and in particular buildings, which in his view was the most important component. He also compiled his own series, which differed slightly from Okigbo's published accounts. Fixed capital growth even just in the first few years of the 1950s was remarkable.

Table 1: Comparison of estimates of fixed capital formation 1948-1952 (£ MM)

Source	1948	1949	1950	1951	1952
Earlier (Unplublished) Official Series	13.6	20.8	17.8	22.8	
Prest and Stewart	36.6				
Hawkins	20.6	30.1			
International Bank and Official Series			36.6	42.0	55.7
Okigbo			30.8	42.0	54.0
Aboyade				41.8	55.3

Source: Aboyade, *Foundations of an African Economy*, 63.

2.2.2 Private residential demand

According to Okigbo's detailed statistics, even in Lagos, the hub of industrial development, the residential demand for building was most significant segment in terms of volume, though it was not growing as fast as commercial building, as the chart below indicates. In the less industrial Western and Eastern Regions, residential building investment increased dramatically, and in the Western Region non-residential building investment stayed largely constant.[69]

[69] Ibid., 122-123.

Table 2: Lagos building activity 1951-1957

Lagos Non Governmental Buildings	1951	1952	1953	1954	1955	1956	1957	1958
Floor Space (million sq. feet)								
Residential	0.41	0.42	0.50	0.51	0.45	0.55	0.45	1.06
Commercial	0.07	0.15	0.10	0.10	0.11	0.19	0.26	0.20
Other	0.00	0.03	0.01	-	0.00	0.03	0.03	0.00
Total	0.48	0.59	0.60	0.60	0.56	0.78	0.74	1.26
Growth		*22%*	*2%*	*0%*	*-7%*	*39%*	*-5%*	*71%*
Number of Residential Buildings	218	217	349	285	246	292	237	577
Number of 'Dwelling Units'	1,888	1,876	2,583	2,348	1,984	2,484	2,101	4,792
Average cost (£ per sq. foot)	1.4	1.5	1.7	1.8	1.9	2.0	2.1	
Growth		*7%*	*13%*	*6%*	*6%*	*5%*	*5%*	
Implied Units per Residential Building	9	9	7	8	8	9	9	
Floor space/Building (sq. feet)	2,223	2,726	1,731	2,116	2,272	2,655	3,110	

Source: Okigbo, *Nigerian National Accounts 1950-57*, 123, 188.
Note: Tables refers to completed buildings. Totals are calculated and may be different from the original figures.

The financing of the growing private residential spending in the 1950s can be explained by a shift in the organization of the agricultural industry. From the early 20th century expatriate trading firms bought export produce from farmers, but this changed after 1939 when government-run marketing boards were established to secure British access to raw materials during the war. The boards were also supposed to smooth out export earnings for farmers by paying them a fixed price for their produce, insulating them from world market prices. In practice, the boards became the primary instruments for taxing agricultural income, through an effective sales tax on exports. During the Second World War cocoa and other producer prices were kept deliberately low by the British colonial government. The colonial government did this in order to stockpile foreign exchange at the marketing board level, which was kept in London in sterling, to reduce Nigerian demand for imports, to control inflation, and to restrict imports. [70] This caused a dramatic fall in producer incomes during the war, and as Jan-Georg Deutsch shows in his study of

[70] Jan-Georg Deutsch, *Educating the Middlemen: A Political and Economic History of Statutory Cocoa Marketing in Nigeria, 1938-1947* (Berlin, 1995), 208-212.

the cocoa marketing boards, an index of incomes from cocoa measuring 100 in 1936/37 was at 40 by 1947/48. [71] After the war, prices received by farmers slowly rose and marketing boards, which in the 1950s changed into funding bodies for regional governments, received surpluses which had been stockpiled during the war. This meant that farmers and governments had more money to spend on building, allowing for the expression of pent-up residential demand.

Although during the colonial period the decline of traditional urban industries (as imports took share of manufactured goods) in some instances pushed people to rural areas to farm, there were also opportunities drawing people to cities, particularly the booming industrial and administrative cities like Lagos. This in turn increased urban private demand for residential buildings. The 1950s and 1960s saw significant rural-urban migration, and affordable housing stock in growing cities like Lagos could not keep up. In 1964 the United Nations reported that parts of Lagos contained accommodation sleeping an average of three people per room.[72] The urbanization was not just due to increasing wage employment in cities but was also the result of increases in primary education from the 1950s (free primary education was introduced in western Nigeria in 1955), which widened aspirations beyond farming.[73]

2.2.3 Industrial demand

[71] Ibid., 221.
[72] Larry Diamond, *Class, Ethnicity and Democracy in Nigeria: The Failure of the First Republic* (London, 1988), 183.
[73] Helleiner, *Peasant Agriculture, Government, and Economic Growth in Nigeria*, 39.

It is not an exaggeration to note that there was almost no large-scale, mechanized industry in Nigeria until the 1950s. Kenneth Dike, in his landmark economic history of the 19th century Niger Delta, asserted that the choice to import consumables such as textiles and beads instead of capital goods from Europe was deliberately made by the European trading companies, noting that

> little of permanent value came to West Africa from the 400 years of trade with Europe. In return for the superior labour force, the palm oil, ivory, timber, gold and other commodities which fed and buttressed the rising industrialism, they received the worst type of trade gin and meretricious articles. When Old Calabar chiefs demanded capital equipment for sugar manufacture and cotton culture, we have it on Owen's [surveyor of the African coast and superintendent of a British trading settlement] authority that the West India interest successfully resisted these 'legitimate aspirations'.[74]

During the colonial period, a 'modern' Nigerian manufacturing industry continued to be discouraged by the British government, which did not want to crowd out manufactured imports already being made cheaply to scale elsewhere in the Empire. Nigeria therefore had very little large-scale or highly mechanized manufacturing industry of its own until after the Second World War. Mabogunje has noted that in Lagos before 1951 there were fewer than 15 large industrial entities.[75] These included, amongst others, a cigarette factory, several soap factories, a brewery and timber processing plants including a sawmill and a plywood factory.[76]

Therefore, the rapid growth of industry through the 1950s and 1960s was from a very low base, which for the construction market meant the building of largely new, massive buildings on a scale the country had never before seen. Growth was driven by the state:

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[74] K. Onwuka Dike, *Trade and Politics in the Niger Delta 1830-1885* (Oxford, 1956), 114.
[75] Mabogunje, *Urbanization in Nigeria*, 255.
[76] Mabogunje, *Urbanization in Nigeria*, 255; Helleiner, *Peasant Agriculture, Government, and Economic Growth in Nigeria*, 16; Kilby, *Industrialization in an Open Economy*, 67-69.

from the early 1950s the increasingly indigenously run government started for the first time applying incentives to attract industry, and made incentives even stronger after 1957.[77] This was motivated by the government desire for import substitution to preserve foreign exchange and to generally add industrial capacity. Government incentives to encouraging the expansion of industry can fell into three categories: tax holidays, tariff protection and the building of industrial estates. These had varying effects on industrial activity but generally those firms which were expanding and building in this period were the beneficiaries of these incentives, and each is briefly examined here.

The effect of tax credits on building demand

Corporate income tax in Nigeria was 40% from 1958 until 1967, in-line with other countries at the time at a similar stage of development.[78] However, in the run-up to independence in 1960, the government encouraged investment, and foreign investment in particular, by offering significant tax breaks. The first was in 1952, the Aid to Pioneer Industries Ordinance, later updated with the Industrial Development (Income Tax Relief) Act in 1958. Companies could get two to five years of income tax relief if they invested at least N10,000 and if they were in one of a number of designated 'pioneer industries' (companies could get designated pioneer if they were in industries new to Nigeria, amongst other criteria, including furthering the 'public interest').[79] By May 1968, 101 companies had won pioneer status, though this was less than 10% of industrial

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[77] T.A. Oyejide, *Tariff Policy and Industrialization in Nigeria* (Ibadan, 1975), 22.
[78] Adedotun O. Phillips, 'The Significance of Nigeria's Income Tax Relief Incentive', in O. Teriba and M.O. Kayode, eds., *Industrial Development in Nigeria*, *Patterns Problems and Prospects* (Ibadan, 1977), 249-250.
[79] Phillips, 'The Significance of Nigeria's Income Tax Relief Incentive', 234; Adedotun O. Phillips, 'Administering Nigeria's Pioneer Companies Relief', in O. Teriba and M.O. Kayode, eds., *Industrial Development in Nigeria*, *Patterns Problems and Prospects* (Ibadan, 1977), 260.

companies. Over 50% of the companies were starting production of metal products, textiles and food industries. The next most represented industries were paints, construction materials, rubber products, chemical products, footwear, and hotel industries.[80]

However, the investment environment in Nigeria was so positive in the 1960s that tax benefits were marginal in context of the other potential rewards. In spite of the favourable tax treatment, Adedotun Phillips showed that pioneer tax status was not central to the decision to establish these companies. A survey instead showed that the large market size, government involvement, and the need to pre-empt competitors were more important. Only one third mentioned the tax holiday, and 60% would have set up without it. About one third of those rejected for the tax treatment later set up anyway.[81]

The effect of tariff incentives on building demand

In his book on Nigeria's tariff policy in the 1950s and 1960s, Ademola Oyejide describes three phases of Nigerian tariff policy, each of which had a progressively greater impact on industry and therefore on building. The first was a 'pure revenue stage', when customs duties were the primary source of funding for the federal government. Tariffs were low; most capital goods incurred no duties, and finished consumer goods attracted tariffs of 25-30%. Tariffs were only high on certain 'luxury' items, such as alcohol and jewellery. The second phase, when tariffs were used to combat the balance of payments problems Nigeria started having in 1955, and third phase, when tariffs were used to protect and

[80] Phillips, 'The Significance of Nigeria's Income Tax Relief Incentive', 234.
[81] Ibid., 240-243.

shape domestic industry, overlapped and began with the Customs Tariff Ordinance of 1958, when tariffs were raised and the rules became increasingly differentiated by product and stage of production. After 1958 tariff laws were amended almost every 6 months until 1967. Onajide noted that the Customs Tariff List for 1967 demonstrated how complex Nigerian tariff policy had become, with different rates for the same product depending on its stage of processing, with the lowest tariffs for raw materials.[82] A study published in 1966 showed that 'fear of being shut out', presumably at least partly by tariffs, was the main motivation for foreign investment in Nigeria. [83]

The effect of industrial estate creation on building demand

The Nigerian government got involved in industrial estate planning in the late 1940s and 1950s. Industrial estates for larger, better funded businesses enjoyed a full range of utilities while smaller ones were just shells. Aboyade described how industrial areas were built all over the country, and most of the industrial-scale building in the 1960s took place in these estates. The outskirts of the northern Nigerian city of Kano had about 2,000 dedicated industrial acres, and eastern Nigeria had about 4,000 acres at the Trans-Amadi estate, and there were small industrial estates across the rest of Nigeria, including in the middle belt town of Jos. Estates tended to be situated close to 'the old base of political power…designed more for interregional competition…than for dispersal of industries'.[84] Aboyade stressed that their role was crucial because they 'provided an essential service

[82] Oyejide, *Tariff Policy and Industrialization in Nigeria*, 44-46.
[83] Ademola T. Oyejide, 'Tariff Protection and Industrial Development in Nigeria', in O. Teriba and M.O. Kayode, eds., *Industrial Development in Nigeria*, *Patterns Problems and Prospects* (Ibadan, 1977), 276.
[84] O. Aboyade, 'Towards a New Industrial Location Policy', in O. Teriba and M.O. Kayode, eds., *Industrial Development in Nigeria*, *Patterns Problems and Prospects* (Ibadan, 1977), 372.

of breaking an important investment bottleneck – the perennial problem of land acquisition in the old centres of industrial concentration.'[85]

The most significant industrial areas were in western Nigeria, in Lagos, and of these the most important initially was Apapa which was located next to the Lagos port. It was over 230 acres and had large, modern plants, and was geared towards foreign investors.[86] It included the buildings of four large construction firms: Taylor Woodrow, G. Cappa, Borini Prono and Coast Construction.[87] In addition a smaller estate, Iganmu, was adjacent to Apapa. By the early 1960s firms were trying to move out of Lagos due to 'growing industrial congestion, especially at Apapa…the administrative machine was making it increasingly difficult to get approval for industrial land within the jurisdiction of Lagos…[t]here were many other cases of investors who had to pay more than once for their sites'.[88]

In 1958 the 300 acre Ikeja estate was founded by the Western Region government just outside Lagos and like Apapa was aimed at larger businesses.[89] Ikeja factories included building material manufacturers such as Asbestos Cement Products Ltd, the Steel and Wire Factory, Tower Aluminium and British Paints.[90] Ikeja also became the centre of a political land dispute between Lagos and the Western Government. Aboyade wrote that 'there is little doubt that the initial decision to locate the Nigerian Textile Mill's plant at

[85] Ibid., 375.
[86] Mabogunje, *Urbanization in Nigeria*, 286.
[87] Ibid., 288.
[88] Aboyade, 'Towards a New Industrial Location Policy', 371.
[89] Mabogunje, *Urbanization in Nigeria*, 255.
[90] Ibid., 289.

Ikeja was influenced by more political considerations – to forestall all attempts in the late 1950s by the Federal Government to extend the boundaries of the capital territory [of Lagos] on grounds of industrial need.' Together with nearby Mushin the Ikeja industrial estate had 3,000 acres in greater Lagos. The Western Region government focused on investing in the Ikeja Mushin estate from 1955 to 1965 in order to stymie the 'expansionist' plans of the federal territory of Lagos. But this investment made encroachment by other states even more attractive and Aboyade noted that by 1967, 'the rest of the old region was left with only a handful of worthwhile industrial projects, the Warri-Sapele zone having been lost in 1963, with the creation of the former Mid-West Region.'[91]

The correspondence archive of Godwin and Hopwood reflects that in 1960 their industrial clients were choosing between the various industrial estates, and Ikeja was an increasingly popular choice. Their letter to a client planning a factory there gives a sense of the breadth and depth of the market for both industrial and contractor services:

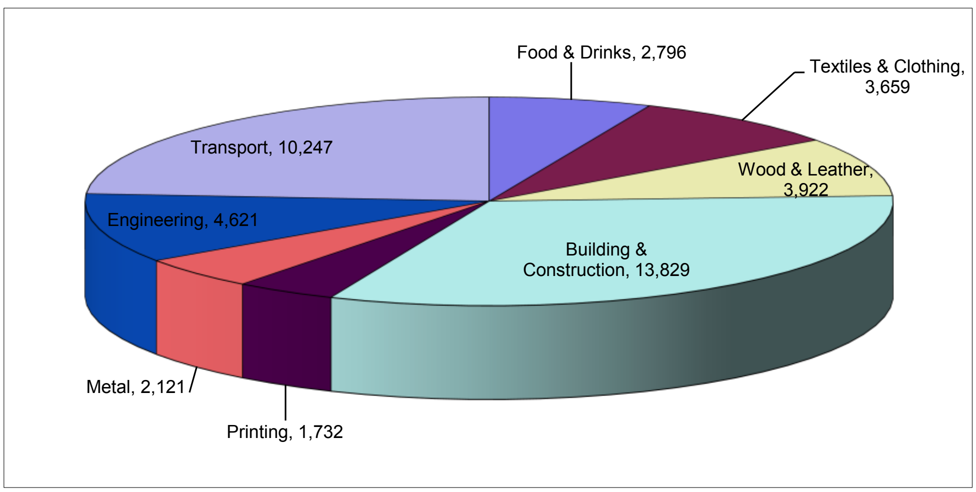
> We hope we do not appear unduly dismissive about development on this estate. We believe that there is a considerable potential here, but there has been an unfortunate history to date regarding the supply of services and the administration of the estate in general…Our experience has shown that in every case the cost of this type of project works out at an average per foot super of £2:0:0 for industrial buildings and £3:5:0 for office accommodation inclusive of all normal services…Unless you have any special requirements, we see no reason why a standard type of factory building should not be suitable. In which case we would recommend that tenders be invited from Taylor Woodrow/Arcon and from Sanders & Forster (who are operating here). We do not recommend either Dorman Lond/Amalgamated Engineering or Coseley Buildings. In all cases under our direction so far, Messrs. Sanders & Forster have submitted the lowest quotation and have been awarded the contract. Their delivery period is approximately 14 weeks delivered to the site.[92]

[91] Aboyade, 'Towards a New Industrial Location Policy', 373-374.
[92] Letter from Godwin and Hopwood to I.R.Willis, The Metal Box Company Overseas Limited, London, 12/9/60, GH Archive Job 113, Box 42/43.

The architects consistently noted that the housing market was very illiquid, even in the new estates, as was reflected in a letter from a client reminding them that '[w]e have asked also for a suitable building site in Ikeja to house two of our expatriate staff and their families…You did, I believe, mention that houses are virtually unobtainable and that even at Ikeja it would be necessary to build.'[93]

The charts below reflect the clusters of industries in the estates during the 1950s. The building and construction sector was already very significantly represented.

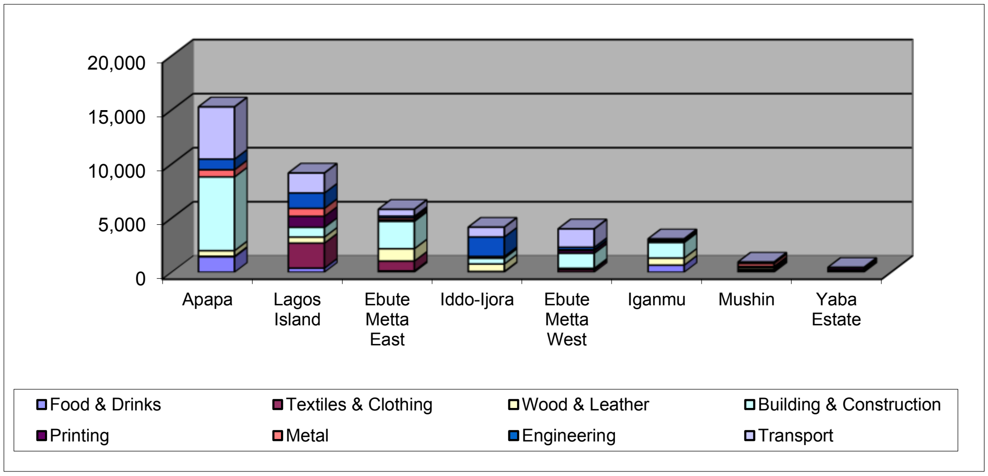
Figure 2: 1959 Lagos industrial labour force by sector



Source: Mabogunje, *Urbanization in Nigeria*, 287.
Note: Based on a survey carried out by the Federal Ministry of Commerce and Industry.

[93] Letter from I.R.M.Willis, The Metal Box Company Overseas Limited, London, to John Godwin, 28/7/60, GH Archive Job 113, Box 42/43.

Figure 3: 1959 Lagos industrial labour force by sector and location



Source: Mabogunje, *Urbanization in Nigeria*, 287.
Note: Based on a survey carried out by the Federal Ministry of Commerce and Industry.

It should be noted, however, that the expansion in modern manufacturing described here was still small in context of the total population engaged in rural and small scale urban manufacturing. In fact, in the 1960s rural cottage industry was by far the most widespread form of industry, and in a 1965 survey 900,000 households were reported to be participating in some manufacturing.[94] In addition, though newer towns like Lagos benefitted from a dramatic increase in construction of factories and industrial buildings, mostly on industrial estates, traditional large towns like Ibadan saw mostly an increase in 'social' investment (such as University College Ibadan in 1948 and the best teaching hospital in Nigeria) and administrative capacity.[95] In 1963 Ibadan only had 9 industrial companies which employed more than 100 people.[96] This increase in 'social' building and other forms of public sector investment is the subject of the next discussion.

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[94] Kilby, *Industrialization in an Open Economy*, 17.
[95] Mabogunje, *Urbanization in Nigeria*, 200.
[96] Ibid., 201.

2.2.4 Public sector building demand

Although it only achieved independence from Britain in 1960, Nigeria began to gain internal political autonomy in the mid-1950s. Power was devolved to the three Nigerian regions, representing the north, east and west, with Lagos administered separately. Public demand for building in the 1950s and 1960s was driven in large part by the need for new buildings to house the growing government administration, and the new capitals, ministries and authorities. For example, a detailed study of Ibadan showed that when in 1952 it became the capital of the Western Region, '[w]here before a single block was adequate to house all the officials and clerks, now some dozen or more blocks had to be built to house the various ministries.'[97] In contrast to the expanding regional governments, capital expenditure by the federal government appears to have been relatively flat during the period.

When power was transferred to regional governments the agricultural marketing boards, previously organized by commodity, were reconstituted by region and the boards were the main funding sources for government construction spending. From 1955 onwards a fall in export prices hurt the marketing boards and consequently restricted regional spending power.[98] This coincided with the takeover of the boards by the regions and is reflected in the Godwin Hopwood correspondence archive which in 1960 records at least one government client noting 'the present need for limiting expenditure on all Capital Works'.[99]

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[97] Ibid., 200.
[98] Aboyade, *Foundations of an African Economy*, 145-146.
[99] Letter from Chief Engineer, Nigerian Railway Corporation to Godwin and Hopwood, 18/1/60, GH Archive Job 1, Box 1.

Okigbo's data shows nominal spending by building type for the federal and three regional governments in the 1950s. By the end of the decade spending on residential building was largest area of spending for each government. In the Western Region, government spending on office space was also very important; in the Northern Region, hospitals were prominent. [100]

The colonial government had a well-established practice of providing its employees with staff accommodation or a housing subsidy. While at first this was primarily a benefit for expatriate staff, regional governments and the expanding indigenous civil service continued the practice. The first Western Region staff housing programme was started in 1948. When the government could not afford to offer staff accommodation it provided a housing subsidy[101] or a loan instead. M.O. Onajide has described how for the Western Region programme, no loan could exceed the equivalent of 48 months of salary, but even lowly paid employees qualified. The Civil Service Housing Scheme to help employees buy their own home provided home loans at interest rates of 3-5%, much less than the 7.5% charged by the government Housing Corporation. The waiting list was 5-7 years, and required that employees possess clear title to the land they were buying.[102] In general however government housing loan schemes in the 1950s and 1960s were very small in scale.

[100] Okigbo, *Nigerian National Accounts 1950-57*, 190-191.
[101] I.E.S. Amdii, *Analysis of Government Housing Policy in Nigeria* (Zaria, 1993), 15.
[102] Onajide, *The Development of Housing Policy in Nigeria*, 34.

Although Nigeria published a series of planning documents starting in 1946,[103] the so-called First National Development Plan (1962-1968) doubled the budget of the preceding 1950s plan and expanded its scope. It also was the planning vehicle for most government capital spending in the 1960s, and was designed to be funded significantly with foreign aid.

Onajide has demonstrated that housing was not a big part of this first national development plan, and that it only had a housing policy for the Federal Capital Territory of Lagos. The plan included allocating funds for land drainage, land reclamation, and a N3m loan to the Nigerian Building Society to help fund middle income mortgages, partly because the government was trying to reduce spending on civil service housing. Further slum clearance was also included in the plan, and funds raised from the disposal of cleared land funded more clearance. The total sum needed for the programme was N31m, N9m from the Federal Government and the rest mostly from sale of leases and income from the Building Society amongst other sources. [104] The chart below shows the small scale of both planned and actual spending on housing in the first plan period, and shows that most of the spending targets were reached, in sharp contrast to the poor performance of government housing programs during the oil boom period just a decade later.

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[103] Toyin Falola, *Development Planning and Decolonization in Nigeria* (Gainesville, 1996), 47.
[104] Onajide, *The Development of Housing Policy in Nigeria*, 19-20.

Table 3: Expenditure in town planning and residential building 1962-1966 (£ MM)

	Expenditure in Town Planning		
	Planned	Actual	% Completed
Northern Region	3.0	0.6	20%
Western Region	1.6	1.2	75%
Eastern Region	0.8	2.3	288%
Total	5.4	4.1	76%

	Expenditure in Residential Building		
	Planned	Actual	% Completed
Northern Region	3.0	4.2	140%
Western Region	7.7	0.8	10%
Eastern Region	2.5	3.4	136%
Total	13.2	8.4	64%

Source: Planned expenditure from Federation of Nigeria, National Development Plan, Lagos, 1962, in I.E.S. Amdii, *Analysis of Government Housing Policy in Nigeria* (Zaria, 1993), 38.
Note: Totals are calculated and may be different from the original figures.

The 1962-1968 plan included substantial investment in public utilities, with over N300m both planned and spent over the plan period. The programme included the Nigerian Railway Corporation, Nigerian National Shipping Line, Nigerian Ports Authority, and most significantly, the National Electric Power Authority. [105] Public spending on building during the plan period but not in the plan was commonly observed to be driven by suggestions from contractors who supplied credit for projects. [106]

In the 1950s the government started investing in industry through development agencies, and lent money to businesses as well as investing directly. This meant that the public sector was influencing and partially funding 'private sector' building demand. Government vehicles designed for investment in the private sector included the Northern

[105] G. Akin Ogunpola, 'Government Investment in Industry', in O. Teriba and M.O. Kayode, eds., *Industrial Development in Nigeria*, *Patterns Problems and Prospects* (Ibadan, 1977), 312.
[106] A.A. Ayida, 'Contractor Finance and Supplier Credit in Economic Growth', *The Nigerian Journal of Economic and Social Studies*, Vol. 7, No. 2. (1965), 181, 185.

Nigerian Development Corporation (1956) of whose funds a significant portion went into textile manufacturing.[107] Others included the Western Nigeria Development Corporation, Eastern Nigeria Development Corporation and the Nigerian Industrial Development Bank. Other initiatives were founded to aid private sector investment but never gained significant scale. For example, the Small Industries Credit Scheme Fund (1966), founded by the Northern Nigeria Government, only approved 81 loans between 1966 and 1968.[108] Since the industries which received investment were generally new industrial projects, they required new factories, worker housing, and warehouses.

Government investment in manufacturing was significant, but did not dominate the industry which was emerging. The government plan for investment in manufacturing was overoptimistic, partly because the plan was written before viable projects were found.[109] The Industrial Survey of 1963 showed of all recorded invested capital, 10% was Nigerian private investment, 68% was foreign investment and 22% was from the various Nigerian government entities. [110] Another study shows a lower number, indicating that of the N60m invested in manufacturing in 1964, the government invested only N10m. [111] Regardless of the amounts invested, the academic consensus on the performance on public industrial enterprises is negative, though Ogunpola has offered examples of a few successes.[112]

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[107] Ogunpola, 'Government Investment in Industry', 317.
[108] Ibid.
[109] Ibid., 319.
[110] W.A. Lewis, 'Reflections on the Structure of the Nigerian Manufacturing Industry', in O. Teriba and M.O. Kayode, eds., *Industrial Development in Nigeria*, *Patterns Problems and Prospects* (Ibadan, 1977), 335.
[111] Ogunpola, 'Government Investment in Industry', 320.
[112] Ibid., 320.

The first development plan's iron and steel plant in later decades became known as the most prominent example of misuse of public funds in building, but in the 1960s it was an example of public funds for building which was left unused due to political infighting. This was epitomised by the decision to build the physical plant and building itself. Aboyade witnessed the decade-long debate about the location and design about the new iron and steel plant. He notes that powerful regional lobbies were determined to make sure that the plant was located in their region, and that 'by 1961 the alternative locations between the East [in Onitsha] and North [in Idah] already had powerful backers'.[113] By 1964 officials were considering having two plants instead of one, despite being aware of the negative economic and technical implications of dividing the project.[114] At the National Economic Council in May 1964, they decided to have two plants, with the 'Council fully conscious of the [negative] implications for prospective viability', and planned to start investigating a third in the West, although the funding put aside for the plant would not fund multiple plants adequately, and some locations were better situated for raw materials and markets than others.[115] In his view 'growing political bias in the location of government activities', was mostly seen after 1962.[116] Ogunpola noted that '[t]he iron and steel project to which an allocation of N60m was made, had not, by the end of the [1964-1968 Development] Plan period…passed beyond the investigation stage.' [117] The fate of the steel plant in later decades is described in Chapter Six of this thesis.

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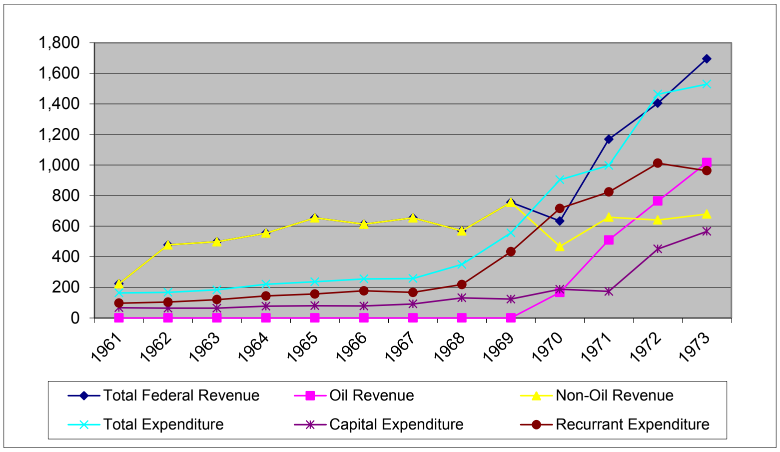
[113] Aboyade, 'Towards a New Industrial Location Policy', 368.
[114] Diamond, *Class, Ethnicity and Democracy in Nigeria*, 146.
[115] Aboyade, 'Towards a New Industrial Location Policy' 369.
[116] Ibid.
[117] Ogunpola, 'Government Investment in Industry', 319.

Oil was discovered in commercial quantities in 1957/1958, and by 1960 Nigeria was producing as much crude oil as it was consuming, though oil was only a small part of Nigerian government revenue for most of the 1960s. This changed when production expanded significantly before the civil war started in 1967 due in part to construction of pipeline infrastructure, making it the country's primary source of foreign exchange.[118] Non-oil income included, inter alia, tax revenue and tariff revenue. Oil revenue did not, however, feature as either a planned or unplanned source of funding for construction during the 1960s. In addition, government investment in the mining sector during the 1960s in general was insignificant.

The chart below reflects federal finances in the 1960s (and therefore excludes the regional governments). It shows the increase, though still modest, in federal capital spending and recurrent expenditure, and the small contribution of oil revenues until the end of the decade. The spike in expenditure after 1967 probably reflects the civil war which began in that year.

[118] Michael Watts and Paul Lubeck, 'The Popular Classes and the Oil Boom: A Political Economy of Rural and Urban Poverty', in William I. Zartman, ed., *The Political Economy of Nigeria* (New York, 1983), 106; David Bevan, Paul Collier and Jan Willem Gunning, *Nigeria: Policy Responses to Shocks 1970-1990* (San Francisco, 1992), 7.

Figure 4: Federal revenue and expenditure 1961-1973 (Naira MM)



Source: CBN, unpublished originally prepared for a 50th anniversary publication, CBN Statistics Department (Director, Dr. Sani Doguwa), Abuja, obtained April 2009.

2.2.5 Gross fixed capital formation

Both public and private sector investment in buildings was booming in the 1950s and 1960s, as has been shown in the previous sections of this chapter, and an analysis of gross fixed capital formation during the 1960s, in conjunction with a variety of other measures, offers an indication of their relative contribution and total impact on building demand. The discussion below is mostly limited to the period up until the civil war began in 1967, when some measurements of construction related indices excluded the eastern areas due to the hostilities.

Since Aboyade wrote on investment and growth in Nigeria using the 1950s national accounts, no study has taken an in-depth look into the long-term trends, drivers and implications of building investment. Instead, economic histories of Nigeria for the pre-oil boom period have generally limited their observations of building to gross fixed capital formation trends obtained from national accounts data. Bevan, Collier and Gunning noted the 10% real annual growth in real gross fixed capital formation from 1960 until the 1967 civil war and emphasised the leading role of foreign private investment, which declined throughout the decade.[119]

The gross fixed capital formation chart below shows the same trends in detail, but also demonstrates that while foreign investment did decline, local investment was booming. Foreign investment, which grew to be nearly 50% of private investment in 1964, did drop off 41% from 1964 to 1965, mostly was due to an apparent fall in oil investment. However, in the same year Nigerian private investment increased 77%. In 1965 overall investment jumped 20%, the single highest jump of any year in the decade.

Table 4: Gross fixed capital formation 1961/62-1967/68 (£ MM)

Gross Fixed Capital Formation

	1957 Prices		Current Prices			Current Prices		Current Prices
	Public	Private	Public	Total Private		Foreign Private	% Oil	Implied Approx. Nigerian Private Inv.
					1960	24.0		
1961/62	55.5	84.7	60.3	92.2	1961	27.3	25%	64.9
1962/63	55.0	82.2	64.5	95.3	1962	17.7	42%	77.6
1963/64	54.8	98.2	63.4	113.6	1963	37.9	33%	75.7
1964/65	58.2	108.8	68.0	127.0	1964	63.0	57%	64.0
1965/66	71.8	128.8	83.8	150.3	1965	37.0	47%	113.3
1966/67	77.8	130.0	90.9	151.7	1966	34.9	83%	116.8
1967/68	71.3	165.5	81.3	136.1	1967	49.4	92%	86.7
					1968	60.8	71%	
National Plan Target			751.3	432.0		200.0		
Realized Investment			453.9	664.5		239.9		
Achievement of Target			60%	154%		120%		

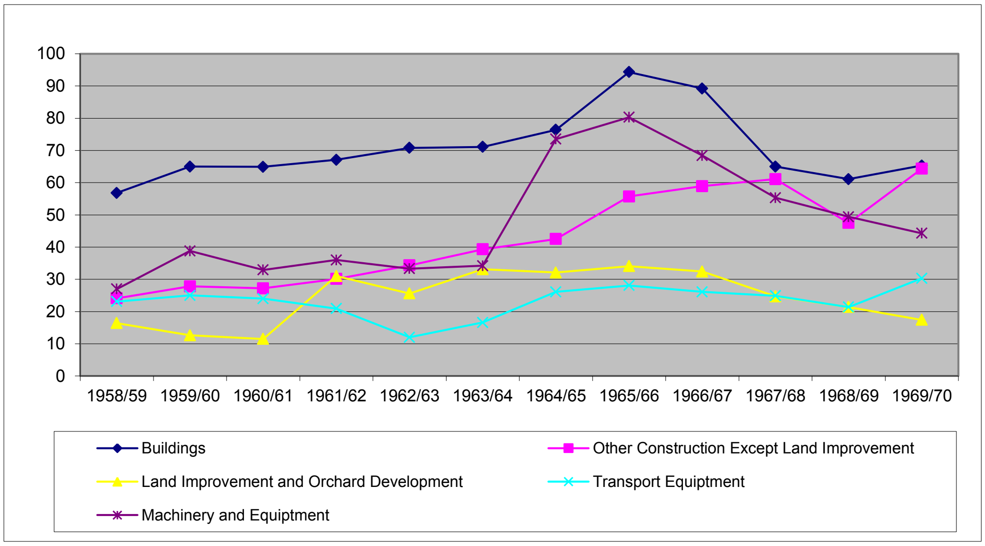
Note: 1967/68 excludes the three eastern states

Source: Edwin Dean, *Plan Implementation in Nigeria: 1962-1966* (Ibadan, 1972), 208-209.
Note: The implied Nigerian private investment is an approximation, and not strictly comparable to the other figures, as it subtracts foreign private investment, given on a calendar year basis, from total private investment, given on a fiscal year basis. Some of the data during the civil war from 1967 does not include the three eastern states.

[119] David Bevan, Paul Collier, and Jan Willem Gunning, *The Political Economy of Poverty, Equity, and Growth: Nigeria and Indonesia* (New York, 1999), 27-28.

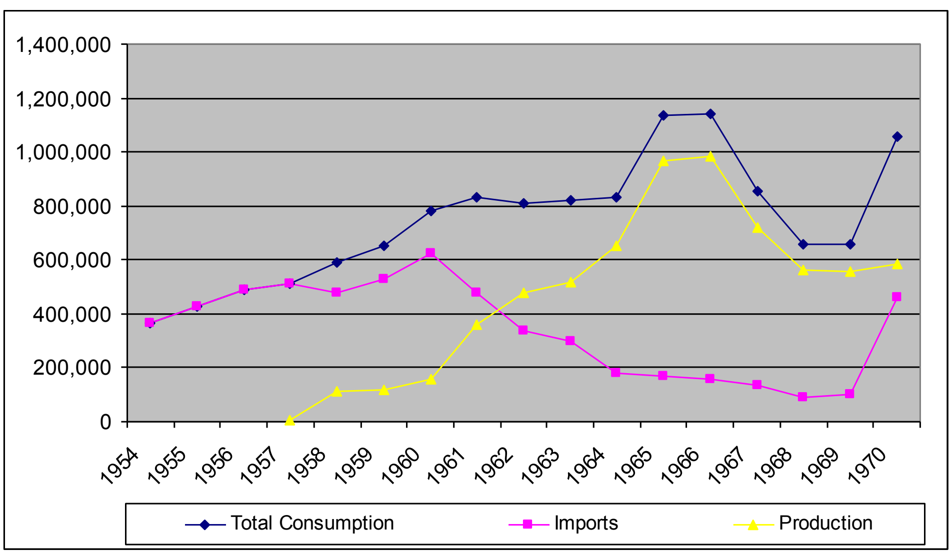
This characterization of 1965 as a boom year is supported by building data and building trends within the gross fixed capital formation data, cement data and construction GDP in the charts below.

Figure 5: Gross fixed capital formation 1958/59-1969/70 (£ MM)



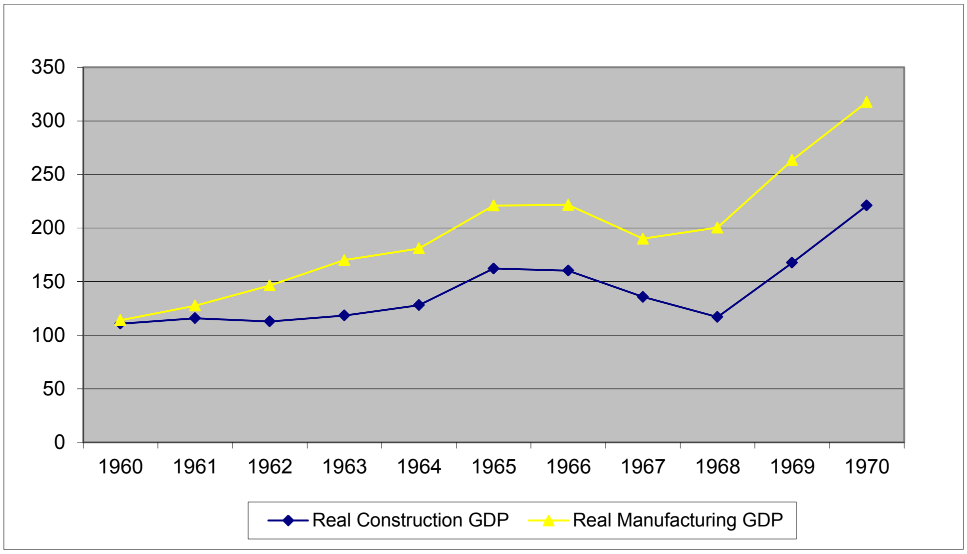
Source: *Annual Abstract of Statistics 1972*, 147.
Note: In 1962/63 constant purchasers values. 1967/68, 1968/69, 1969/70 exclude the three eastern states.

Figure 6: Nigerian annual cement consumption 1954-1970 (tons)



Source: See Appendix C for the source key, and Appendix C.1 for notes.

Figure 7: Real construction and manufacturing GDP 1960-1970 (Naira MM)



Source: CBN, unpublished originally prepared for a 50th anniversary publication, CBN Statistics Department (Director, Dr. Sani Doguwa), Abuja, obtained April 2009.
Note: 1962/63 base year.

While there is some overlap between these sources – for example gross fixed capital formation estimates for data-poor northern Nigeria may have incorporated cement import data – they do seem to reflect a clear trend. Buildings were the single largest component of capital formation during the decade.

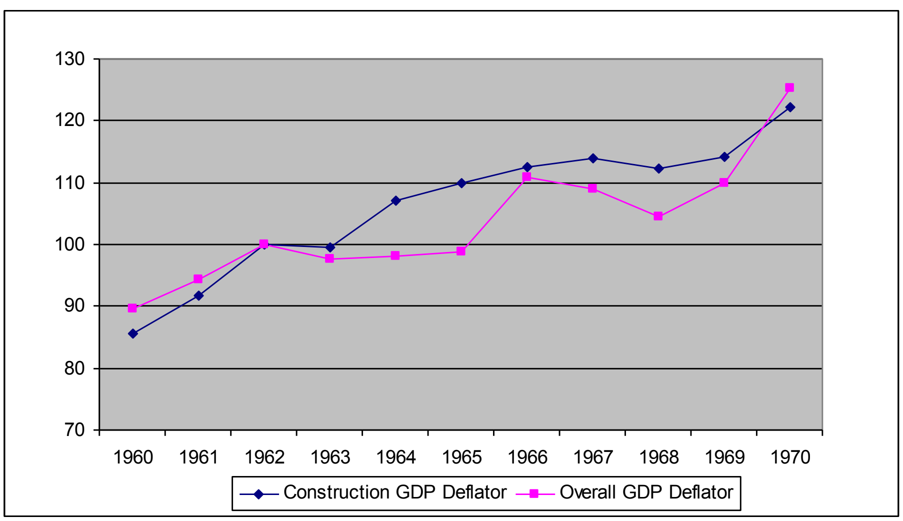
How certain is the claim that foreign investors were pulling back investment after 1964? The Godwin and Hopwood correspondence archives record 25 building projects initiated in 1963, 23 projects in 1964, and 31 in 1965. There is no discernible decrease in foreign jobs, but a higher proportion of public and private sector Nigerian jobs is evident. There is no evidence in the building data that foreign investors were pulling out due to concerns about political stability, at least in the non-oil sectors. Even in the oil sectors, Godwin and Hopwood were bidding for more work for Shell in 1965, considering a sports hall, clinic lab and production centre in Port Harcourt.

To the extent that there was a falloff in foreign investment (and the gross fixed capital formation table above indicates there was a £26m reduction in foreign investment in 1965), there are three potential explanations. First, to some degree foreigners may have been switching from equity to debt investment. Contractor finance and suppliers credit from foreign sources increased from £4.9m in 1962/63 to £15.6m in 1965/66, with an increase of 161% between 1964/65 to 1965/66, the bulk of which was lent to the federal government and federal statutory corporation projects.[120] Secondly, foreigners may have been increasingly crowded out of the market, as Nigerian government and private equity may have been cheaper, more available, and generally preferred to foreign equity. In June 1960 the UAC board was considering five big industrial investments in Nigeria, but by 1961 had only started one of them, the Guinness bottling plant, arguing that while the federal government was encouraging, the regional governments 'insistence on large equity shareholdings for their development corporations and other conditions' was slowing down potential investment. While the investment climate was still confident, by December 1965 UAC was discouraged with the prospects of many of its planned ventures.[121]

[120] Edwin Dean, *Plan Implementation in Nigeria: 1962-1966* (Ibadan, 1972), 275.
[121] D.K. Fieldhouse, *Merchant Capital and Economic Decolonization: The United Africa Company, 1929-1987* (Oxford, 1994), 504-506.

Thirdly, foreign firms may have been increasingly priced out of the market by inflation in construction costs. This may have affected foreign companies more than smaller local companies, as larger companies would have been competing for the capacity of the largest contractors directly with the Nigerian government, who at the same time were expanding investment to achieve the goals of the First National Development Plan. By mid-1965, the cost of the development plan had risen 26%. Edwin Dean offered a variety of explanations for this, including inappropriate initial costing, the addition of new projects 'without following prescribed procedures, in most cases'.[122] To these one might add inflation in construction costs as illustrated in the chart below, which was due to higher contracting costs rather than dearer raw materials.

Figure 8: Construction and total GDP deflators 1960-1970



Source: CBN, unpublished originally prepared for a 50th anniversary publication, CBN Statistics Department (Director, Dr. Sani Doguwa), Abuja, obtained April 2009.
Note: 1962/63 base year.

[122] Dean, *Plan Implementation in Nigeria*, 91.

Why did public sector investment jump in 1964/65 and 1965/66? Implementation of large parts of the planned investment in the First National Development Plan, which was to cover 1962-1968, was generally delayed by several years. The plan was supposed to have been half financed with foreign aid, which did not all materialize and which caused a need to restrict imports in the early years of the plan, but reportedly '[d]uring the first two years of the plan period, Nigeria would have been unable to spend large amounts of foreign aid because few of the new major projects were ready for execution.' [123]

Although public sector investment significantly underperformed the plan from the beginning, construction on several large projects did start in 1964 and 1965, which can in turn explain the 1965 mini-boom in public investment. One of the largest was the Kainji Dam project on the Niger River, which cost about £85m, and as Dean pointed out this was the size of planned expenditure for an entire region.[124] Construction started in 1964 and it started generating electricity in 1968. Its additional generation capacity of 320 Megawatts (MW) was supposed allow the country to satisfy the electricity needs of the whole country by 1969, and after its expansion, to satisfy demand until 1981.[125] Its planning and construction made it one of the most successful capital projects of the 1960s, and was to have 'substantially' lowered electricity costs from the 3.5d per kwh charged in 1964/65.[126] Its construction required 100,000 tons of mostly imported cement per year on its own,[127] which accounted for about one third of the roughly 300,000 ton

[123] Ibid., 232.
[124] Ibid., 158.
[125] Ibid., 159.
[126] Ibid.
[127] S.U. Ugoh, 'The Nigerian Cement Industry', *The Nigerian Journal of Economic and Social Studies*, Vol. 8, No. 1 (1966), 110.

increase in cement consumption in 1965. A second major project in the national plan which had an impact on construction levels was the 6,000 foot long Second Mainland Bridge, on which construction began in late 1965 and lasted until 1969. Like the Kainji Planning for the dam began in 1958, and the 1962 price estimate £4.7m was nearly doubled by 1967 to £9.6m.[128]

Although 1965 was a year of public sector boom, the spike in local investment in the same year was far higher. This could have been caused by several factors. Agriculture may have been becoming relatively less attractive. There was a dip in agricultural GDP and a commensurate dip from 1964-1967 in railway goods traffic, though it should be noted that there was considerable economic and political turmoil in the same years, which came to a head when the civil war began in 1967.[129] Lower producer prices for key export crops including cocoa and rubber led to a comparably low rate of growth in agriculture as compared to the fast growing industrial sector. Furthermore, the investment environment for domestically manufactured goods, both large scale and small scale, was improving through the decade. As this chapter has noted, between 1962 and 1967 tariff protection on nearly every industry increased significantly, and GDP figures show that the construction mini-boom corresponded with the manufacturing boom. In addition, building material prices were dropping. Although Ugoh, an authority on the Nigerian cement industry in the 1960s, held the view that as cement was a small percentage of total building costs demand was thus relatively inelastic,[130] as the boom began after cement prices dropped in 1964 it is possible that the increase in building was partly a

[128] Dean, *Plan Implementation in Nigeria*, 170, 174.
[129] Ibid., 219.
[130] Ugoh, 'The Nigerian Cement Industry', 104.

response to price. This would have disproportionately benefitted Nigerian private investment against foreign investment, as foreign investors likely had a higher proportion of contractor to cement costs in their building projects.

The building trends in the decades before 1970 reflect enthusiasm and ambition from both the public and private sector in scaling up their building stock. However, various sectors in society were very clearly starting to compete, for contractor capacity and for equity in the best investment projects. Private sector demand was sensitive to the price of building materials, of which the most important one, cement, was falling. Sources of potential tension between government investment and private sector investment were already visible. This tension was exacerbated in significant ways in the construction trends of the later oil boom.

2.3 Buildings and patronage networks

Any analysis of investment during and after the oil boom should consider not just the formal ‘public’ and ‘private’ sector trends building trends in place before the oil boom as outlined in the previous section, but also the role of informal patronage networks which influenced building patterns. During the later oil boom, these informal networks became major conduits for government resources, both encouraging building and diverting funds away from building.

During the 1950s and 1960s most Nigerians belonged to rural-urban patronage networks, based on familial, geographic, religious, professional – and increasingly – political ties. Although an examination of the history and nature of these networks is beyond the scope of this thesis, it is clear from existing scholarship, based largely on western Nigeria, that these networks were important avenues through which resources were channelled around the country and from sector to sector before, during, and after the oil boom. Buildings in this period of Nigerian history were relatively new and desirable – and with declining cement costs increasingly affordable – resources for distribution. They were physical representations of wealth and prestige which often outweighed their economic value as potentially income generating assets.

Patronage networks

Already briefly described in Chapter One, economic patronage based on family, professional or political ties has a long history in Nigeria, and in the 1960s was far better established than the institutions and legal obligations that followed the establishment of the Nigerian state in 1960. During the oil boom, these patronage networks assumed a strong but often hidden role, working and competing with the new state institutions in determining how oil revenues were spent and invested.

The existence of economic relationships which transcended neat categories of firms and nuclear families was observed with astonishment by Prest and Stewart in their work on the Nigerian national accounts during the early 1950s. They complained that compiling national accounts for Nigeria – 'a country where consumption and production activities are inextricably mixed and where enterprises and households may often be synonymous' – was as hopeless as it would have been for 18th century England, arguing that '[w]here complex economic transactions do not exist, little purpose is served by making them appear to do so'.[131]

Nigerian scholarship in the 1960s both noted and attempted to quantify Nigeria's 'invisible' rural-urban economic networks. Aboyade, working on the national accounts of the 1950s, observed an overall doubling of dwellings in rural areas, which he believed could not be explained by population increases or rising rural incomes. He ascribes this to people in cities spending on 'modern' buildings in their rural ancestral home areas not to generate income but to serve as status symbols. He observed that such was their attachment to their rural home areas and communities that people living in cities sacrificed their own living standards in order to increase their social standing in their ancestral rural homes. Thus people

> abstain from consumption in the big towns where they pay high rents for poor accommodation, only to exhaust their hard savings in a long frustrating process of constructing ambitious dwelling projects back in their home villages – ambitious, that is, given their saving capacity. [132]

He explains this as the 'strong sense of cultural attachment and psychological affinity to the origin of one's ancestral home, which is shared by most Nigerians'.[133]

Mabogunje describes the same phenomenon of spending in rural hometowns by urban migrants as 'social identification'.[134] Part of the historical explanation for this 'social identification' and rural-urban cross investment may be Nigeria's long urban tradition,

[131] Prest and Stewart, *The National Income of Nigeria*, 21.
[132] Aboyade, *Foundations of an African Economy*, 213.
[133] Ibid., 123.
[134] Mabogunje, *Urbanization in Nigeria*, 315.

within the context of a region dominated by agriculture. Mabogunje's analysis of the 1952 census showed the substantial percentage of occupants of Nigerian towns who work in agriculture. [135] In Ibadan during the later colonial period employment opportunities in small scale manufacturing industries competing with imports had declined. By 1952 many had returned to farming while residing primarily in the city, where their families lived and living a few days a week on their farms. [136]

In his study of housing in the post-colonial period in Western Nigeria, Onajide agreed that culturally '[t]o most Yoruba people the dichotomy between urban and rural relationships is false since most families have one foothold in the town and one foothold in the village.'[137] He ascribes this partly to the difficulties and high cost of building in cities; migrants must therefore invest their physical and social capital in their place of origin.[138]

In addition to feeling strong social identity with ancestral homes, once in cities Nigerians felt a social obligation to shelter family and home community members in their homes. This tradition likely pre-dates the era of costly, permanent buildings and scarce land. Prest and Stewart observed the same mutual rural-urban links, writing that '[t]he social obligations to support dependent relatives, indigent or ill-prospering members of the

[135] Ibid., 123-125.
[136] Ibid., 198.
[137] Onajide, *The Development of Housing Policy in Nigeria*, 5.
[138] Ibid.

same tribes and their professional beggars and their like are all-powerful as anyone acquainted with the succession of callers on a prospering African can vouch.'[139]

Dan Aronson, an anthropologist of Yoruba migrant families in the mid-1960s, asserted that migration can be seen as irrelevant to hometown social and economic obligation, and has written extensively about these patterns, titling his book *The City is Our Farm* after a Yoruba saying which conveys the complexity of rural-urban relationships.[140] He notes, however, as other scholars have, that none of these networks are static and that they are constantly evolving.

These kinship and other economic networks are not limited to Nigeria; political scientist Robert Bates has written about the significance of investment in kinship networks across many societies in Africa 'in attempts to form capital but also to cope with risks', though other scholars including Margaret Peil have asserted that although maintenance of extensive family and social networks by migrants have been observed throughout the world and across Africa, these ties have tended to be stronger and more extensive in West Africa.[141]

Buildings made from modern materials, relatively new to Nigeria, were valuable resources to distribute along such patronage networks. This is because some buildings made of modern materials acted as symbols of perceived 'modernity' and prestige. Their

[139] Prest and Stewart, *The National Income of Nigeria*, 5.
[140] Dan Aronson, *The City is Our Farm* (Rochester, 1978), 186.
[141] Robert Bates, 'Capital, Kinship and Conflict: The Structuring Influence of Capital in Kinship Societies', *Canadian Journal of African Studies*, Vol. 24, No. 2 (1990), 157; Margaret Peil, *African Urbanization in Comparative Perspective* (Birmingham, 1984), 5.

style, physical substance and possibly their permanence made them valuable in and of themselves. These buildings were built with private savings knowing, in Aboyade's words, that there was 'no effective demand…the structures are invariably unoccupied' and therefore were not designed to generate income or perform a physical function, reinforcing their value as symbols of modernity and prestige. That buildings made of modern materials were symbols of modernity, in addition to being functional, is affirmed in the cultural landscape. The tradition for building in one's hometown has been documented by other scholars, although it could be outweighed by economic incentives to build in cities. [142] A construction industry magazine article by a roofing sheet manufacturing executive noted that having corrugated iron roofing when the material was relatively new in Nigeria was 'regarded as ego boosting to home owners even though the walls of such houses were made of mud.' [143] Aboyade notes that this observation applies to the behaviour of government spending on buildings, which treated them more as prestige symbols and less as functional, income generating assets. He writes that 'those who run the state machinery somehow prefer to concentrate on more costly dwellings for middle class demand, applying a narrow concept of commercial profitability'. He cites this as contributing to 'price distortions'.[144] Mabogunje uses 'social identification' to explain the diversion of personal or government capital and infrastructure investment to unproductive areas, which, apart from its inefficiency, had the effect of raising rural expectations unrealistically and encouraging yet more urban migration. [145]

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[142] Aronson, *The City is Our Farm*, 185.
[143] Shyllon, 'The Roofing Materials Industry in Nigeria'.
[144] Aboyade, *Foundations of an African Economy*, 214.
[145] Mabogunje, *Urbanization in Nigeria*, 315-316.

This chapter has shown that demand for permanent buildings, which were relatively new to most people in Nigeria, was burgeoning in the decades prior to the oil boom. However, building patterns were not always straightforward, as they reflected the complexity of the formal and informal networks that made up the Nigerian economy. The next chapter addresses the construction industry which was growing to meet the new demand for building, and the changes in the industry which were significant for construction during the later oil boom.

CHAPTER THREE: The Pre-Oil Boom Construction Industry

As the demand for building was exploding before 1970, a construction industry was quickly and efficiently growing to supply it, the subject of this chapter. This was significant for investment during the later oil boom for two reasons. First and most significantly, it meant that the government, the recipient of the oil revenue, had access to what had become a large and well-developed construction industry, well adapted to the Nigerian environment, through which it could channel its oil-funded investment. Second, it provides a basis with which to compare the performance and behaviour of the various components of the construction industry during the oil boom, explored in Chapters Six and Seven, and after the oil boom, in Chapter Nine.

The most impressive aspect of the construction industry in the pre-1970 period was the growth of the domestic building materials industry, which expanded production and caused the real price of cement to fall through the 1960s. Contractor capacity did not do as well; though supply was increasing it was still constrained from the 1950s up until the civil war in 1967, which drove up prices. Contractor prices were also driven up by one significant government policy change which was to define public construction during the oil boom: from the 1950s, government construction contracts were for the first time almost entirely outsourced to the private sector, and increasingly construction contracts were viewed as resources to be legitimately distributed to personal and political patronage networks.

This chapter shall first discuss the history of the contracting industry, then the privatization of public sector contracts and the growth of the building materials markets. Finally, the tightening of supply in the 1960s of the contracting market and of construction labour and the impact of the civil war shall be assessed.

3.1 The development of the construction industry

In the 1960s Mabogunje observed in a new eastern suburb of Ibadan that new houses were mostly mad of mud, built by farmers, but 'wealthy farmers or prosperous traders and contractors build their new houses more solidly with bricks and cement plaster and sometimes with more than one storey.' [1] The profession of building contractors was well established in Nigeria by the 1950s and organized professional associations were formed. In 1954 the Federation of Building and Civil Engineering Contractors in Nigeria (FOBACEC) was founded by the larger firms of Cappa and D'Alberto, Borini Prono, Costain West Africa (CWA), G. Cappa, Richard Costain Ltd, Poletti Brothers, HEB Greene & Co and Taylor Woodrow (West Africa). [2] The first indigenously run company joined the association in June 1956, the C. Wilton Waddel Construction Company.[3] There were parallel associations focused on representing indigenous contractors including the Federal Union of Nigerian Contractors and the Association of Eastern

[1] Akin L. Mabogunje, *Urbanization in Nigeria* (London, 1968), 229.
[2] T.A. Adekanmbi, 'Federation of Building and Civil Engineering Contractors in Nigeria (FOBACEC) – As it was in the Beginning', *Construction in Nigeria*, Vol. 6, No. 3 (1990), 64.
[3] T.A. Adekanmbi, 'In the Beginning', *FOCI in the New Millennium* (Lagos, 1999), 3-4.

Nigerian Contractors.[4] More prominent indigenously run firms included Adebayo and Olatunbosun, Abdulai and Owomolo, T.A. Oni, Akin Taylor, and Eastern General Contractors.[5] A 1966 account documenting the life and work of a small scale builder in Ibadan cited a Nigerian Chief Oliwo as the 'richest contractor in the city'.[6] It is difficult to generalize about the structure of construction contracts during the 1950s and 1960s, though documents from FOBACEC imply that a major focus of private contractors in the late 1950s was getting a 'fluctuation clause' included in contracts for public sector work to allow them to pass on changes in the cost of materials, which until then had been part of the risk of the contract.[7]

In 1960 the building industry was dominated by Italian and British firms for large contracts and many other smaller companies who dominated lower value projects. A rough sample from the period from Okigbo's national accounts team found 600 contractors on lists of the Federal and regional governments, about 400 of which were very small. [8] The Italian builders first set up in Nigeria in the 1930s, of which most the prominent was Cappa and D'Alberto. Pietro Carlo Cappa and Vigino D'Alberto both separately came to the Gold Coast (now Ghana) in the 1920s to work in construction, but failed there citing the 'poor economic climate', and went to Nigeria. They set up their construction firm in Lagos in 1932, where economic conditions were 'no more conducive to success than they had been in the Gold Coast' but allowed them survived the economic

[4] Ibid., 4.
[5] Letter from John Godwin, 21/3/08, GH Archive.
[6] Dan Aronson, *The City is Our Farm* (Rochester, 1978), 76.
[7] Adekanmbi, 'In the Beginning', 9-10.
[8] P.N.C. Okigbo, *Nigerian National Accounts 1950-57* (Enugu, 1962), 185.

depression of the 1930s.[9] According to John Godwin and Gillian Hopwood's account, some of the Italian builders got their start in the 1930s by joining the PWD football team, developing relationships which led to small contracts. They also built a close association with Catholic organizations which provided building work.[10]

The British firm Costain started work in Nigeria in 1948 as Costain West Africa (CWA) in partnership with John Holt Ltd[11] and had success winning government contracts.[12] By 1959, CWA had 'permanent branch offices' in the northern Nigerian cities of Kano and Kaduna, and the eastern cities of Enugu and Port Harcourt.[13] Taylor Woodrow entered Nigeria in partnership with the United Africa Company[14] (which had also invested in Northern Construction Company) and together with CWA were the major British contractors in Nigeria. The trading firms including John Holt and the United Africa Company had been cut out of their core business when the government-run marketing boards were set up to buy export produce directly from farmers during the Second World War, and entering building and contracting was part of a larger strategy of business diversification as they looked for new business lines.[15] Helpfully for the British builders, contract awards were made by British colonial officers.[16] A former CWA employee described their competition as Italian, specifically mentioning the firms of Cappa and

[9] Cappa and D'Alberto Limited, *50th Anniversary in Nigeria 1932-1982*, 9.
[10] John Godwin and Gillian Hopwood, 'Construction Potential in Nigeria: 2000', *West Africa Committee Journal* (2000), 1.
[11] Ibid.
[12] Peter Farrington, 'Costain (West Africa) Plc. A History of the Company 1948-2005, A Personal Narrative', unpublished (2005), 2.
[13] Ibid., 2-3.
[14] John Godwin and Gillian Hopwood, 'Construction Potential in Nigeria: 2000', *West Africa Committee Journal* (2000), 1.
[15] Jan-Georg Deutsch, *Educating the Middlemen: A Political and Economic History of Statutory Cocoa Marketing in Nigeria, 1938-1947* (Berlin, 1995), 234.
[16] Peter Farrington, 'Costain (West Africa) Plc. A History of the Company 1948-2005, A Personal Narrative', unpublished (2005), 2.

D'Alberto and G. Cappa.[17] In 1965 a German firm named Julius Berger won the contract to build the Second Mainland Bridge in Lagos, which was paid for with aid from the West German government. Julius Berger later grew to be Nigeria's largest and most powerful construction firm, particularly focused on public sector contracts.

3.2 Privatization of public sector contracts

Before 1950, government buildings were generally built by the government-run PWD to 'strictly controlled standards'.[18] Over the decade of the 1950s, government expenditure on buildings dramatically shifted from using outside contractors for only about 15% of spending to 70% by 1958. [19] This shift had three major effects which shaped particularly public construction not only in the period up until 1970 but in the decades of the oil boom and bust which followed.

First, it expanded the contracting industry as more government building contracts became available. Public projects had a well-established competitive tendering process, but by the 1950s a new policy emerged to make sure that where possible public contracting work was open to indigenously run companies. A January 1957 letter from the Ministry of Social Services seems to indicate that indigenous contractors should as a matter of policy be included in tender processes, stating 'I am directed to inform you that Messrs. T.A. Oni & Sons and Messrs. A.O. Karunwi should be asked to tender. The Director Federal

[17] Ibid.
[18] Godwin and Hopwood, 'Construction Potential in Nigeria: 2000', 1.
[19] Ojetunji Aboyade, *Foundations of an African Economy: a Study of Investment and Growth in Nigeria* (New York, 1966), 124.

Public Works has been consulted and it is clear that the Ministry must follow established government policy.'[20] Work directed towards the indigenously run companies tended to be smaller projects which required less experience and capital. This shift to contract work, and in particular to newly formed companies, was in some cases associated with a fall in 'qualitative standards' and the rise in anecdotal 'sizable contractor 'kick-back' payable to the treasury of the ruling political party and the politician responsible for the contract award.' [21]

Second, as using contractors was more expensive than using the PWD, scholars have asserted that the shift to contractors had the overall effect of quadrupling spending on non-residential buildings in real terms over the decade of the 1950s, mostly in public sector 'social overhead buildings', including schools, offices and hospitals. According to Aboyade '[t]he cost of constructing the government standard-type 'T.63' [building] increased by at least two thirds during the decade for the country as a whole. In the Western region alone it increased by at least four-fifths.' Most of the expansion in contract work was for the Regions, outside of Lagos, where it was already prevalent at the beginning of the 1950s.[22] Kilby compared the price rise in construction costs between 1950 and 1963 against general inflation (285% vs. 36%), and agreed that '[t]he single largest component of this cost inflation can be traced to the shift from direct construction by the Ministry of Public Works of road and other public projects to contract tendering to

[20] Letter from Permanent Secretary, Ministry of Social Services, Lagos, to Godwin and Hopwood, 16/1/57, GH Archive Job 5, Box 2.
[21] P. Kilby, *Industrialization in an Open Economy: Nigeria 1945-1966* (Cambridge, 1969), 11.
[22] Aboyade, *Foundations of an African Economy*, 124.

Nigerian and, for the larger projects, expatriate construction firms.'[23] The disproportionate rise in construction costs made the First National Development Plan more expensive than it otherwise would have been, and caused cost overruns in individual projects. It is possible that the increasing demand for construction interacting with an upward sloping supply curve also contributed to the rise in construction costs, but scholars writing at the time placed the blame primarily on the impact of privatization.

While the shift to using private contractors initially might have been necessary to cope with the planned sharp increase in social overhead spending on building, it is also thought to have been a reflection of growing nationalism in the 1950s, which articulated a growing political desire to share profits from government contracts with 'indigenous Nigerians', instead of the so-called 'foreign firms' who were seen as having formed a near monopoly in getting jobs under the colonial administration. It also eased the way for illegal practices in gaining building contracts and tightened the available supply of private contractors as public sector demand for outside contractors increased. The fact that this shift, which was a building bottleneck and represented a deterioration in government institutions, occurred in the early 1950s during the colonial period demonstrates the importance of considering the decades of the 1950s and 1960s together.

Third, contractor finance became a significant feature of the construction industry in the 1950s and 1950s. While this was common in the private sector, particularly for high

[23] Kilby, *Industrialization in an Open Economy*, 11.

income residential projects in Lagos, it had its biggest impact on the public sector.[24] Allison Ayida, who became Permanent Secretary of the Federal Ministry of Economic Development and one of Nigeria's most senior and well-respected civil servants, published an article in 1965 which described the prevalence of contractor finance in government infrastructure projects. He was particularly concerned about hidden fees which pushed up effective interest rates for the governmental client, and the conflict of interest created when the contractor was simultaneously advising the government on the feasibility on the project, as was frequently the case.[25] In what in hindsight can be seen as having been amazingly prescient, Ayida warned about the likelihood of increasing government indebtedness from large scale construction projects, in particular when expensive short term debt was used.[26]

3.3 Building materials markets

The character of the building materials and labour markets before 1970 allows a point of comparison to the same markets during the later oil boom. The building materials industry, competitive and efficient, was a great pre-oil boom success story which resulted in a decline in the real price of cement through the 1960s, a major contrast to the paralysis it experienced in the 1970s which will be described in later chapters.

Building materials

[24] A.A. Ayida, 'Contractor Finance and Supplier Credit in Economic Growth', *The Nigerian Journal of Economic and Social Studies*, Vol. 7, No. 2. (1965), 178-179.
[25] Ibid., 181.
[26] Ibid., 185-186.

Over the decade of the 1950s Nigeria began to manufacture building materials, which substituted for imports and helped drive down prices in the decade leading up to the oil boom. Before the 1950s, modern materials, with the exception of bricks and timber, were largely imported by the large trading firms. In 1953 Prest and Stewart mentioned the existence of an industry of 'builders merchants' who organize sale of building material supplies.[27]

Okigbo's national accounts team in the 1950s broke down building costs into their components by surveying contractors, the PWD and the Ministry of Works. The chart below shows the results. The breakdown was generally similar for 1956 and 1958. Cement was the largest component of material costs at 13-16% of total building costs.

Table 5: Breakdown of building costs in 1957

	Contractor Survey	PWD	Min. of Works
Wages and salaries	24.0%	24.0%	24.0%
Cement	14.0%	16.0%	13.0%
Timber	10.0%	8.0%	8.0%
Roofing materials	10.0%	5.0%	8.0%
Sand and gravel	7.0%	5.0%	7.0%
Steel doors and window frames	7.0%	7.0%	7.0%
Masonry (bricks, blocks and stones)	7.0%	3.0%	6.0%
Glass	3.0%	1.5%	2.0%
Paint	3.0%	2.0%	2.0%
Other costs (including profit)	15.0%	28.5%	10.0%
Profits, depreciation and establishment			13.0%
Total	100.0%	100.0%	100.0%

Source: P.N.C. Okigbo, *Nigerian National Accounts 1950-57* (Enugu, 1962), 185-186.

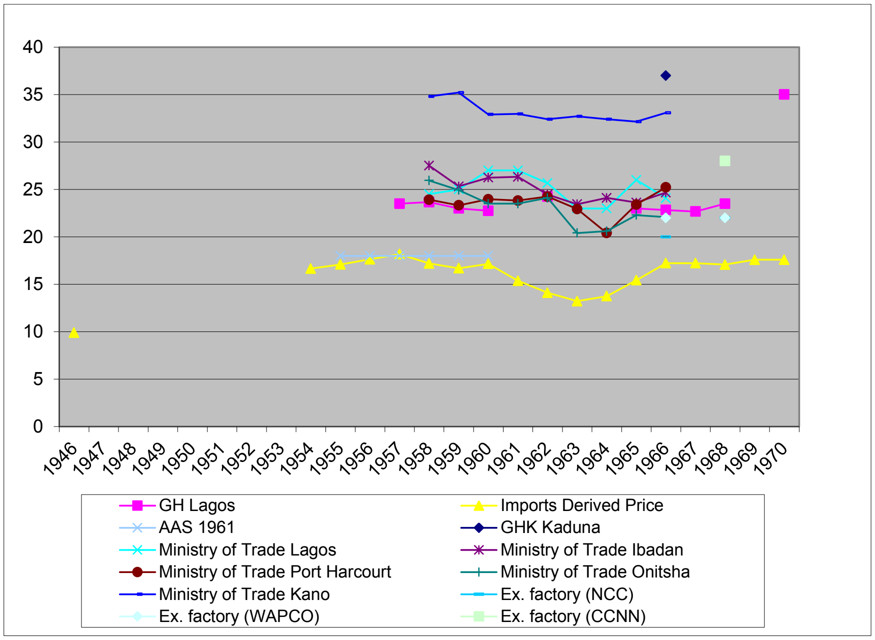
Cement

[27] A.R. Prest and I.G. Stewart, *The National Income of Nigeria, 1950-51* (London, 1953), 41.

Writing about the 15 years to 1964, Kilby concluded that '[the available evidence] suggests that there has been a moderate but steady inflation throughout the period …[t]he writer knows of only one product for which the price has fallen, cement.'[28] Strikingly, although building costs increased dramatically with the shift to private contracting, building material prices themselves in nominal terms stayed mostly flat through the 1960s, with a small dip from 1963-1964 (the decline Kilby must have been referring to). In real terms, prices declined, not only for cement but also for the other major building materials including corrugated iron roofing sheets. The cement charts in figures below show prices for imports and retail prices from available sources, which reflect the same trends. Prices derived from imports are before transport, handling and distribution costs, which explains their consistent discount to retail price series. The highest prices are, as expected, in the northern cities of Kano and Kaduna, since they are farthest away from the domestic production in southern Nigeria and from imports, which came in from the southern coast. The reason for the fall in prices is almost entirely attributable to the rise in supply from the introduction and later expansion of local cement manufacturing and subsequent increase in price competition.

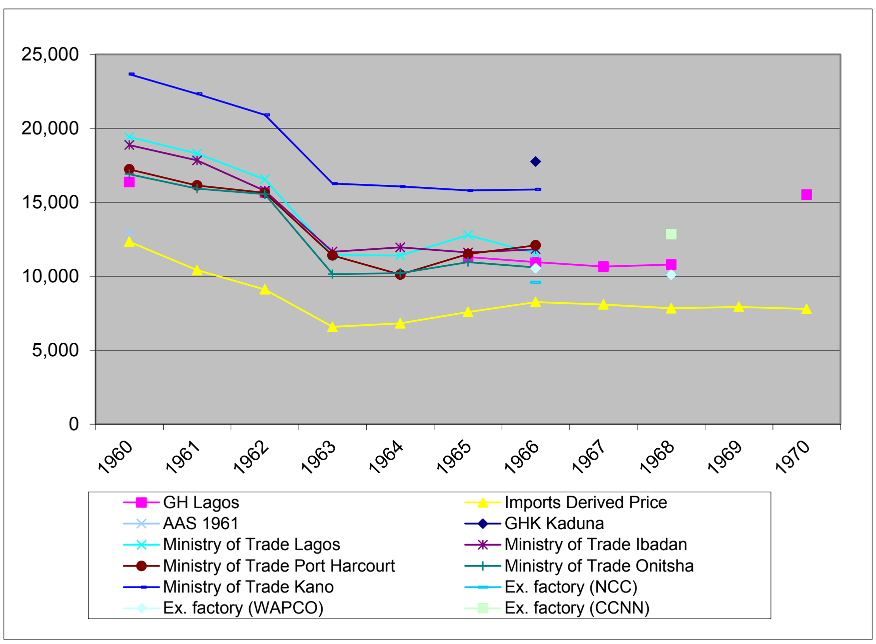
[28] Kilby, *Industrialization in an Open Economy*, 13.

Figure 9: Cement price 1946-1970 (N/ton)



Sources: See Appendix C for the source key and Appendix C.2 for notes.

Figure 10: Real cement price 1960-1970 (N/ton)



Sources: See Appendix C for the source key and Appendix C.2 for notes. In May 2003 Naira, deflated using the CBN 12MMA CPI in Appendix A.1.

Table 6: Godwin and Hopwood cement pricing sample 1957-1974

Source	Date	Job #	Client	Location	Builder	Project	Cement Pounds	Shillings	Pence	Unit	£/ton	£/bag
Contracts	21-Sep-57	9	Allen & Hanburys	Tinubu Square, Lagos	Heilmann and Littmann	Tinubu Square offices and showroom		11	9	bag	11.75	0.59
Tilliard letter	06-May-58	9	Allen & Hanburys	Tinubu Square, Lagos	Heilmann and Littmann	Tinubu Square offices and showroom		12	-	cwt	12.00	0.60
Contracts	27-May-58		Yaba model school	Surulere, Lagos	Costain	Yaba Model School		12	-	cwt	12.00	0.60
Contracts	27-Jun-58	30	Anglican Girls School	Broad street, Lagos	E.J. Delaney & Co							
Contracts	Dec-58	30	Anglican Girls School	Broad street, Lagos	E.J. Delaney & Co		11	10	-	ton	11.50	0.58
	1958 average										11.83	0.59
Archive box	1959	82	Nigerian Enamelware Company					11	6	cwt	11.50	0.58
Archive box	20-Jan-60	81				Corregating Plant Port Harcourt		11	6	bag	11.50	0.58
Archive box	30-Apr-60	83	Tower aluminium factory			Aluminium factory Ikeja		11	3	bag	11.25	0.56
contracts	17-Jul-60		Nigerian Enamelware Company	Broad street, Lagos	Costain	Factory and staff housing, Ikeja						
	1960 average										11.38	0.57
Contracts	1962		Fed Ministry of Works		Ace-Jimona	Southern Police College Ikeja		12	9	bag	12.75	0.64
Contracts	15-May-62		Metal Box Co of Nigeria	Apapa, Lagos	Costain	Factory and block of offices, Apapa	11	10		ton	11.50	0.58
	1962 average										12.13	0.61
Archive box	19-Nov-65	247	Nigerite			Low cost house		11	6	bag	11.50	0.58
Archive box	05-May-66	236	Northern Nigerian Newspapers	Kaduna				18	6	bag	18.50	0.93
Contracts	17-Oct-66		John Holt Investment Co	Marina, Lagos	Costain	New offices and warehouse, Apapa		11	5	bag	11.42	0.57
	1966 (does not include Northern Nigerian Newspapers for consistency with Lagos prices)										11.42	0.57
Contracts	1967	303	Mr and Mrs FA Omotogo	Plot 284 Raymond Njoku St		House and boys quarters		11	4	cwt	11.33	0.57
Contracts	19-Dec-68		Metal Box Co of Nigeria	Apapa, Lagos	Poletti Bros	Metal Box Factory phase II		235	-	ton	11.75	0.59
Contracts	18-Apr-70		UBA	Marina, Lagos	Inaco	Alterations at Ikoyi, Probyn and Gerrard Rds		17	6	bag	17.50	0.88
Archive box	31-Oct-74		Metal Box Toyo Glass Nigeria		G. Cappa	MGTG factory				bag	37.00	1.85

Source: Godwin and Hopwood archive, Lagos, Nigeria.
Notes:
1. Job 81 date estimated based on other documents in its archive folder.
2. No date was given for the 1962 Federal Ministry of Works project.
3. No date was given for the 1967 Omotogo house project.
4. 1962 Metal Box project specified Portland Cement B.S. 12.
5. 1966 Northern Nigeria Newspapers project specified Elephant Cement.
6. 1968 Metal Box project specified cement from Abeokuta.

Until 1956 all cement in Nigeria was imported, and the highest quality brand on the market was Burham, from Associated Portland Cement Manufacturers (APCM) in the UK.[29] Pugh and Ajayi found that at the time APCM management were optimistic about future Nigerian cement consumption, as they noted their 'inability to give the market all it wants' and discussed a five year development plan which had been written for Nigeria which would have created demand for up to half a million tons of cement.[30]

The first cement plant in Nigeria was a clinker grinding plant in Port Harcourt, founded by the Nigerian Engineering Manufacturing Company (NEMCO) in 1956 using imported clinker from Europe.[31] It was followed by the first integrated cement plant, the Nigerian Cement Company (Nigercem), which started manufacturing and milling its own clinker in 1957 near a limestone deposit in Nkalagu in Eastern Nigeria (32 miles from the coal mines at Enugu). It was a joint venture between the Eastern Government and the Federal Government. The second integrated plant was built by the West African Portland Cement Company (WAPCO) in Ewekoro in Western Nigeria and began production in 1960. WAPCO was the only integrated cement plant during the 1960s to have private

[29] Peter Pugh and J.F. Ade Ajayi, *Cementing a Partnership: The Story of WAPCO 1960-90* (Cambridge, 1990), 52.
[30] Ibid., 14.
[31] M.O.A. Adejugbe, 'Resource Allocation and Locational Efficiency in the Nigerian Cement Industry', *The Nigerian Journal of Economic and Social Studies*, Vol. 14, No. 2 (July 1972), 234.

ownership of more than 50%, and was co-owned by APCM which owned 51%, the Western Region Production Development Board (WRPDB) with 39%, and the UAC with 10%.[32] These first two integrated plants dominated domestic production in the 1960s and in 1964 were producing 79% of local output.[33]

Other than NEMCO, three more (non-integrated) clinker grinding plants were opened. Two were in Lagos, the Lagos Cement Works and Anglo-Canadian Cement, though the latter later focused on pre-stressed products. The third was in the Mid West, the Koto Clinker Plant.[34] The share of the clinker grinding plants fell from 1964, when Nigercem expanded production and its lower unit costs soon put the nearby clinker plant NEMCO out of business.[35] The cost of imported clinker from Europe was also increasing in the 1960s putting further pressure on the non-integrated plants.[36]

The first cement company in the north, The Cement Company of Northern Nigeria (CCNN), was based in Sokoto and started production during the civil war in 1967.[37] It was a contractor financed deal, with the German company Ferrostaal AG responsible for designing the factory and financing it over eight years. In order to get the equipment to Sokoto they had to carry it overland through the Sahara desert in special trucks from Algiers as it was too heavy for rail transport.[38] Two other integrated plants were planned in the mid-1960s, one at Calabar in Eastern Nigeria and one at Ukpilla, in the middle of

[32] Pugh and Ajayi, *Cementing a Partnership*, 30.
[33] S.U. Ugoh, 'The Nigerian Cement Industry', *The Nigerian Journal of Economic and Social Studies*, Vol. 8, No. 1 (1966), 103.
[34] Adejugbe, 'Resource Allocation and Locational Efficiency', 234.
[35] Ugoh, 'The Nigerian Cement Industry', 103.
[36] Ibid., 110-111.
[37] Pugh and Ajayi, *Cementing a Partnership*, 62.
[38] 'How Sokoto Cement Factory Came into Existence', *New Nigerian*, 13/1/69, 7.

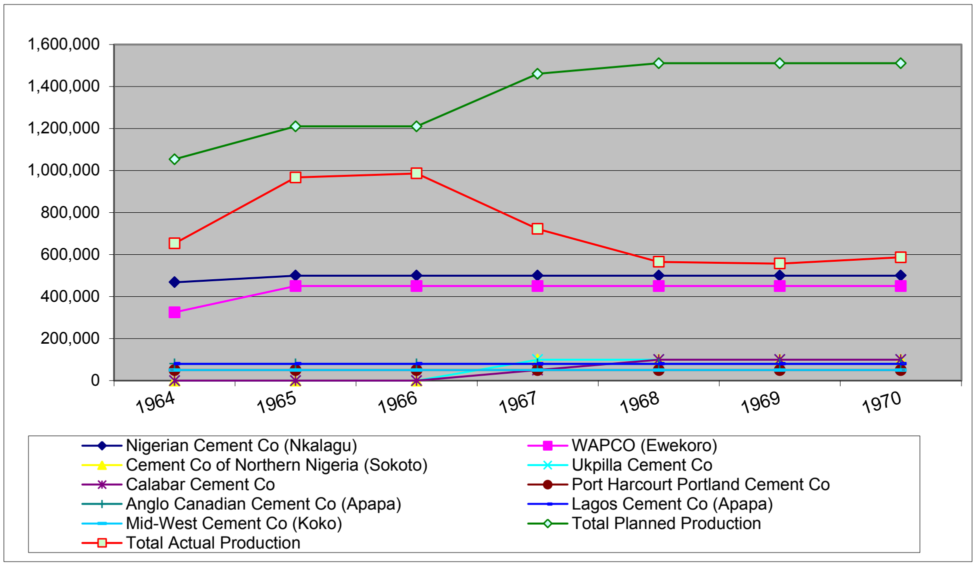
southern Nigeria. Ukpilla did not open until the early 1970s due to problems with its power supply.[39] Local cement production encountered a variety of operational problems at inception, particularly with power. WAPCO had 'frequent interruptions to the electricity supply. Power outages…damaged equipment, particularly the kiln which ought to run continuously 24 hours a day'.[40] The plant at the port of Calabar, owned by the Eastern Region government, was opened despite its proximity to import competition, and despite its nearness to Nigercem, which was also owned by the Eastern Region. It would have been far more cost effective to expand the existing Nigercem plant and therefore lower unit costs. As one scholar in the 1970s noted '[b]oth the investment decision and locational decision seemed to be motivated by anything else but not economic reasons.' [41]

That the industry was still optimistic and investing in expansion is confirmed by numerous sources. By 1966 WAPCO decided to invest an additional Nl.3 million in expansion of production. The WAPCO company history quoted an employee writing in 1966 for the house magazine Elephant News observing that '[w]ith an increasing volume of cement being sent to the Mid West and a surprising buoyancy in our traditional markets, despatches in recent months have been brisk and so far are on target for the year.' [42]

[39] Adejugbe, 'Resource Allocation and Locational Efficiency', 234.
[40] Pugh and Ajayi, *Cementing a Partnership*, 51.
[41] Adejugbe, 'Resource Allocation and Locational Efficiency', 234.
[42] Pugh and Ajayi, *Cementing a Partnership*, 64.

Things were booming so much in 1966 that if all planned production shown in the chart below had come on line there would have been excess capacity until 1970.[43]

Figure 11: Company planned capacity vs. actual cement production 1964-1970 (tons)



Source: See Appendix C for the source key, and Appendix C.3 for notes.

Cement price competition

While the clinker plants unsuccessfully competed with the integrated plants, the two integrated plants competed with each other. Nigercem had a head start on the market and had to prove to consumers that it was as good as imported cement. WAPCO entered with its 'Elephant Cement' branded product.

Initially, Nigercem had a protected home market in Eastern Nigeria, and WAPCO had its home market in the Western Region. Both were protected by heavy transportation costs between their markets. Ugoh, in his study of Nigercem, noted that each geared its

43 S.U. Ugoh, 'The Nigerian Cement Industry', *The Nigerian Journal of Economic and Social Studies*, Vol. 8, No. 1 (1966), 110.

marketing towards existing cement users, not those currently building with traditional materials. They sold through dealers, not retail, and did not offer credit. [44] Both firms sold at a single ex-factory price, and tried to hold prices by not competing directly inter se. The expansion of Nigercem capacity in 1964 broke this system as it began charging difference prices at different transportation 'depots' (called a 'basing point' system) which subsidized transportation costs away from the plant.[45] Cement they sold at their depot at Aba in southern Nigeria was at an 85% transportation cost subsidy.[46] This could explain the drop in prices around 1963-1964.

Since the first cement plan in the north was only opened in 1967, before that there was a price differential of about 40% between the major cities in the north and the south to account for transportation costs and a margin for distributors.[47] However, even after CCNN was opened, though it did mean that cement could be purchased for lower prices in Sokoto, and encouraged more modern building in the region,[48] the market was not fully protected from Nigercem and WAPCO, as it had higher unit costs (it was a single kiln plant) than the southern plants.[49]

The integrated plants also had to compete with Eastern European imports, which were being dumped in Nigeria by Poland, Romania and Yugoslavia in 1961 and 1962, thereby causing downward pressure on prices. WAPCO complained to the government about

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[44] S.U. Ugoh, 'The Nigerian Cement Company', *The Nigerian Journal of Economic and Social Studies*, Vol. 6, No. 1 (March 1964), 81-82.
[45] Ugoh, 'The Nigerian Cement Industry', 105.
[46] Adejugbe, 'Resource Allocation and Locational Efficiency', 228.
[47] Ibid., 225-226.
[48] 'How Sokoto Greeted the Industrial Age', *New Nigerian*, 13/1/69, 9.
[49] Adejugbe, 'Resource Allocation and Locational Efficiency', 233.

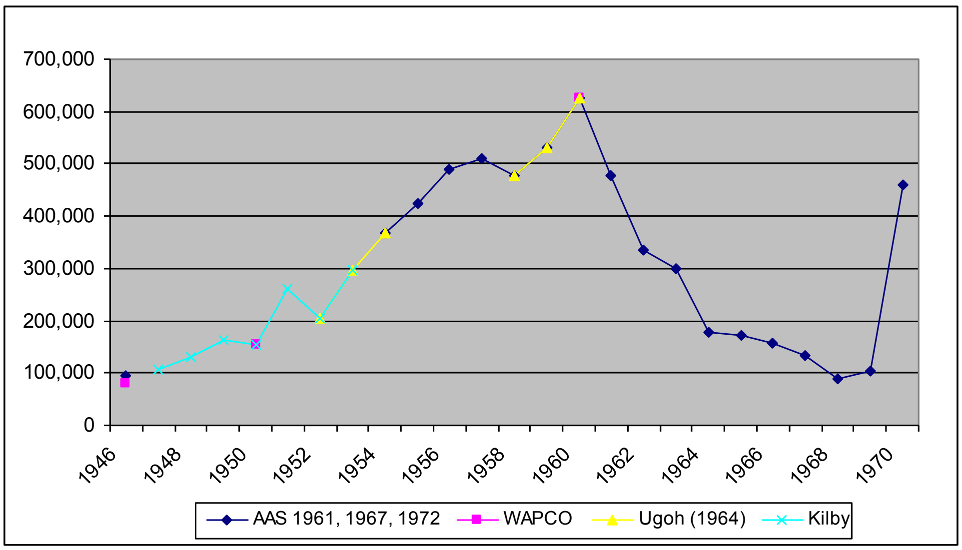
dumping and when they did not respond, shut production for 10 days until import controls were announced.[50]

There is evidence that some locally produced cement was more expensive per unit than imported cement. The cement industry benefits from significant economies of scale, and generally the Nigerian plants consistently chose a lower upfront investment/high unit cost approach relative to imported cement. They tended to start with one or two small kilns and then expand in small increments, rather than build large kilns which would have lowered production costs. The market was perceived to be risky and investors were initially unwilling to invest large amounts. Because of the rural locations of the Nigerian plants and their need to provide their own infrastructure, employee housing, etc., fixed costs were higher than normal for the industry.[51] The share of costs for Nigercem for the 1962/3 financial year were: 40% coal (for electricity) and gypsum, 30% administration, welfare services and plant maintenance, 20% depreciation, and 10% labour.[52] Ugoh estimated that costs per ton decreased with the size of the plant to the scale of cement with one kiln costing £6/ton, two kilns, £5/ton, and four kilns (500k tons), at £4/ton.[53] The local market was made competitive by tariff protection against imports. [54] Protection for cement and concrete products increased during the 1960s and effective protection rose from 20.13% in 1957, 62.24% in 1962, and 75.41% by 1967.[55] As the charts below show,

[50] Pugh and Ajayi, *Cementing a Partnership*, 52.
[51] Ugoh, 'The Nigerian Cement Industry', 102.
[52] Ugoh, 'The Nigerian Cement Company', 77.
[53] Ibid., 78.
[54] Adejugbe, 'Resource Allocation and Locational Efficiency', 233.
[55] T.A. Oyejide, *Tariff Policy and Industrialization in Nigeria* (Ibadan, 1975), 52.

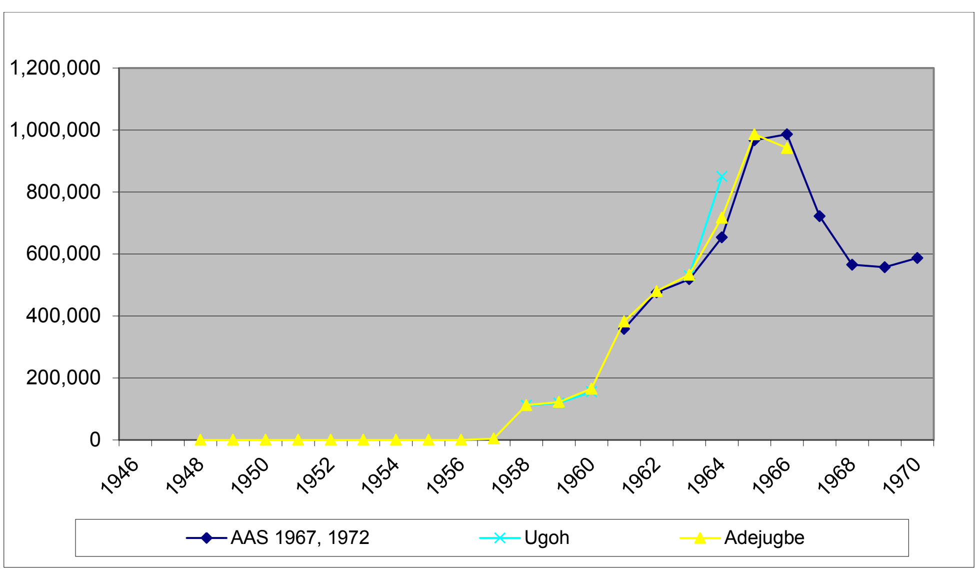
imports were rising strongly until 1960, when rising domestic production, combined with tariff protection, crowded them out.

Figure 12: Cement imports 1946-1970 (tons)



Source: See Appendix C for the source key and Appendix C.4 for notes.

Figure 13: Cement domestic production 1946-1970 (tons)



Source: See Appendix C for the source key and Appendix C.5 for notes.

Other building materials

Records from construction and architecture firms indicate that local production of other building materials was also growing in the 1960s. In 1959 Nigerian Aluminium Products Limited was planning to build a £60,000 roofing sheet factory in Port Harcourt[56] in partnership with the Government of Eastern Nigeria, which owned 40% of its equity.[57] With the assistance of a British partner – the Midland Metal Spinning Company Limited – and the West Regional Development Corporation it was simultaneously expanding into Western Nigeria.[58] The joint venture Nigerian-Belgian roofing sheet company Nigerite, who had facilities in the industrial estate of Ikeja, started production by 1960, and added to their facilities through the 1960s.[59] The general downward trend of imports for most of the key materials was likely due to this increase in local production.

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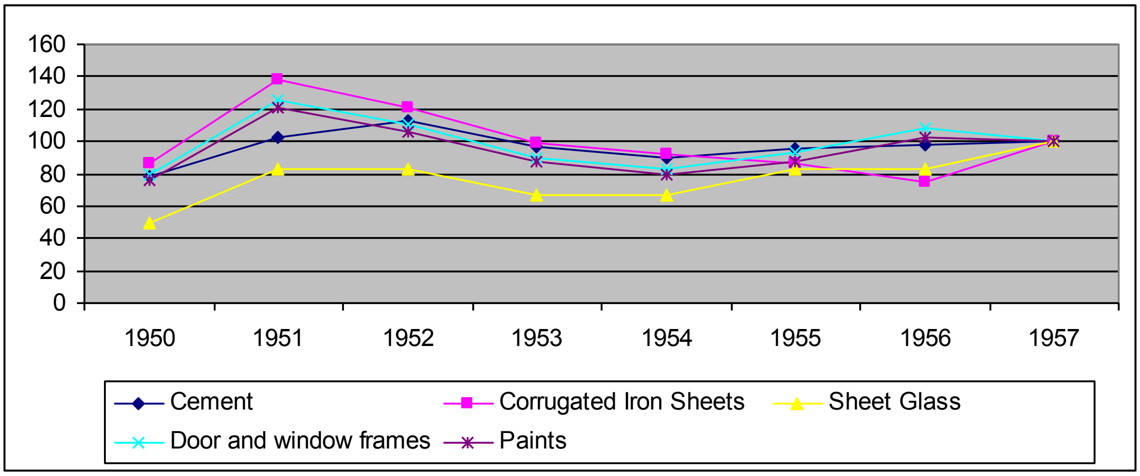
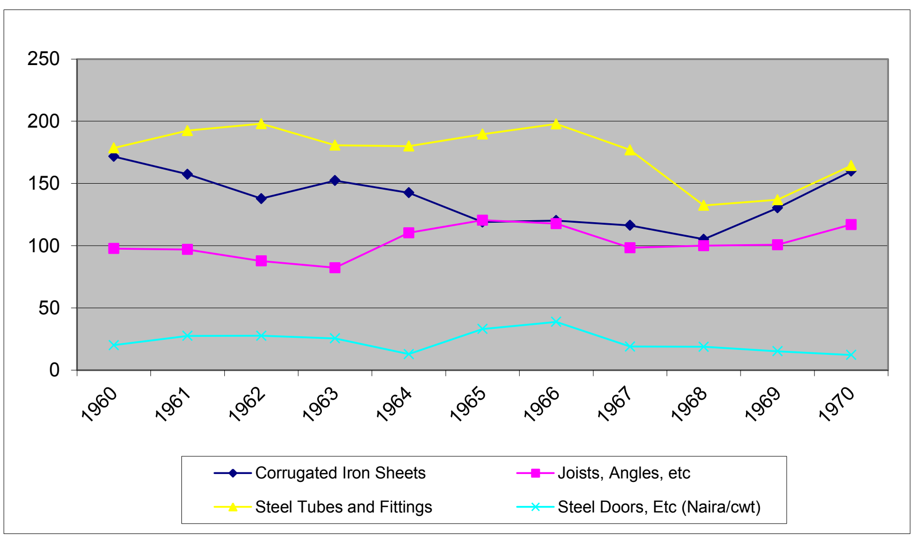
[56] Letter from Taylor Woodrow (Nigeria) Limited to Godwin Hopwood, 29/12/59, GH Archive Job 81, Box 10.
[57] Local newspaper clipping (date and source unknown), GH Archive Job 81, Box 10.
[58] Ibid.
[59] GH Archive Job 247, Box 64.

Figure 14: Price index of imported building materials 1950-1957



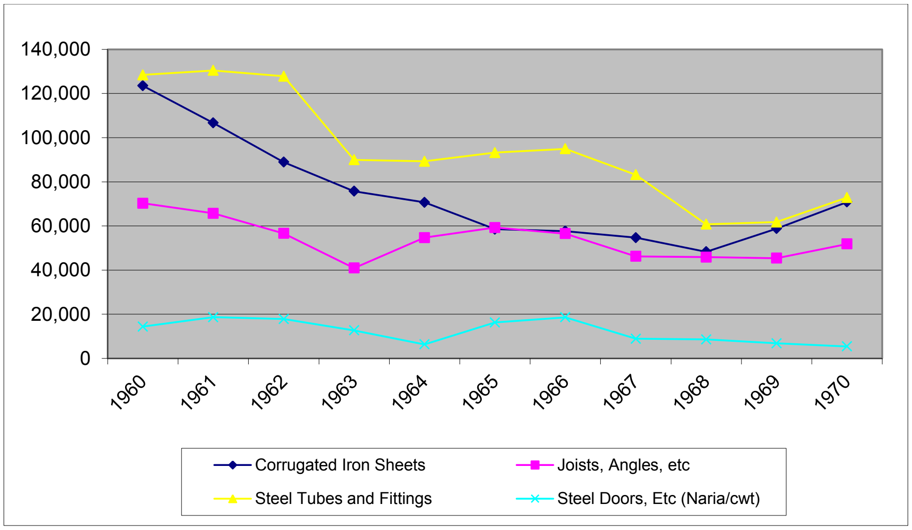
Source: Okigbo, *Nigerian National Accounts 1950-57*, 187.

Figure 15: Nominal building material import prices 1960-1970 (Naira)



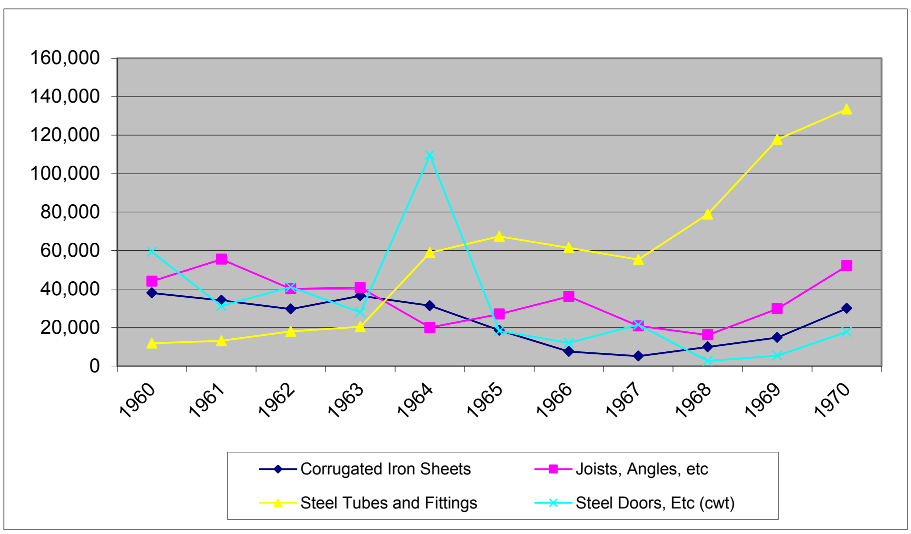
Source: *Annual Abstract of Statistics 1972*, 87, except for the year 1960, which came from the *Annual Abstract of Statistics 1961*, 64.

Figure 16: Real building material import prices 1960-1970 (Naira)



Source: See previous chart. In May 2003 Naira, deflated by the CBN 12MMA CPI in Appendix A.1.

Figure 17: Building material imports 1960-1970 (tons)



Source: See previous chart.

3.4 The tightening pre-oil boom contracting and labour markets

Primary documents and company records from contractors show that supply was increasing but was not able to keep up with demand. The contracting industry was being forced to expand quickly and prices were being driven up, a trend exacerbated during the oil boom of the 1970s. The section hereunder draws on a range of sources but relies in particular on the company archive of Godwin and Hopwood, which, as has been mentioned, contains a first-hand account of the Nigerian construction industry of the 1950s and 1960s. In this context of tightening demand for construction and other services, the organised labour market of the 1960s was able to exercise its bargaining power and extract lump sum wage award concessions. This laid the foundation for the inflation-inducing wage awards of the oil-fuelled 1970s which affected construction, as well as other sectors.

By the mid-1950s, the booming economy had already created a shortage of construction capacity. Existing construction firms benefitted from increasing private sector investment without a corresponding increase in competition from new entrants. A 1956 letter from Godwin and Hopwood quantified the extent of the tightening supply:

> [W]e are a little worried over the present state of the building industry in Lagos which we have all found has become far from competitive, and we feel that our client, Messrs. Allen & Hanbury should be advised that if the present state of affairs exists at the time we go to tender on the above Works, it is very unlikely that we shall receive any tender in the region of the figure given, which incidentally was given assuming a reasonably competitive market and based on details etc., available up to mid 1956. It is very difficult to estimate what the state of the industry will be like in a further 3-4 months' time but if things continue on their present level, it is likely that the tender received will be 15% to 20% higher than the submitted estimate of £29,000. I feel that we should point out now to Messrs. Allen & Hanbury what is happening in Lagos and warn them that they must be prepared to meet the increased costs of tendering in the present uncompetitive market. This state of affairs applies most particularly to works up to £40,000 to £50,000.[60]

[60] Letter from H. Eastwood of J.F. Tillyard to Godwin and Hopwood, 16/10/56, GH Archive Job 9, Box 9.

By 1959 the shortage in capacity was still evident, and in fact was worsening due to the impending independence date. Taylor Woodrow (Nigeria) declined to tender for a 1959 corrugated iron roofing sheets plant in Port Harcourt for Nigerian Aluminium Products Limited, because of a shortage of capacity saying: 'we thank you for your kind invitation to tender for the above but would ask you to excuse us on this occasion as our Estimating Department will be fully engaged on new projects for the next 2/3 months.'[61] Likewise Poletti Brothers withdrew their tender to build an enamelware factory in Ikeja in 1959 on behalf of I-Feng Enamelling Co. (H.K.), to CWA 'owing to the recent award of other work to us in the Mushin Area'.[62] While beginning a project to build a metal box factory in a Lagos industrial estate in 1960, Godwin and Hopwood noted that 'at the moment we seem to be doing quite a few factories, – all wanted in a hurry due to the impending independence date!'[63]

Similarly at CWA, a former employee described growth accelerating during the lead-up to independence. The period from 1948-1960 have been described as the 'good years' for contractors. Some of their civil engineering works before independence included a dam and transportation infrastructure across the country. Building projects included a railway terminus in Lagos and the teaching hospital at Ibadan, both of which were opened in 1956 by Queen Elizabeth. Some of their projects in the years before independence were

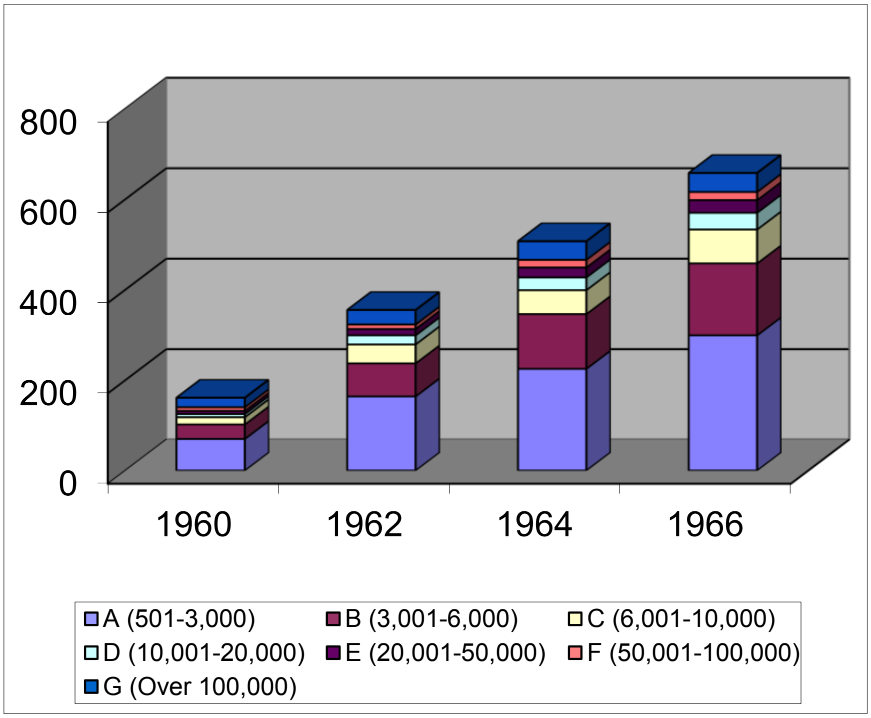
[61] Letter from J.D. Hawkins of Taylor Woodrow (Nigeria) to Godwin and Hopwood, 29/12/59, GH Archive Job 81, Box 10.
[62] Letter from Poletti Brothers & Co Ltd to Godwin and Hopwood, 9/7/60, GH Archive Job 82, Box 19; Letter from H.C.G. Searle, Technical Director, Costain (West Africa) to Godwin and Hopwood, 20/7/60, GH Archive Job 82, Box 19.
[63] GH Archive Job 113, Box 42/3, Phase II, Job 233, Box 60; Letter from Godwin and Hopwood to The Architectural Association, London, 9/7/60, GH Archive Job 113, Box 42/43.

so large, such as a power station and port works, that CWA had to get help from its parent Richard Costain Ltd in the UK. [64]

Part of the bottleneck in construction industry supply was caused by the lopsided growth of the industry. The Nigerian government was working hard to give more opportunity to indigenously run companies, which tended to be smaller firms. The federal government began pre-buying material supplies directly for contracts offered to indigenous civil engineering contractors so that the government bore the working capital cost, and in 1966 the federal government reduced the minimum contract value for which civil engineering contractors were eligible for a cash advance. [65] In 1969, expatriate building and civil engineering contractors were no longer eligible to bid for contracts worth less than £50,000, 'except in specialist or emergency cases.'[66] Attempts to protect the 'indigenous' industry from expatriate firms may have dissuaded larger firms from entering the market. While the number of smaller firms increased over the 1960s, the large firms with the ability to execute the larger projects did not increase proportionately, as the chart below shows.

[64] Farrington, 'Costain (West Africa) Plc. A History of the Company', 2-3.
[65] Federal Ministry of Information, Press Release No.F.1773, 24/11/66 (Lagos).
[66] 'Expatriate Builders Are Pegged', *Sunday Times*, 16/11/69, 2.

Figure 18: Number of building contractors in Nigeria by contract size category (£)



Source: Ministry of Works, Register of Western Nigeria Building, Civil Engineering and Electrical Contractors, Ibadan, 1960, 1962, 1964, 1966, in G. Akin Ogunpola, 'The Pattern of Organization in the Building Industry: A Western Nigeria Case Study', *The Nigerian Journal of Economic and Social Studies*, Vol. 10, No. 3 (1968), 348.

By July 1958, talk of an oil discovery had just started to excite the construction industry with potential for new building, though the surge of investment in oil areas was just beginning. In 1958 Godwin and Hopwood wrote

> [i]n view of your association with the Shell Group, you should perhaps know that there is a rumour that Shell/BP have struck oil in fair quantities in the Eastern Region of Nigeria. They have already put up a number of permanent houses and they and their associates have a large housing programme, some of which we hope to do. Obviously other community buildings will follow and a hospital will be of high priority.[67]

The 'social overhead' boom in the public sector drove building of schools all over the country, and records from the construction industry indicate that it was considered attractive business, often financed by foreign aid. In 1965 Godwin and Hopwood together

[67] Letter from Godwin and Hopwood to Alister MacDonald, 3/7/58, GH Archive Job 50, Box 1.

with other building consultants formed a company, Nigeria Development Consultants, specifically to secure some of the aid-funded work, such as the non-profit International Development Association (IDA) education projects.[68] They worked on other social overhead projects during the same period including building police colleges in Kaduna and Jos.

There was enough work outside of Lagos for building consultants for Godwin and Hopwood to set up a branch in Kaduna and an associated practice in Port Harcourt, set up by a former employee in 1964.[69] They also helped GC/Erikson to build for the telecom industry in Kaduna and Lagos. Major Godwin and Hopwood projects in northern Nigeria included the newspaper offices, press and housing for a new newspaper in Kaduna, NNN (New Nigerian Newspaper), and they just managed to finish it before the two military coups which occurred in January 1966.[70]

Godwin and Hopwood recorded a halt in jobs after the coups, due to lack of investor confidence in the direction of the country, and very few jobs were initiated. The Australian government, who had some building projects planned, immediately pulled out, though they finally completed their projects in 1971-1972. The building sector did not get discouraged immediately; in spite of the coups, in 1966 CWA asked Godwin and Hopwood for drawings for a new plant yard.[71] Though the coups led to the civil war in

[68] GH Archive Job 260, Boxes 182-183.
[69] Letter from Godwin and Hopwood to H.P. Chatterjee, Federal Ministry of Works & Housing, Building & Housing Division, Lagos, 8/9/67, GH Archive Job 260, Boxes 182-183.
[70] GH Archive Jobs 236, 237, Boxes 63-64.
[71] GH Archive Job 290, Box 77.

1967, in the same year northern Nigeria was entering a building boom, and profits were still going up, and a building consultant noted that

> 'I am a little concerned that with a considerable amount of work coming onto the northern Market coupled with the existing local conditions, builders prices are going to increase. This is not really unreasonable because no-one can expect contractors to work through the bad years without getting some gravy somewhere along the line.'[72]

The construction consultant industry was also confident enough to keep investing in their own businesses. In 1967, W.J.F. Tillyard & Partners, quantity surveyors, had started using 'computer techniques' to compile bills, which they described as a 'tremendous breakthrough in the time factor'.[73]

The chart below shows a summary job list of the major contractors Cappa and D'Alberto from 1951 to 1970. Most of the jobs are in south western Nigeria, either in Lagos or Ibadan. The types of projects and variety of clients reflect industry trends. Houses and offices dominate the early 1950s, which was followed by a boom in schools/colleges, infrastructure, warehouses, and hospitals. The areas of the industrial estates of Apapa, Ebute Metta, Yaba and Ikeja became increasingly important. In the early 1960s, hotels, embassies and factories dominated. In 1964 they worked on the massive Kainji Dam project, and subsequent dam resettlement schemes and power stations. Their clients were those with the greatest ability to build: the PWD, other government agencies and churches, followed by multinational industrial firms in the 1960s. After 1958 Nigerian petroleum agencies are well represented, as are power stations in the 1960s. The individual clients on the list demonstrate further important trends. In the beginning these

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[72] Letter from W.J.F. Tillyard & Partners to Godwin and Hopwood, 16/5/67, GH Archive Job 260, Boxes 182-183.

[73] Letter from W.J.F. Tillyard to Godwin and Hopwood, 5/5/67, GH Archive Job 260, Boxes 182-183.

were largely prominent local and regional trading firms of Lebanese and Indian origin, such as Leventis and the Chellarams, but increasingly prominent Nigerians are also shown to have been commissioning work. This included Chief T.A. Doherty, a well-known Nigerian entrepreneur of the period for whom Cappa and D'Alberto built a block of flats in 1958, Chief T. A. Odutola, and Sir M. Bank-Anthony, who later became a prominent figure in the construction industry himself.

Figure 19: Cappa and D'Alberto Job List 1950-1970

PROJECTS EXECUTED FROM 1950 TO 1960

YEAR	PROJECT	LOCATION	CLIENT
1951	Army Barracks, Malu Road, Apapa	Lagos	P.W.D.
1951	Blocks of Flats, Yaba	Lagos	B.E.W.A.C.
1951	Housing Scheme Contr. 69	Lagos	P.W.D.
1951	Housing Scheme Contr. 71	Lagos	P.W.D.
1952	Arab Garage, Ebute-Metta	Lagos	Arab Brothers
1952	Arab Transport Project, Kakawa/Broad Street	Lagos	Arab Brothers
1952	St. Mary's Convent, Broad Street	Lagos	St. Mary's Mission
1952	Offices, Apapa	Lagos	B.B.W.A.
1953	Housing Scheme, Ikoyi	Lagos	B.B.W.A.
1953	Stores and Offices, Marina	Lagos	K. Chellarams & Sons
1953	Housing Scheme, Ikoyi	Lagos	L.E.D.P.
1953	Garage at Apapa	Lagos	M. El Kalil & Sons
1953	7Up Bottling Co. Apapa	Lagos	M. El Kalil & Sons
1954	Stores at Iddo	Lagos	A. G. Leventis
1954	Housing Schemes Contr. 108 and 123	Lagos	P.W.D.
1954	Office Block	Lagos	R. Saidi & A. Mansour
1955	Kajola House	Lagos	Bransler and Rylke
1955	Offices and Houses, Apapa-Yaba	Lagos	A. Barakat
1955	Warehouse, Apapa	Lagos	K. Chellaram & Sons
1955	Block of Offices	Lagos	T. A. Doherty
1955	Housing Scheme, Ebute-Metta	Lagos	Nigerian Railways Corporation
1955	Nigerian College of Technology	Ibadan	P.W.D.
1955	Block of Flats, Force Road, Contr. 121	Lagos	P.W.D.
1955	Ikeja Hospital, Contr. W.P./24	Lagos	P.W.D.
1956	Posts and Telecommunications, Apapa	Lagos	F.P.W.D.
1956	Army Barracks, Apapa	Lagos	F.P.W.D.
1956	Head Office, Umarco, Apapa	Lagos	UMARCO
1956	Nigerian College of Technology	Ibadan	F.P.W.D.
1956	Wesley College	Ibadan	Wesley College
1956	CFAO Garage, Elegbata	Lagos	C.F.A.O.
1956	Chief Justice and Chief Secretary Houses	Lagos	F.P.W.D.
1956	Bhojson Stores, Ebute-Metta	Lagos	Chanrai Brothers
1956	21 Houses Type T82 Ikoyi	Lagos	F.P.W.D.

YEAR	PROJECT	LOCATION	CLIENT
1957	Block of Flats, Apapa	Lagos	Chief O. Awolowo
1957	American Embassy, Broad Street	Lagos	U.S.A.
1957	Block of Flats, Apapa	Lagos	C.F.A.O.
1957	Queen's College, Yaba, Contr. 259	Lagos	F.P.W.D.
1957	P. & T. Headquarters, Contr. 256	Lagos	F.P.W.D.
1957	Housing Scheme, Apapa	Lagos	Barclays Bank D.C.O.
1957	Dwelling Houses, Apapa	Lagos	Chief A. Coker M.F.R.
1957	10 Blocks of Flats, Onigbongbo, Ikeja	Lagos	Chief S. O. Shonibare
1957	Holy Cross and St. Joseph's School	Lagos	Catholic Mission
1957	Automatic Telephone Exchange, Contr. 302	Ibadan	F.P.W.D.
1957	Army Barracks, Yaba, Contr. 275	Lagos	F.P.W.D.
1958	Block of Flats	Lagos	Chief T. A. Doherty
1958	Head Office	Lagos	Cooperative Bank
1958	Maternity Hospital	Lagos	F.P.W.D.
1958	3 Blocks of Flats	Lagos	Habib Mansour
1958	Investment House	Lagos	N.I.P.C.
1959	Block of Flats, Apapa	Lagos	Oni of Ife
1959	Block of Flats, Ikoyi	Lagos	Chief A. Williams
1959	Housing Scheme, Ewekoro	Abeokuta	W.A.P.C.
1959	Government Printing Press, Apapa	Lagos	F.P.W.D.
1959	Amalgamated Printing Press, Apapa	Lagos	N.I.P.C.
1959	Banuso House, Broad Street	Lagos	N.I.P.C.
1959	Bristol Hotel	Lagos	N.I.P.C.
1959	Western House	Lagos	N.I.P.C.
1959	Broadcasting House	Ibadan	F.P.W.D.
1959	Block of Flats, Apapa	Lagos	Chief T.A. Odutola
1959	Cocoa House	Ibadan	N.I.P.C.
1960	Anatomy Block	Ibadan	University College of Ibadan
1960	Kingsway Stores, Apapa	Lagos	U.A.C.
1960	Housing Scheme, Palmgrove Estate	Lagos	Igbobi Development Co.
1960	British Council Centre	Ibadan	British High Commission

PROJECTS EXECUTED OR UNDER CONSTRUCTION FROM 1961 TO 1982

YEAR	PROJECT	LOCATION	CLIENT
1961	E.C.N. Head Office, Marina	Lagos	E.C.N. (Now National Electric Power Authority)
1961	Surulere Cinema	Lagos	West African Pictures Limited
1962	SCOA Garage Complex, Apapa	Lagos	S.C.O.A.
1962	Dunlop Factory, Ikeja	Lagos	Dunlop Industries Limited
1962	Kingsway Stores	Port-Harcourt	U.A.C.
1962	House and Offices	Lagos	Sir M. Bank-Anthony
1962-70	Ikoyi Hotel Complex	Lagos	Ikoyi Hotels Limited
1962	Residence of U.S.A. Ambassador, Ikoyi	Lagos	U.S.A.
1962	Embassy of the Republic of Guinea	Lagos	Republic of Guinea
1962	Block of Flats, German Embassy	Lagos	Government of Germany
1962	Municipal School and Houses	Lagos	U.C.I.
1962	Factory for Clay Industry (Nig.) Ltd., Oregun	Lagos	Clay Industry (Nigeria) Limited
1962	Methodist Church, Agbeni	Ibadan	Methodist Church
1963	Agip Petrol Station	Lagos/Ibadan	Agip
1963	Vitafoam Factory, Ikeja	Lagos	Vitafoam (Nigeria) Limited
1963	Michelin Workshop, Ijora	Lagos	Michelin (Nigeria) Limited
1963	Cement Factory Extension, Ewekoro	Abeokuta	W.A.P.C.
1963	Block of Offices, Broad Street	Lagos	Barclays Bank D.C.O.
1963	Galvanising Factory, Ikeja	Lagos	C.F.A.O.
1963	Embassy of the Federal Rep. of Cameroun	Lagos	Government of Federal Rep. of Cameroun
1963	Office, Accommodation and Yard	Kaduna	Cappa and D'Alberto Limited
1963-74	U.N.T.L. Factory, Phases 1 - VII	Kaduna	U.N.T.L.
1964-74	Arewa Textile Factory, Phases 1 - VII	Kaduna	Arewa Textile Limited
1964	Nigerian Paper Mill	Jebba	C.C.C.
1964	Lagos City Council Library	Lagos	Lagos City Council
1964	Palm Kernel Oil Factory, Ikeja	Lagos	C.C.C.
1964	Kainji Dam Impregilo Consultant Camp	Kainji	Impregilo
1964	Lennards Shoe Factory, Ikeja	Lagos	Lennards Shoe Limited
1965	N.T.C. Tobacco Stores	Zaria	N.T.C.
1965	Offices and Houses	Kaduna	Barclays Bank D.C.O.
1965	Odutola Tyresoles Factory	Ibadan	Chief T.A. Odutola
1965	Jebba Power Station	Jebba	E.C.N. (Now National Electric Power Authority)
1965	New Bussa Township	Kainji	E.C.N./Impregilo
1965	Tchad Embassy	Lagos	Government of Tchad
1965	Blocks of Flats, Surulere	Lagos	L.E.D.P.
1965	U.C.I. Library	Ibadan	U.C.I.
1966	Afprint Factory, Iganmu	Lagos	Afprint (Nigeria) Limited

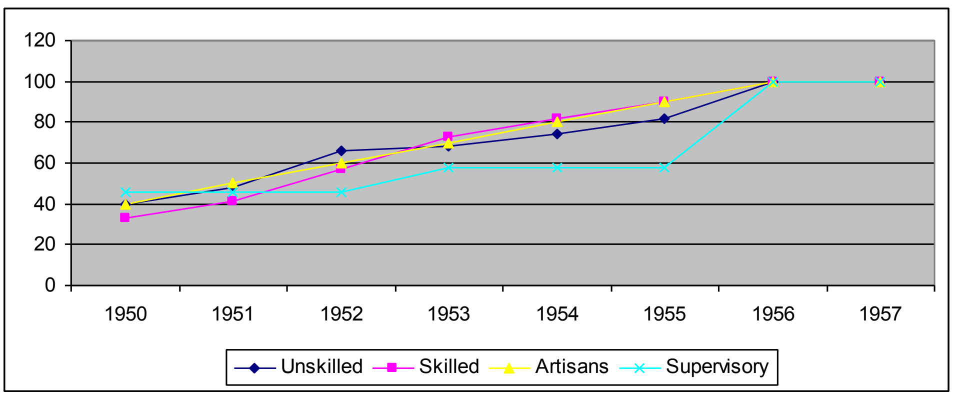
YEAR	PROJECT	LOCATION	CLIENT
1966	Cocoa Processing Plant, Ikeja	Lagos	C.C.C.
1966	Atlantic Textile Mills, Ilupeju	Lagos	Atlantic Textile Limited
1966	University of Ife	Ife	University of Ife
1966	Resettlement Camp	Kainji	Niger Dam Authority
1966	Tyre Factory	Ijebu-Ode	Chief T.A. Odutola
1966	Housing Scheme	Kaduna	U.N.T.L.
1967	Resettlement Villages, Rofia KJ 17	Kainji	Niger Dam Authority
1967	Conference Centre and Bookshop	Ibadan	U.C.I. Ibadan
1967	Italian Embassy, Victoria Island	Lagos	Government of Italy
1967	Resettlement Villages Malendo/Bin-Yauri (KJ18) KJ 71-72-81-82	Kainji	Niger Dam Authority
1967	Housing Schemes at Ikoyi	Lagos	S.B.W.A.
1968	Resettlement Villages, Shanga Area KJ 14	Kainji	Niger Dam Authority
1968	Housing Scheme	Warri	Shell B.P.
1968	Pediatric and Dental Blocks	Lagos	L.U.T.H.
1968	Textile Factory, Ikeja	Lagos	Chanrai Brothers
1968-70	President Clothing Textile Factory Iganmu, Phases 1-3	Lagos	L. Chanrai
1969	Zamfara Textile Factory	Kaduna	U.N.T.L.
1969	Cocoa Research Institute, Gambari	Ibadan	Cocoa Research Inst. of Western Region
1969	Welfare Complex and Auditorium	Kaduna	U.N.T.L.
1969	Bank Premises, Marina	Lagos	S.B.W.A.
1969-73	National Stadium, Phases II and III	Lagos	F.P.W.D.
1969	Woolen Synthetic Textile Factory, Ikeja	Lagos	Chanrai Brothers
1970	Unity House, Marina	Lagos	Wemabod Estates Limited
1970	5 Star Textile Factory, Isolo	Lagos	5 Star Ind. Ltd.
1970	Afprint Textile Factory, Isolo	Lagos	D.K. Chanrai
1970	Bhojsons Textile Industries Limited, Ilupeju	Lagos	Chanrai Brothers
1970	Computer Centre, Marina	Lagos	S.B.W.A.

Source: Cappa and D'Alberto Limited, *50th Anniversary in Nigeria 1932-1982*, 54, 56.

Labour

The increasing organisation of labour in the construction sector mirrored the organisation of labour in the economy as a whole, and was clearly affected by the growth and prosperity of the industry. By the 1950s generally construction labour costs were already the result of agreements between groups of construction firms and unions. Many construction workers belonged to the Nigeria Union of Building Trade and General Workers. The colonial code allowed groups of employers to refuse to recognize any union they did not trust. In 1956 FOBACEC used this clause to get a union general secretary and three others replaced.[74] Through the decade of the 1950s the federal minimum wage increased, although this increase was not always reflected in the private sector.[75] Correspondence between Godwin and Hopwood and a local contractor in 1960 described the process by which wage rates rose (2%) in that year: the Building and Civil Engineering Joint Industrial Council made a series of recommendations, which were subsequently ratified and copies sent to all the affiliated construction firms.[76] Formal sector wage increases were a highly organized process by the end of the 1950s.

Figure 20: Ministry of Labour index of wage rates 1950-1957



Source: Okigbo, *Nigerian National Accounts 1950-57*, 187.

The organisation of industrial labour overall accelerated during the 1960s and manifested itself in a series of strikes and large, backdated wage awards, setting a precedent which had a hugely significant impact on the management of the oil boom in the 1970s. Robin Cohen has described the process by which in 1963, labour unions across industries

[74] Adekanmbi, 'Federation of Building and Civil Engineering Contractors in Nigeria', 66.
[75] Aboyade, *Foundations of an African Economy*, 125.
[76] Letter from H.C.G. Searle, Technical Director, Costain (West Africa) to Godwin and Hopwood, 20/7/60, GH Archive Job 82, Box 19.

formed a Joint Action Committee (JAC) to coordinate industrial action. The JAC asked the government for a commission to investigate workers conditions. The so-called 'Morgan Commission' met, but its recommendations were mostly rejected by the government. In response, in 1964 the JAC declared a general strike, which earned it wage concessions. [77] Most of the estimated possible 750,000 workers who participated in the strikes were in Lagos. [78] The labour movement was in that year very well coordinated, and tapped into general public discontentment caused by the recent census controversy and the perception of inequality. It had popular support. [79] Real income had been declining in the years before the strike, as the charts below show. In 1964 most wage earners were in the public sector. The largest private employers were organized into the Nigerian Employers Consultative Association (NECA), which had since independence consistently been the chief mouthpiece of private business interests when negotiating with the government.[80]

Construction labour was not left out of this activism. Construction companies reported to FOBACEC that their employees had joined the strike. FOBACEC employers told their workers 'no work no pay' and gave striking workers one week to return to work. Before the end of the week, the strike was called off. NECA then had a dispute with JAC as to payment of wages during the strike period, which caused another strike threat. According to FOBACEC documents '[i]n the end sanity prevailed and agreement was reached

[77] Robin Cohen, *Labour and Politics in Nigeria* (London, 1974), 91-92.
[78] Doulas Rimmer, 'Development in Nigeria: An Overview', in Bienen, Henry and Diejomaoh, V.P., eds., *The Political Economy of Income Distribution in Nigeria* (London, 1981), 47.
[79] Larry Diamond, *Class, Ethnicity and Democracy in Nigeria: The Failure of the First Republic* (London, 1988), 162.
[80] Ibid., 179.

awarding 50% payment for the strike period plus four days salary advance to be recovered from annual leave entitlement. Payment of 8 months arrears on the new Morgan wages was eventually agreed.'[81] Government wages in Lagos increased by almost one third. [82] FOBACEC felt the strike agreement would hurt construction employers more than manufacturing employers, because construction employers could not immediately pass on the increased labour costs to consumers. They therefore lobbied for fewer months of increased wages paid in arrears.[83] The settlement of the strike increased inflation immediately, often at greater levels than the pay increases as sellers passed on costs, and the government raised import tariffs by 50% just a month later. [84] For building projects then ongoing, one contract from Godwin and Hopwood had to absorb a 20% increase in costs due to the wage hike from the Morgan Report and budgets.[85] The charts below indicate that in 1964, the year of the industrial action, real wages in the regions and in the cities saw at least a temporary increase. The ability of construction labour to win wage concession was very likely influenced by the booming character of the industry, which was already supply constrained and wanted to avoid disruption, and the well-known lack of competition between contractors, which gave strikers the sense that they were entitled to a share of the increasing profits. During the civil war from 1967 to 1970 strikes were declared illegal, a restriction which was lifted after the war.

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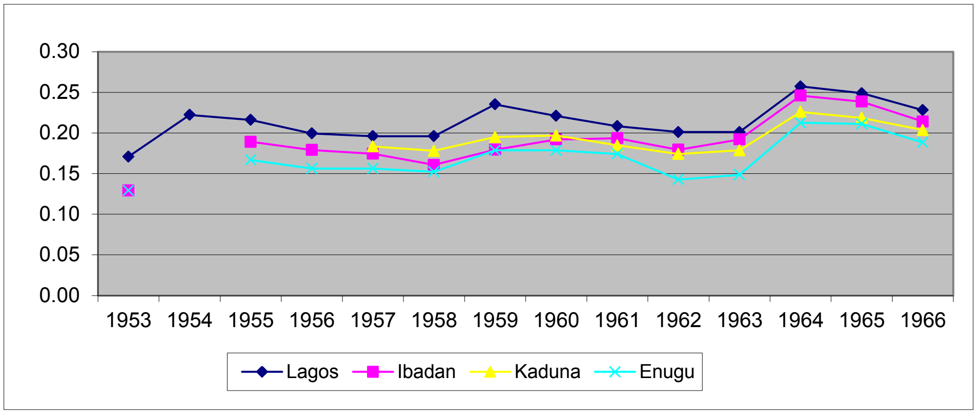
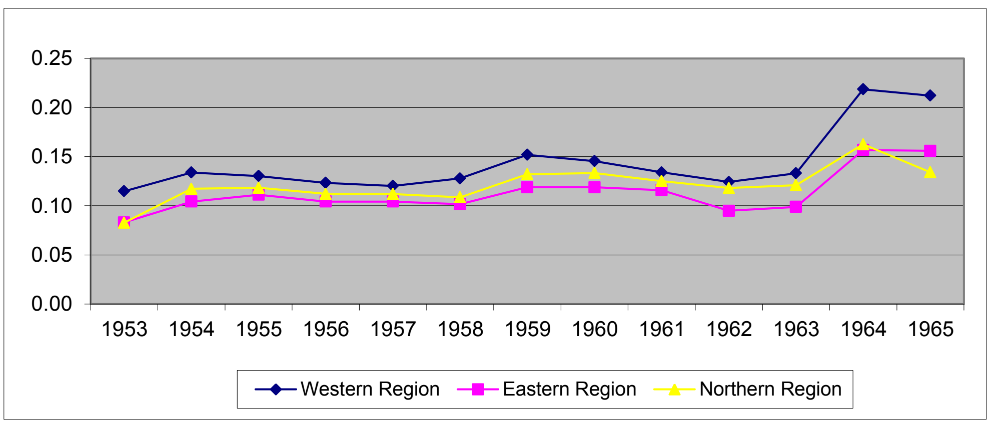
[81] Adekanmbi, 'Federation of Building and Civil Engineering Contractors in Nigeria', 66.
[82] Rimmer, 'Development in Nigeria: An Overview', 47-48.
[83] Adekanmbi, 'In the Beginning', 8.
[84] Diamond, *Class, Ethnicity and Democracy in Nigeria*, 188.
[85] 'Northern Nigeria Publishing Company, Commercial Premises and Office Block, Approximate Estimate of Cost, GH Archive Job 236, Boxes 63-64.

Figure 21: Real federal wage rates in cities (£)



Source: Wage rates from Department of Labour, Annual Reports, 1942-53; Federal Ministry of Labour, 'An Outline of the Development of Wages and Wage Structures in Nigeria', mimeograph, February 1966, in P. Kilby, *Industrialization in an Open Economy: Nigeria 1945-1966*, (Cambridge, 1969), Appendix A, 367-369. Deflated by the CPI from the Department of Labour, Annual Reports, 1939-46 data, *Digest of Statistics*, various issues, in Kilby, *Industrialization in an Open Economy*, Appendix A. Lagos, Ibadan and Enugu in 1953 Nigerian pounds, Kaduna in 1957 Nigerian pounds.

Figure 22: Real federal wage rates by region (£)



Source: Wage rates from Department of Labour, Annual Reports, 1942-53; Federal Ministry of Labour, 'An Outline of the Development of Wages and Wage Structures in Nigeria', mimeograph, February 1966, in Kilby, *Industrialization in an Open Economy*, Appendix A, 367-369. Deflated by the regional CPI in Gerald K. Helleiner, *Peasant Agriculture, Government, and Economic Growth in Nigeria* (Homewood, 1966), Statistical Appendix. All in 1947 Nigerian pounds.

3.5 The civil war and the construction industry

Nigeria's civil war from 1967-1970, also called the Biafran war, slowed down all investments including buildings. The fighting largely took place in eastern Nigeria, and there was a mass movement of people of eastern origin moving back to the east, which disrupted businesses in the rest of the country. In addition, Nigeria's by then military government in 1967 introduced a series of highly restrictive measures on the economy, in the name of wartime expediency. At the time these were the most direct methods the government had ever taken in economic management. Teriba and Kayode have argued that the swift reaction of the economy and business community increased government confidence in its interventionist methods and made them the hallmarks of later military rule.[86] In later decades this was to have a very significant impact on level and price of building and construction.

Strikes were declared illegal. Pioneer company tax relief was temporarily cancelled.[87]A super tax was added onto the income tax rate of 40% and a compulsory 10% tax on any profits which exceeded 15% of paid in capital or N10,000, whichever was greater. The Banking Control Decree in 1969 was passed to regulate capital requirements and licenses, and was later used in the 1970s to influence loans to industries.[88] With limited foreign exchange available, exchange controls and import restrictions were introduced for a range of products, including cement.[89] This increased the prices and restricted volumes of imported goods. In addition, one of the country's two main integrated cement plants

[86] O. Teriba and M.O. Kayode, 'Government Control of Industry in Nigeria', in O. Teriba and M.O. Kayode, eds., *Industrial Development in Nigeria*, *Patterns Problems and Prospects* (Ibadan, 1977), 323.
[87] Adedotun O. Phillips, 'Nigeria's Tax Incentives Policy: Recent Developments and Future Perspectives', in O. Teriba and M.O. Kayode, eds., *Industrial Development in Nigeria*, *Patterns Problems and Prospects* (Ibadan, 1977), 352.
[88] Teriba and Kayode, 'Government Control of Industry in Nigeria', 326.
[89] Pugh and Ajayi, *Cementing a Partnership*, 63; Teriba and Kayode, 'Government Control of Industry in Nigeria', 328.

was Nigercem, in eastern Nigeria, and it had to shut down production, possibly because of supply disruptions, or proximity to the fighting. Cement prices consequently spiked during the war. The shortage of cement meant that during the war the WAPCO plant in the west 'could sell as much cement as it could make and pursued plans to increase its output.'[90] CCNN came on line in the north during the war as well, but did not ease the overall price situation. The Price Control Decree of 1970 tried to control price inflation caused by wartime shortages, including cement. A Price Control Board was established for the Federation and Price Control Committees for each state. It is not surprising that a scholar of the cement industry in the 1970s noted that price controls 'did nothing but to drive the real market underground.'[91] The import license regime and some duty rates were loosened after the war. [92]

The Godwin and Hopwood architect and co-founder Gillian Hopwood described her first-hand observations of significant cost inflation, caused by the import restrictions during the war:

> 'Up to 1969 all types of building shared a similar proportional increase in construction costs which would be simply equated to the national economy. World prices were relatively stable and caused no dramatic cost changes. The budget of April 1969 and the increased scope of import licensing affected building costs. This effect was to increase the cost of imported materials and components at a time when more work was becoming available and it can be said to have started the inflationary trend.'[93]

For projects in progress during the civil war, Godwin and Hopwood correspondence indicates that work was interrupted but was assumed to open up again in the east

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[90] Pugh and Ajayi, *Cementing a Partnership*, 62.
[91] Adejugbe, 'Resource Allocation and Locational Efficiency', 218.
[92] Oyejide, *Tariff Policy and Industrialization in Nigeria*, 80.
[93] Gillian Hopwood, 'Building Costs in Nigeria', May 1977, 1, GH Archive. Partly published under 'Nigeria, Building in a Boom Economy', *RIBA Journal* (1981).

eventually.[94] Progress reports on IDA education projects as of 1968, 1969, and 1970 indicate that IDA extended the projects to 1972, though the plan for the east was expected to change.[95] Godwin and Hopwood mostly survived on lots of work for Shell during the war years. They relocated their work in the east from Port Harcourt to Warri, and started building pre-fab huts by the yard, for temporary accommodation. They also did work for Shell in Lagos. The bank UBA was also expanding, and Godwin and Hopwood did a standard bank branch design which could be replicated. During the war Godwin and Hopwood performed work for UBA and Shell, but very little else.

Accounts from another major building firm, Cappa and D'Alberto also reflect a fall in business during the war, as is shown by the chart below. It demonstrates not only that revenues were lower in 1968 than in 1965, and lower still in 1969 than in 1968, but also that the company chose to invest very little new capital into its business during the war years, as can be seen by the relatively unchanged fixed assets line in the balance sheet.

Table 7: Cappa and D'Alberto financial results 1946-1969

Naira	March 31 1946	Sept 30 1950	March 31 1955	1960	1965	1968	1969
Turnover	16,390	930,000	1,408,000	3,900,000	5,549,000	4,375,000	2,986,000
Capital	37,600	120,000	120,000	120,000	120,000	720,000	1,000,000
Reserves	-	52,000	344,000	1,100,000	1,589,000	1,132,000	861,000
Cost of Fixed Assets	14,400	69,000	376,000	810,000	1,133,000	1,448,000	1,453,000
Aggregate Depreciation	300	11,000	140,000	303,000	611,000	906,000	993,000
Net Fixed Assets	14,100	58,000	236,000	507,000	522,000	542,000	460,000

Source: Cappa and D'Alberto Limited, *50th Anniversary in Nigeria 1932-1982*, 33, 51. The 1965-1969 figures refer to Cappa and D'Alberto only, not the Group. Turnover reflects only the income from contracts and jobbing works.

[94] 'I.D.A. Education Project – Nigeria Partners Job Meeting No.6 – 25th March 1968', GH Archive Job 260, Boxes 182-183.
[95] GH Archive Job 260, Boxes 182-183.

Conclusion

During the pre-oil decades of the 1950s and 1960s the construction industry increased in size and sophistication, making it a valuable asset available to the Nigerian government at the start of the oil boom. In general the market worked very efficiently, and supply was able to meet the fluctuating levels of public and private demand.

Most impressively, the domestic market for building materials was able to quickly take share from imports, and keep prices low throughout the 1950s and 1960s. The building materials manufacturers anticipated demand and started adding capacity in the 1950s. Competition was introduced for almost every major material and most clearly in cement, where Nigercem and WAPCO ran comparable operations in eastern Nigeria and western Nigeria. The materials market was profitable even without the increasing tariff protection, though the protection naturally helped. The government also acted to help industry when it was suffering from dumping from abroad, though only in response to vigorous industry pressure. In addition, at least in the industrial sector, the problems in securing land and facilities which might have caused a bottleneck for building were at least partially circumvented by the development of industrial estates.

On the eve of the oil boom, one would probably have expected potential problems in the efficiency of construction to come from three sources: the planned building of uneconomic and/or economically unviable building material production capacity, potential industrial overreliance on tariff protection, and the constraints on contractor supply. In later decades, during the oil boom and bust, each of these did become major problems for the economy. However, despite the early warning signs, an observer probably would not have anticipated the devastating effect of the politicization of construction contracts, the impact of which will be demonstrated in the next chapter.

PART II: THE OIL BOOM (1970-1985)

CHAPTER FOUR: Ghost Demand

The oil boom

In the early 1970s Nigeria's economy, still largely driven by the commodity price fluctuations of its export-led agricultural industry, was struggling to recover from the destruction and disruption of its civil war and get its national development plan back on track. This tenuous situation was transformed by exponential increases in oil prices from October 1973 until the early 1980s, which inflated public budgets, and consequently the economic muscle, of the Nigerian government. The extent to which this 'oil boom' was invested in construction to help generate long-term growth is the central focus of this thesis and is the broad subject of this and the following three chapters.

The macroeconomic management of the Nigerian economy, including budgeting, trade policy, leverage, and oil revenue projections was the context in which public and private sector construction investment was made. While broadly referred to here as the oil boom, Nigeria from 1970 to 1985 actually witnessed two mini-booms, or oil price shocks. The impact of these shocks on government oil revenues was amplified by changes in the way oil revenue was distributed, and over the 1970s the Nigerian government share of petroleum profit increased from 50% to 85%.[1] An increasing dependence on oil meant that Nigeria's balance of payments position was increasingly dictated by unpredictable oil prices and rapidly growing and difficult to control demand for imports. This unstable

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[1] J.K. Onoh, *The Nigerian Oil Economy*, (New York, 1983), 74.

position led to a dramatically swinging trade policy. Trade policy was tightened during the civil war (1967-1970), and after the war was actively managed in an attempt to maintain a balanced current account.[2] This will be demonstrated in this thesis to have had important implications for construction and for wider investment trends, because of the reliance of the economy on imported materials and spare parts.

As the income from the oil boom accrued largely directly to the Nigerian government, the broad political framework of the country is also important in order to understand the effects of the boom. In 1966 the Nigerian military took over the government, and controlled it for most of the oil boom period, though civilians were from time to time included in advisory capacities. During military rule, senior officers relied on civil servants for administrative decision making and the power of the civil service increased.[3]

Although four different political regimes, three military and one civilian, took turns in power during the oil boom, each faced a different fiscal situation and a different set of concurrent political challenges. How these affected building and construction trends will be analysed in the upcoming chapters of this thesis, but each will be discussed briefly here.

The first 'oil boom' regime was that of General Yakubu Gowon, which lasted from mid-1966 until mid-1975. It was in place when oil revenues first surged in October 1973,

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[2] David Bevan, Paul Collier and Jan Willem Gunning, *Nigeria: Policy Responses to Shocks, 1970-1990* (San Francisco, 1992), 14.
[3] Henry Bienen with Martin Fitton, 'Soldiers, Politicians and Civil Servants', in K. Panter-Brick, ed., *Soldiers and Oil* (London, 1978), 46.

when the Arab oil embargo during the Yom Kippur war caused oil prices to rise, instantly transforming the country's fortunes and making existing government budgets and development plans out of step with the new reality. The Gowon regime faced three major political challenges: the demobilisation of almost a quarter of a million Nigerian troops in new barracks throughout the country, conducting a census in 1973 to replace the discredited 1963 census, and the commitment of the regime to transition to civilian rule by 1976.[4] The newfound oil wealth failed to assist Gowon in any of these areas for some of the reasons described later in this thesis, and the failure of the 1973 census to produce a credible result and the later announcement of the indefinite postponement of civilian rule contributed to Gowon's ousting in a military coup in 1975.

The second regime with access to the oil boom was led by General Murtala Muhammed and his deputy, Olusegun Obasanjo, and it led Nigeria until civilian elections were held in 1979, with fewer political problems than its predecessor. Muhammed was killed in a coup in mid-1976, which led to his replacement by Obasanjo. This regime played an important role in Nigeria's fiscal history because during the global oil glut in 1977-1978, the government increased its foreign borrowing to finance its spending, all of which was guaranteed by the federal government. The levels of borrowing authorized by the Obasanjo regime may have been sustainable for Nigeria at the time, but set a dangerous precedent for later administrations.

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[4] Valarie P. Bennett and A.M.H. Kirk-Greene, 'Back to the Barracks: A Decade of Marking Time', in K. Panter-Brick, ed., *Soldiers and Oil* (London, 1978), 19-22.

Elections in 1979 led to the civilian presidency of Shehu Shagari, whose regime took power at the height of the oil boom and handed over the country when it was in fiscal ruin. The oil boom had a mixed impact on the civilian regime. While it made a concerted effort to rein in inflated government contracts written by the military government, at the same time its politicians faced pressure to reciprocate political support given in the election, which led to ever greater amounts of spending. The administration enjoyed the second oil mini-boom from 1979 to 1980, which reflected sustained high world oil prices from the Iranian Revolution (prices more than doubled from about $14 in 1978, approximately where they had been for several years, to over $20 in 1979 and over $30 by 1980).[5] In spite of the boom, the government again increased borrowing to fund greater spending, and committed Nigeria to an increasingly large debt service obligation. After early 1981 when oil production fell, Nigeria was short of foreign currency. In March 1982 the government stopped Nigerian commercial banks from the processes which would convert currency to pay for imports on behalf of their clients, and in April of that year at an emergency meeting the Nigerian legislature passed austerity measures to attempt to prevent an economic crisis.[6]

Just as Shagari won his second term in office in 1983 he was overthrown in a military coup, which installed a new head of government, Major-General Muhammadu Buhari. The Buhari regime, which oversaw the tail end of the oil boom and which prided itself on its relative fiscal discipline, was forced to manage a troubled economic legacy which included an unaffordable foreign debt burden and the need for further drastic spending

[5] http://www.wtrg.com/prices.htm
[6] Onoh, *The Nigerian Oil Economy*, 97-98.

cuts. Although the exchange rate was fixed through most of the oil boom the real exchange rate (the Nigerian CPI relative to world dollar prices) fell, due to borrowing and inflation from the oil boom, from a high in the early 1970s to less than half of its previous value in 1985.[7]

Ghost demand

Nigeria is well known to have experienced a construction boom which coincided with its oil boom, in which the Nigerian government invested heavily in a range of building and infrastructure goods. This view is supported by Nigerian government capital formation data, and has been echoed in scholarly literature. In an attempt to scrutinize this generally accepted assumption, which has such important implications for analysis of Nigeria's apparent failure to use its oil boom to generate long-term economic growth, this chapter compares the construction investment figures presented in capital formation data to the total revenue of the construction industry. It suggests that the gap between the numbers is indicative of 'ghost construction', government commissioned construction which was paid for but never built. Ghost construction has been anecdotally observed by other scholars but never quantified, a task achieved here. This chapter also explores the causes and implications of the ghost construction phenomenon. There was a construction boom during the oil boom, but this construction boom was considerably smaller than has previously been acknowledged. This logically implies that the investment which was made had a far higher economic return than has previously been appreciated.

[7] Bevan, Collier, Gunning, *Nigeria: Policy Responses to Shocks*, 3-4. There was also an increasing gap between the official dollar/Naira exchange rate and the parallel (black) market rate.

4.1 The low-return construction boom

Existing literature points to two conclusions about physical investment in Nigeria during the 1970s and early 1980s. The first is that a massive government investment programme, focused on infrastructure and funded by oil income, led a construction boom during the 1970s. The second is that by the mid-1980s, low levels of non-oil sector growth and the apparent deterioration of the country's physical infrastructure indicated a very low return on that government investment.

The existence of a 1970s construction boom, in both the public and private sectors, is reflected not only in scholarship, but also in official statistics, popular belief, and newspaper accounts throughout the 1970s.[8] Michael Watts articulated the dominant view of the literature when he described 'a construction boom on an enormous scale' so big that even Nigeria's oldest cities 'had an untamed frontier quality to them. Universities, hospitals, freeways and airports moved ahead with such chaotic abandon that the internal demand for cement constantly outstripped supply.'[9]

Scholars have also concluded that this construction boom was predominantly urban. Francis Teal identifies the category of 'urban non-traded' as one of the 'fastest growing sectors' in the 1970s, which he defines as 'the output of government services, construction and related expenditures'.[10] Bevan, Collier and Gunning place the focus of

[8] 'Indigenous Contractors', Daily Times Opinion, *Daily Times*, 24/3/76, 3.
[9] Michael J. Watts, 'Agriculture and Oil-Based Accumulation: Stagnation or Transformation?', in Michael Watts, ed., *State, Oil and Agriculture in Nigeria* (Berkeley, 1987), 66.
[10] Francis Teal, 'Domestic Policies, External Constraints and Economic Development in Nigeria Since 1950', *African Affairs*, Vol. 87, No. 346 (1988), 71.

construction on government investment in manufacturing and note that '[b]y 1980 industrial investment alone accounted for an astonishing 20 percent of federally retained revenue'.[11] They add that not only did oil revenues finance an investment boom, but the investment boom 'had virtually no effect on non-oil output.'[12] John Iliffe has pointed to the high investment rate of the 1970s, 22.7% of GDP, as an indication that Nigeria's reputation for 'wasting its oil wealth on conspicuous consumption' is not completely deserved.[13] In sum, on the surface the 1970s appeared to have been the scene of a massive urban construction boom that had very little impact on later non-oil economic growth. If construction was where the Nigerian government concentrated its investment of the resource boom, and this investment was unsuccessful in producing an acceptable return, it makes examination of construction key to understanding why in the long term Nigeria did not appear to have benefitted from its oil income.

4.2 Official statistics

Quantified estimates of the extent of this boom have generally been limited to investment data from Nigeria's national accounts, which have been frequently used by scholars.[14] Construction appears twice in national accounts: the construction component of GDP, the 'value added' of the industry, which excludes the value of professional services, building materials, and other costs associated with construction, and the construction component

[11] David Bevan, Paul Collier, and Jan Willem Gunning, *Nigeria: Policy Responses to Shocks, 1970-1990* (San Francisco, 1992), 13-14.
[12] Ibid., 11.
[13] John Iliffe, *Obasanjo, Nigeria and the World* (Woodbridge, 2011), 60.
[14] Mohammad Sanusi Abubakar, 'Manufacture and Construction', in M.O. Kayode and Y.B. Usman, eds., *Nigeria Since Independence: The First Twenty Five Years* (Ibadan, 1989), 96.

of gross fixed capital formation (GFCF), which is the gross output of the construction sector, and which includes all goods and services consumed by the industry, but only new capital.[15] The official Nigerian GFCF trends for the oil boom period are shown in Appendix A of this thesis. Current currency GFCF construction investment for this period, in data from 1986, shows that Nigeria experienced one long construction boom from 1975/76, beginning a year or so after the oil boom started. It reached a peak in 1981, after which it gradually fell over the following four years. Data revised in 1987 for the years 1981-86 modifies that picture by publishing lower numbers for 1981, and which increase in 1982, before beginning a dramatic fall from 1983 to 1984. Official data indicates that non-building construction, predominantly civil engineering, rose as a proportion of total construction, to become more significant than building. Within buildings, residential building showed more modest growth than non-residential buildings. Government statistical abstracts offer a disaggregation of public and private sector construction capital formation for 1973/4 to 1977/8. These figures show the declining relative importance of the private sector and virtually no increase in investment in private residential buildings.

4.3 Ghost demand for construction

Do the GFCF figures accurately describe the construction investment of 1970-1985? With regards to the government investment programme, there is a large body of documentation of contract inflation, bribery in contract awards, inconsistencies and lack

[15] Jill Wells, *The Construction Industry in Developing Countries: Alternative Strategies for Development* (London, 1986), 13.

of detail in government information gathering during this period. Historical research to date has noted potential problems with official data but has used it due to lack of alternatives. One concern raised by scholars is that during the oil boom and in particular during the Shagari regime (1979-1983) some construction contracts were awarded by politicians to themselves or to other unqualified people in their patronage networks, and that these contracts were paid for but never executed. Toyin Falola and Julius Ihonvbere called the recipients of these contracts 'ghost contractors', concluding that '[i]t is not possible to estimate how much money was lost in this process.'[16] If this is true, these payments to ghost contractors were likely to have been recorded as invested according to government accounts and are hidden within GFCF statistics.

Despite the context of a seemingly well-organized government tendering and contracting system, from at least the mid-1970s Nigerian newspaper files confirm the well-known presence of the so-called 'ghost' construction industry mentioned by Falola and Ihonvbere, which was operating alongside the legitimate one. Ghost contractors were paid at least in part for their work, often in the form of an up-front mobilisation fee of 10-20% of the total contract value, but then did not build or finish building their contracted project. The involvement of ghost contractors was often apparent when construction contracts were won by entities unlikely to have the capability to handle the project. One newspaper notes that '[a]n indigenous cosmetics company was awarded a N100,000 building construction contract…for the construction of a rural health centre'.[17] Another

[16] Toyin Falola and Julius Ihonvbere, *The Rise & Fall of Nigeria's Second Republic: 1979-84* (London, 1985), 107.
[17] 'Firm won N .1 million contract prior to its registration', *The Nigerian Observer*, 24/1/76, 9.

example is 'the notorious case of a lady school teacher, who was awarded a road contract'.[18]

Ghost contractors treated contracts as cash transfers. Newspapers cited contractors treating 'mobilisation fees as demobilisation money [referring to the recently ended civil war]' [19] and contractors who 'treat their mobilisation fees as cash gifts'.[20] Token building, substandard building, or no construction at all was expected in return. The result was, that as of 1982, 'the whole country is littered with uncompleted contracts'.[21] Newspapers noted that the 'catalogue of construction projects mishandled by some indigenous contractors is endless' and cited incidents dating from 1975 which documented substandard building, mentioning examples of schools and hospitals. They mention the category of the 'half-baked contractor',[22] as distinct from its legitimate counterpart.

The ghost industry operated comfortably within the existing institutional framework. Whereas up until the 1950s most government construction work was done by the PWD, as was described in Chapter Three, by the time Nigeria achieved independence from Britain in 1960 a crucial policy change had shifted almost all work to private sector contractors, with detailed procedures laid out to ensure competitive and competently filled contracts. There were numerous government bodies who could grant contracts, under the umbrella of the states or the federal government. Contractors had to be registered to be eligible. There were tenders boards which awarded contracts. While

[18] 'Indigenous Contractors', Daily Times Opinion, *Daily Times*, 24/3/76, 3.
[19] J.K. Randle, 'Underground economy and construction', *National Concord*, 11/5/82, 3.
[20] 'Indigenous Contractors', Daily Times Opinion, *Daily Times*, 24/3/76, 3.
[21] J.K. Randle, 'Underground economy and construction', *National Concord*, 11/5/82, 3.
[22] Patrick Ameh, 'Indigenous contractors: are they failing the nation?', *Nigerian Standard*, 28/12/77, 11.

sometimes these institutions were sidestepped, in other cases procedures were followed but follow up checks to make sure the work was done were not carried out.[23]

The situation was so serious that various government entities took steps to attempt to contain the ghost phenomenon. A 1981 federal government report noted that few projects have enough post award site management.[24] But there was rare or mild punishment when such ghost construction was uncovered, consistent with the general (though certainly not universal) Nigerian attitude towards personal diversion of public funds. As Richard Joseph noted, 'Nigeria is not a vindictive political society: the speed with which individuals, whose misdoings have been thoroughly exposed publicly, are able to bounce back to positions of prominence, would amaze most foreign observers.'[25]

The legitimate construction industry itself recognized its illegitimate 'ghost', as it chafed under the measures designed to prevent ghost abuse. The government imposed a 2.5% turnover tax on the entire construction sector, harsh for an industry with a normal pre-tax profit margin of 5-10%. Mobilisation fees, the upfront cash payment portion of contracts normal to ease contractor cash flow to initialize a project, were eventually banned on federal government projects.

4.4 Measuring the legitimate industry

[23] 'Indigenous Contractors', Daily Times Opinion, *Daily Times*, 24/3/76, 3.
[24] Federal Republic of Nigeria, *Report of the Ministerial Committee on the Causes of the Excessively High Cost of Government Contracts in Nigeria* (Apapa, 1981), 16.
[25] Richard A. Joseph, *Democracy and Prebendal Politics in Nigeria* (Cambridge, 1987), 87.

Can the ghost construction industry be measured? If the legitimate industry can be measured, then the difference between the sales of the legitimate industry and total construction GFCF would offer a potential approximation of the ghost industry. This can be done by combining a number of sources, most significantly the results of a comprehensive industry survey and the financial results of publically-listed contractors stored at the stock exchange library in Lagos. It is important to note that for some types of construction GFCF was only supposed to record investment on completion and possession,[26] and under ordinary circumstances should not be exactly comparable to construction industry revenues, but industry revenues are used here as the 'best possible' approximation of the legitimate construction investment which should be visible in the GFCF series.

The wide-ranging survey was launched by the Federal Office of Statistics (FOS) in 1977,[27] in tacit acknowledgement that the number of officially-registered contractors failed to reflect the number of legitimate contractors. It was the second attempt by the government to quantify the legitimate construction industry; an earlier, less successful survey had been done in 1973.[28] The result of the 1977 effort was a survey covering 1976 which was then repeated for the years 1980 to 1985. This series of surveys provides a valuable historical time series of data about the legitimate construction industry.

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[26] United Nations Department of Economic and Social Affairs, Statistical Office of the United Nations, *A System of National Accounts*, Studies in Methods, Series F, No. 2, Rev. 3 (New York, 1968), 112. URL: http://unstats.un.org/unsd/nationalaccount/docs/1968SNA.pdf. Downloaded 28/10/12.
[27] Federal Ministry of Information, 'Survey of industrial, distribution and building and construction activities, 1976', News Release No. 1506, 8/22/77 (Lagos).
[28] *Report of Building and Construction Survey 1976*, 1.

Table 8: Government survey of industry size 1976-1985

	Total Government Survey Results						Lagos Government Survey Results						
			Thousand Naira						Thousand Naira				
	Companies Reporting	Total Employees	Building Receipts	Non-Building Construction Receipts	Other Receipts	Total Receipts	Companies Reporting	Total Employees	Building Receipts	Non-Building Construction Receipts	Other Receipts	Total Receipts	Lagos % of Total Receipts
1976	1,231	162,252	531,115	602,180	39,014	1,172,309	183	95,872	281,308	565,155	15,382	861,845	74%
1977													
1978													
1979													
1980	508	108,764	435,365	690,972	47,294	1,173,631	70	45,537	167,152	417,098	28,974	613,224	52%
1981	383	127,602	682,226	1,124,596	29,317	1,836,139	80	61,414	471,935	629,089	6,104	1,107,128	60%
1982	366	107,394	504,102	1,341,692	27,719	1,873,513	89	66,576	269,280	862,126	4,983	1,136,389	61%
1983	335	93,169	607,781	950,306	23,122	1,581,209	96	61,020	400,392	644,334	7,063	1,051,789	67%
1984	310	59,167	377,441	678,942	20,978	1,077,361	58	24,939	198,999	380,701	4,947	584,647	54%
1985	315	49,894	304,340	493,226	12,212	809,778	50	20,639	108,514	226,429	3,065	338,008	42%

Source: *Annual Abstract of Statistics 1991*, 210-215; *Report of Building and Construction Survey 1976, Report of Building and Construction Survey 1980*.
Note: Total survey receipts include a small amount of non-construction. There is an immaterial calculation difference of building receipts between tables on pages 210 and 212 in the 1991 abstract.

The starting point for the 1976 survey was the list of companies registered with the government as performing construction and included on the federal and state tenders board lists. As of November 1977, there were 1,855 contractors 'approved and registered' with the Federal Works Registration Board and eligible win contracts from the federal government.[29] The survey only covered companies categorized on the tenders board lists as capable of carrying out contracts worth more than N20,000. A total of 2,917 firms were sent surveys, of which 1,231 firms completed their questionnaires, and the companies that did not respond to the questionnaires were posted reminders and visited to increase the response rate. The survey and field visits found that a number of companies on the federal and state tenders boards lists 'were in fact not bona-fide construction companies'.[30] The non-responsive firms generally could not be found at the registered address, had not done any construction work or had gone out of business.[31] The response

[29] 'Govt approves 1,855 contractors', *Business Times*, 1/11/77, 24.
[30] *Report of Building and Construction Survey 1976*, 1.
[31] Ibid., 2.

rate by state ranged from 25% in Kwara State to 85% in Ondo State.[32] Questionnaires promised that data would be kept confidential and not used for tax purposes.

The 1980 survey raised the lower limit of the firms it covered from those working on contracts worth N20,000 and above to N200,000 and above, since they found those working on smaller amounts were either 'petty contractors or [again] not in fact bona-fide construction companies'.[33] Most of the smaller construction companies supplied inputs to major contractors, and so as subcontractors their contract amounts would have been counted in the response of the main contractor. The report excluded owner-supervised projects (which could be considered the informal sector), which from previous surveys was estimated in 1980 to account for less than 5% of industry output. The 1980 survey was sent to 1,025 firms, a much smaller group than the 2,917 firms sent the previous survey. Of those 1,025 firms, 508 responded.[34] Although part of the reason for the smaller survey size was the raising of the minimum size of included firms, it also gives the impression that the number of legitimate firms shrunk from 1976 to 1980, which would be expected given the slowdown in Nigeria's growth in 1977-1978. Interestingly the response rate was similar in both surveys. The 1980 report states that the major problem with increasing the response rate of the firms was that so many firms 'could not be traced'.[35]

[32] Ibid., 4.
[33] *Report of Building and Construction Survey 1980*, 1.
[34] Ibid., 2.
[35] Ibid., 3.

The value of contracts for non-building construction (including civil engineering) outstripped that for building construction in 1976, a trend which continued and widened in the later surveys. The federal government share of the contracted work in 1980 was 36.6% (down from 51% in 1976) and state and local government share was 31.5% (up from 21%), with other public bodies and the private sector making up the rest.[36]

Further annual surveys covering the years from 1981 to 1985 had 300-400 respondent entities in each year, indicating that the number of firms, if not contract values, shrunk further, reflecting the growing instability in government finances in the 1980s compared to the 1970s, and therefore a less certain contracting environment. The Federal Capital Territory of Abuja was not recorded as having any construction activity, as the surveys took place before most of the city was built.

How reliable is this survey series in offering a complete picture of Nigerian construction contracts? The range given of active construction companies in the surveys appears to be a reasonable approximation of the number of particularly large and medium size firms, though it does not include small firms or the informal sector. As an indication of the number of firms in this large, formal sector category, membership in FOCI, a major construction industry association, reached its height at 250 active companies around 1985.[37] The number of respondents by state, including the proportion of the total listed as being in Lagos, indicate in most cases that the response was a reasonable one (with the possible exception of Ogun State). The total number of industry employees and other

[36] Ibid., 16

[37] *FOCI in the New Millennium* (Lagos, 1999), 133.

metrics in the 1976 and 1980 surveys, however, is in the same range as the 1981-1985 data, despite the smaller number of firms in the later series, indicating possible industry consolidation. The growing prominence of civil engineering construction relative to building in the late 1970s and early 1980s reflects a trend noticed across a broad variety of data sources. For Cross Rivers State, the same data for 1984 is recorded for 1985, which may indicate a missing year of data. In several cases the calculated totals are slightly different than given totals (calculated totals are used in the charts in this thesis).

In order to build a more complete time series for construction data, other sources from the construction sector can be used to approximate this legitimate industry for the three years of 1977, 1978 and 1979 which lack corresponding survey data. The chart below uses financial data from two major construction companies, Julius Berger (JB) and Cappa and D'Alberto (C&D), as well as a composite of the listed construction firms on the Lagos Stock Exchange (the then-unlisted company Julius Berger was added to the composite because of its significant size), to estimate contract amounts for the missing years. The analysis assumes an approximate relationship between the survey series and both the JB/C&D series and the listed construction company composite in the years when they are both available, and assumes that this relationship continues during the missing years.

Table 9: Industry estimate 1976-1985 using private company data (Thousand Naira)

	Company Construction Data						Company Data Completion of Missing Survey Results				
	Julius Berger (JB)		Cappa & D'Alberto (C&D)		JB+ C&D	Listed Co.	Government Survey	JB & C&D % of Total	Implied Completed	Listed Co. % of Total	Implied Completed
	Employees	Sales	Employees	Sales	Sales	Sales	Sales	Survey	Survey Sales	Survey	Survey Sales
1976		235,794		24,183	259,977	438,772	1,172,309	22%	1,172,309	37%	1,172,309
1977		347,472		24,034	371,506	623,212		20%	1,857,528	35%	1,780,607
1978		180,684	3,785	31,077	211,761	455,363		20%	1,058,804	35%	1,301,036
1979	9,738	135,830	3,425	27,686	163,516	389,208		20%	817,578	35%	1,112,023
1980	8,286	142,486	3,376	26,701	169,187	405,946	1,173,631	14%	1,173,631	35%	1,173,631
1981	11,433	200,005	3,553	37,159	237,164	583,152	1,836,139	13%	1,836,139	32%	1,836,139
1982	9,270	220,295	2,939	42,907	263,202	601,797	1,873,513	14%	1,873,513	32%	1,873,513
1983	6,566	122,158	2,963	38,043	160,201	386,200	1,581,209	10%	1,581,209	24%	1,581,209
1984	5,326	86,770	2,430	25,728	112,498	244,665	1,077,361	10%	1,077,361	23%	1,077,361
1985	5,367	87,564	2,839	35,081	122,645		809,778	15%	809,778		809,778

Source: Company data, see Appendix B. Company data is calendarized for a December year end. For government survey sources, see previous table.
Note: Listed company composite includes Julius Berger, Cappa and D'Alberto, CWA, G. Cappa, Taylor Woodrow, Arbico, Dumez, and Roads Nigeria. Julius Berger is included but was not yet listed.

4.5 Capturing the ghost industry

This chart subtracts the total construction contract values from the survey series of legitimate construction (filled in for missing years using the listed company index as described above) from nominal construction GFCF, to produce an estimate of the contract values which fell under ghost construction. The percentage of ghost construction appears in most years appears to have been about 2/3^{rds} of the total recorded as spent in the GFCF records.

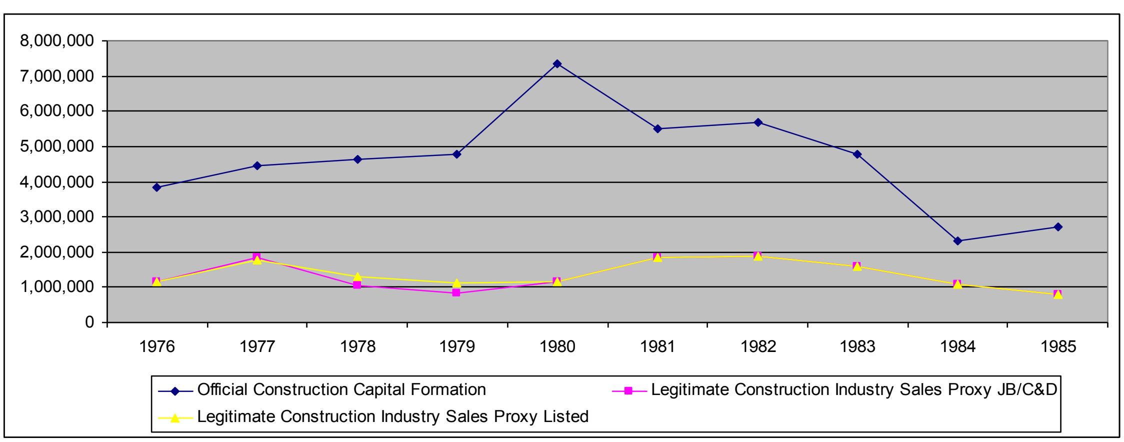
Table 10: Calculation of ghost industry 1976-1985 (Thousand Naira)

	Gross Fixed Capital Formation Building	Other Construction	Total Construction	Legitimate Construction Proxy	Implied Ghost Industry	% Ghost of Total	% Legit of Total
1976	1,858,608	1,967,124	3,825,732	1,172,309	2,653,423	69%	31%
1977	1,991,472	2,448,633	4,440,105	1,780,607	2,659,498	60%	40%
1978			4,645,247	1,301,036	3,344,211	72%	28%
1979			4,789,300	1,112,023	3,677,277	77%	23%
1980			7,342,340	1,173,631	6,168,709	84%	16%
1981			5,506,000	1,836,139	3,669,861	67%	33%
1982			5,699,000	1,873,513	3,825,487	67%	33%
1983			4,763,000	1,581,209	3,181,791	67%	33%
1984			2,320,000	1,077,361	1,242,639	54%	46%
1985			2,703,000	809,778	1,893,222	70%	30%

Source: Gross fixed capital formation: 1974-1978 from the *Annual Abstract of Statistics 1981*, calanderized to a December 31 year end, assuming a March 31 year end. 1979-1980 from *Annual Abstract of Statistics 1986*, though 1979 is calanderized to a December 31 year end, assuming a March 31 year end. 1981-1985 from the *Digest of Statistics, June 1987*. The 1987 data is used where it conflicts with the 1986 data as it is more recent and therefore is considered more reliable. For the legitimate construction proxy see the previous table 'Implied Competed Survey Sales' which uses the listed companies to fill in the missing years.

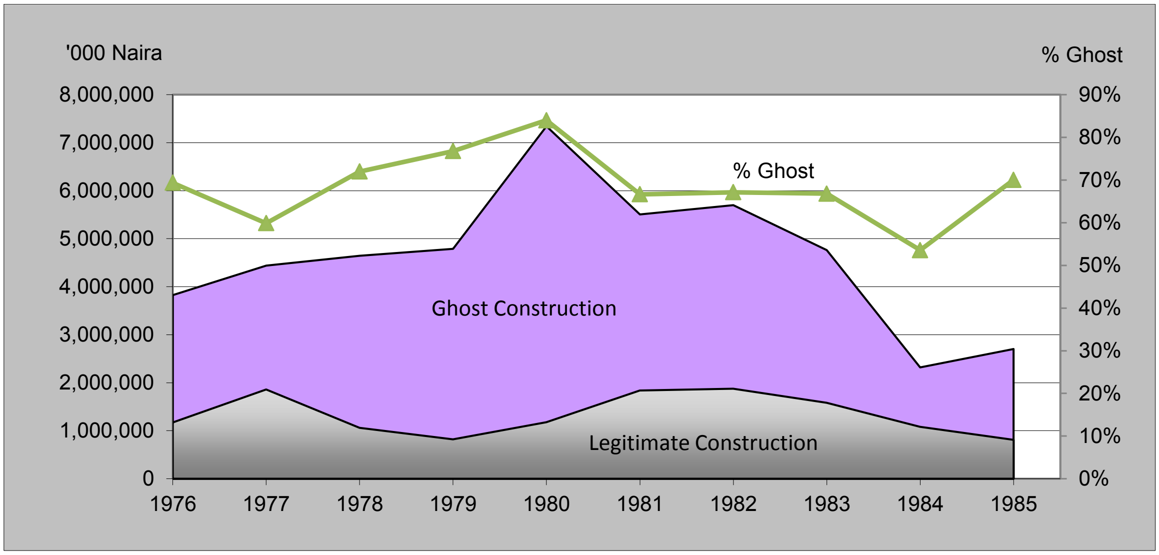
The below two charts show the same table graphically. Whether the survey series of legitimate construction is filled in using the JB/C&D series or the listed company composite, the result is similar.

Figure 23: Capital formation and construction spending 1976-1985 (Thousand Naira)



Source: Same source/notes as implied total industry using private company construction data chart and calculation of ghost industry chart above.

Figure 24: Implied ghost demand 1976-1985



Source: Same source as calculation of ghost industry table above, using the listed company sales proxy for the missing years of the survey. The green line shows the percentage of ghost construction.

There are significant implications for Nigerian economic and political history from this quantification of ghost construction. The peak of ghost construction, 84% of total construction, was in 1980, just after the 1979 election. Historians have previously observed that there was a wave of new construction contracts issued after the 1979 election, partly due to opportunism by the new government and the political need to reward people who helped the winning party to victory in the election. Bevan, Collier and Gunning, for example, mention a dam contract, priced by the military government at \$120 million which was re-priced by the civilian government at \$600 million. [38] This peak in ghost construction may be a reflection of this phenomenon. The trough of ghost construction, 54% of total construction, was in 1984, just after the military coup which

[38] Bevan, Collier and Gunning, *Nigeria: Policy Responses to Shocks, 1970-1990*, 8.

brought Buhari to the presidency. Buhari came to power vowing to crackdown on corruption, and the decline in the percentage of ghost may have been a reflection of the need, at least temporarily, to demonstrate seriousness about cleaning up government. Aside from what the fluctuations in ghost construction demonstrate about Nigerian political economy, the sheer scale of both the peak and trough of ghost construction, which necessarily replaced what could have been legitimate construction or other productive government spending, is hugely historically significant.

Given the very high apparent proportion of notional investment which appears to have been given to ghost contractors and not spent on construction, it is important to ask what could make this result wrong. Four objections immediately present themselves, ranked in order of potential importance.

First, the legitimate construction series does not include the informal sector, including small commercial and residential building which might easily fit below the N20,000 limit in the 1976 survey and the N200,000 limit in the 1980 survey. A 1985 article referencing the 1976 survey pointed out that although 'all known limited liability construction firms were included in the sample', 'the proportion of the small-sized sole proprietorship firms sampled was only 5 per cent of all the existing small-sized firms [due to the minimum size limit of the survey]…the structure still showed an overwhelming proportion of small firms in the industry'.[39] The government statistical volume *Annual Abstract of Statistics 1981* reprinted the employee data from the 1976 survey and called the response rate to

[39] Tunde Agbola, 'A Strategy for the Re-organization of the Nigerian Building Industry', *The Nigerian Journal of Social and Economic Studies*, Vol. 27, No. 3 (1985), 273.

the survey 'only fair' and contained a note saying that '[t]he figures shown here should not be regarded as covering the whole industry', likely in part referencing the exclusion of the informal sector.[40] Although the 1980 survey estimated that this excluded informal segment was only 5% of all construction spending, this estimate may be too small.[41] However, GFCF estimates may also, through lack of data, have excluded much of the informal sector or even small formal sector firms which failed to respond to government surveys, implying that the series of legitimate construction ought to be comparable to GFCF in its treatment of the informal sector. It is possible that the GFCF estimate may have attempted to include the informal sector by estimating investment from building material production and imports, as has been done in past Nigerian national accounts, which would cause problems when comparing the two series.

Second, companies reporting to the survey had incentives to underreport contract sizes because of concerns about attracting attention to unpaid taxes. The 1980 survey report mentioned this concern, though the surveyors thought it would possibly manifest itself in inflated cost of materials and wages to show lower profits, as opposed to underreported contract size. To the extent that companies did underreported contracts or did not respond to the survey for tax reasons, this may detract from the accuracy of the data.

Third, the legitimate series does not include foreign based contractors which could have lacked a local registration with the tenders boards or a local address. It is unlikely, though possible, that foreign firms which had come to Nigeria for (most likely large) government

[40] *Annual Abstract of Statistics 1981*, 52.
[41] *Report of Building and Construction Survey 1980*, 3.

projects, would not be registered or would lack a Nigerian physical presence during one of the nearly annual surveys.

Fourth, the survey data does not include construction that the industry might have done for itself. While there is some data about industry investment in the survey, it may not always have been included in ‘value added’ or and may not have been added into total contracts. However, even if this category of construction work was properly represented in this data, is not likely to have been of significant enough in size to affect the overall results or conclusions.

Despite these potential problems, the amount of ghost construction indicated by the above analysis is in line with other key industry benchmarks. I.E.S. Amdii shows in a study of federal government housing programmes from 1975-1979, in the chart below, that a similar proportion of funds as the analysis in this chapter was never spent on construction. This adds some weight to the suggestion that two thirds of officially recorded GFCF was not spent on construction is both possible and potentially probable.

Table 11: Ghost industry in government housing construction 1975-1979

Government Housing Programs 1975-1979				
Million Naira	**Allocated Capital**	**Percentage of Capital Spent**	**Percentage of Houses Completed**	**Ghost Construction**
Federal Government			19%	
States				
Anambra	95	137%	5%	96%
Bauchi	20	70%	23%	68%
Bendel	26	35%	3%	91%
Benue	20	92%	0%	100%
Borno	-	0%	3%	
Cross River	15	23%	5%	79%
Gongola	17	49%	6%	88%
Imo	15	93%	14%	85%
Kaduna	13	86%	12%	86%
Kano	26	83%	12%	85%
Kwara	11	67%	11%	84%
Lagos	74	57%	18%	68%
Niger	44	34%	18%	47%
Ogun	96	17%	18%	-5%
Ondo	21	39%	13%	68%
Oyo	10	42%	4%	92%
Plateau	15	79%	13%	84%
Rivers	10	53%	4%	93%
Sokoto	8	60%	13%	79%
Total States	534	39%	13%	66%

Source: I.E.S. Amdii, *Analysis of Government Housing Policy in Nigeria* (Zaria, 1993), 55-56, 58.
Note: State totals are recalculated due to an apparent calculation error.

Could the construction GFCF in the national accounts be so wildly inaccurate? There have been prominent reports detailing the poor and deteriorating quality of national accounts during the oil boom period. In the words of one former member of the national accounts team, after 1978

> [s]tandard estimating procedure, using actual data supplemented by assumptions and projections later replaced by actual data, was superseded by wholesale projections of past estimates and later, past projections. By 1985 it had become clear that the GDP estimates available had no relationship to reality[.][42]

As others have noted, [43] the CBN annual reports are very clear about the quality of national data collection in Nigeria during the oil boom period, which deteriorated over

[42] Samuel O. Adamu, *National Accounting in a Developing Country, The Case of Nigeria* (Ibadan, 1996), 5-6.
[43] Michael Watts and Paul Lubeck, 'The Popular Classes and the Oil Boom: A Political Economy of Rural and Urban Poverty', in William I. Zartman, ed., *The Political Economy of Nigeria* (New York, 1983), 106.

time. They dedicate a section of their reports every year from 1980 to 1985 explaining that staff were working with inadequate or unavailable data. The 1980 report states that at the time of writing, April 1981, no federal government revenue or expenditure data and no manufacturing, agricultural or external trade data was available for 1980, and even less data was available at the state level.[44] Due to poor quality data collection, large scale inaccuracies in national accounts were very likely indeed.

4.6 Explaining ghost construction

How can the large scale use of construction contracts as cash transfers be explained? The conditions present in Nigeria on the eve of the oil boom, explained in earlier chapters, go some way towards explaining this phenomenon. Chapter Three described the wide scale privatization of government construction contracts and the politicization of those contracts in the 1950s, which created the institutional framework from which the ghost construction was able to emerge. The juxtaposition of the country's strong informal patronage networks, described earlier, with still-weak formal government institutions and legal systems resulted in a clash between social values and the legal system. This clash, discussed in Chapter One, was often resolved in practice in favour of the former. Military rule in what was designed to be a democratic political system resulted in reduced individual and official accountability, and the government was weak and needed to 'buy' support. Together, these components coalesced to create the environment within which a

[44] Central Bank of Nigeria, *Central Bank of Nigeria Annual Report and Statement of Accounts 1980,* 9.

ghost industry could emerge. The role of military rule, however, was central and merits further consideration.

The presence of the military in government at the beginning of the oil boom was influential in determining the shape of what became the ghost industry, which appears to have substantially emerged by the early 1970s, and was duly consolidated after the 1973 oil price rise during Gowon's military administration. The way contracts were treated during Gowon's regime had significant implications for contract awards and set precedents for the rest of the oil boom. The first crack in Pandora's Box may have been the early failure to regulate the payment of commissions on contracts. One of Nigeria's most senior civil servants before and during the oil boom described how independent Nigeria's first Minister of Finance managed a system whereby commissions of 5-10% on contracts were openly shared amongst politicians from all the major parties, and in the early 1970s commissions offered were openly balanced against the price and quality of individual public projects in cabinet meetings, but this transparency was short-lived. Attempts later in the decade to reinstitute a similar system which included registration of commission agents failed.[45]

The role of contracts in the personal remuneration of politicians and their patronage networks widened in late 1974 following newspaper allegations of corruption against the unpopular military state governors. Gowon intervened to keep the governors in power as they represented a powerful constituency within the military, and criticism of the

[45] Femi Kayode and Dafe Otobo, eds., *Allison Akene Ayida: Nigeria's Quintessential Public Servant* (Lagos, 2004), 300-301.

governors was seen as an attack on the legitimacy of the military government.[46] Ian Campbell has argued that the threat of legal action from corruption charges against the governors led them to reaping as much personal benefit from their posts as possible after September 1974 before their expected removal in January 1975, including a huge acceleration in contract issuance, with the implication that the contracts had at least a ghost element. Campbell quoted S.R. Bathish, the former Director of Works in North-West State under the military governor reporting that 'more contracts had been concluded in the past twelve months than in the whole of the previous six years'![47]

The succeeding Mohammed/Obasanjo regime which took power in the second half of 1975 conducted a purge of the public sector in which about 10,000 employees, many allegedly corrupt, were dismissed, though most with full benefits. Joseph notes that this purge did not discourage illegal use of contracts as some public servants learned to quickly utilize their ability to write contracts before the next regime change.[48]

The Mohammed/Obasanjo regime also put in place sweeping political reform, changing people's perceptions of the role of local and national government, and which may have ultimately facilitated the growth of the contract system. Olufemi Vaughan has described how the regime's creation of new states weakened regional centres of power in favour of the centre, a transition which had already begun with the growth of oil revenues, also apportioned from the centre. With its *1976 Guidelines for Local Government Reforms* the regime empowered local government to run basic services, but put local government

[46] Ian Campbell, 'Army Reorganization', in K. Panter-Brick, ed., *Soldiers and Oil* (London, 1978), 69-70.
[47] Ibid., 72, 97.
[48] Joseph, *Democracy and Prebendal Politics in Nigeria*, 90.

under the ultimate authority of state governors.[49] This weakened traditional local authorities, which may have in turn weakened the legitimacy of the government structure as a whole, strengthening patronage networks.

The privatization of construction contracts, conflict in social and legal values and the lack of accountability of the military do not justify what must have been in many cases theft of public funds. But together, they do explain the conditions within which the breaking of laws could appear justified and expanding budgets could be personally appropriated without clear consequences.

By the late 1970s both the Nigerian government and public were aware of the problems with the contract system and the ghost industry. It was well known that using direct labour, at least for low value construction, was a way to stop the leakage. As early as 1976, a newspaper reported that the Bendel State Ministry of Works 'decided to execute through direct labour, construction projects formerly awarded to contractors.'[50] In 1978 the Federal Housing Authority replaced contractors with direct labour for the building of 1,500 housing units when those contracts either had to be cancelled or where the contractor had simply abandoned the site.[51] However, during the civilian regime of Shagari (1979-1983) politicians were under considerable pressure to pay off political debts from the election. A major avenue for this appears to have been the Shagari housing programme. Amdii documented the link between political affiliation with the ruling party

[49] Olufemi Vaughan, *Nigerian Chiefs: Traditional Power in Modern Politics, 1890s-1990s* (New York, 2000), 139-140.
[50] 'Indigenous Contractors', Daily Times Opinion, *Daily Times*, 24/3/76, 3.
[51] Central Bank of Nigeria, *Central Bank of Nigeria Annual Report and Statement of Accounts 1978,* 24.

and access to government housing building contracts using extensive interviews with individuals contracted by the government to build houses for the programme.[52]

Ghost contracting was not always straightforward – Amdii sheds light on the confusion that the ghost contracts sowed in government coordination of building activities, especially when at least token building was expected. Between 1980 and 1983, the Shagari administration spent N78m on importing construction materials for its low cost housing programme. But most of the materials were not collected due to controversies between the ministry and the office of the president about who would be awarded the building contracts, as well as the desire of contract recipients to earn additional margin by self-sourcing materials which were then sold back to government entities.[53] It is clear that the individuals in the government entities responsible for the housing programme prioritized other, perhaps personal or political, objectives above efficiently building housing units, which resulted in a substantial element of ghost construction within the programme.

4.7 Road maintenance: a ghost construction case study

An example of the infiltration of ghost construction industry into the Nigerian economy and public services is the decline during the 1970s of Nigeria's road maintenance system. Scholars have to date generally emphasised heavy government investment in roads,

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[52] I.E.S. Amdii, *Analysis of Government Housing Policy in Nigeria* (Zaria, 1993), 120-121.
[53] Ibid., 113.

particularly in comparison to the railway network. The common view, as articulated by Forrest, is that

> [t]he Federal government undertook a large investment in infrastructure. After the end of the civil war, when lack of maintenance and heavy military use reduced roads to a poor condition, priority was given to the development of a national road network. The federal government took over responsibility for additional roads from the states. Missing links in six north-south routes and eight east-west routes were filled. Little investment was made in rail transport. Indeed, federal policies gave overwhelming support to roads and private vehicle ownership….domestic gas prices were kept low[.][54]

Albert Hirschman explained the political economy behind Nigerian investment in roads over rail, noting that the railway network, which was run as a public company with employees from around the country, was 'plagued by considerable intergroup friction'.[55] He wrote that railways were generally more vulnerable to the effects of 'corruption' as compared to road. This was partly because unlike road systems, the construction of a rail network was often done within the company itself, and thus the effects of any corruption in the construction process were likely to stay within the organisation. He also suggested that corruption was more likely in the railway as compared to road because in railway operations subjective decision making plays a significant role.[56]

Perhaps most significantly, he observed that that road transport was a lucrative industry which funded strong political support for investment in road networks and against investment in rail. [57] Indeed, the government did focus on extending its road network during the Second National Development Plan (1970-1975), but this does not mean that all of the planned roads were built or all of the funds allocated for maintenance were used for that purpose.

[54] Tom Forrest, *Politics and Economic Development in Nigeria* (Oxford, 1993), 147-148.
[55] Albert O. Hirschman, *Development Projects Observed* (Washington, D.C., 1967), 46.
[56] Ibid., 109.
[57] Ibid., 142-143.

Ironically, it was the very expansion of the road system which led to its demise. A.B.O. Ajai, in a construction industry publication, showed how 1974-1979 was an inflection point for the road maintenance system, which had previously (1927-1974) been managed under a formal road maintenance programme.[58] He described how under the old programme, responsibility for road maintenance was clearly allotted in manageable quantities to individuals. Each road was divided into 6-12km sections, and a team of 5-10 was responsible for each section. Road overseers were responsible for 4-6 sections, and had both monthly overseers classes and had to complete a 12 month formal course in maintenance operations in either Enugu or Zaria at the Road Overseers Training Schools.[59] The road network rapidly increased in the 1950s-1970s but federal roads outside of Lagos State were maintained by the states, which did not have the same rigorous standards. As Ajai put it, 'the rapid expansion in the road network outstripped the growth of the institutional capacity for road maintenance' and this led, amongst other things, to the 'inability of the Federal Authority to effectively control and supervise the execution of state maintenance of federal roads.'[60] From 1974-1979 a pilot programme, the Federal Maintenance Organisation, was set up whereby federal road districts, which had been maintained by the states, were taken over for 'direct maintenance' by the federal government. The capital intensive scheme fell behind schedule and was abandoned in 1979.[61]

[58] A.B.O. Ajai, 'Sustainable Maintenance Option for the Nigerian Road Network', in *FOCI in the New Millennium* (Lagos, 1999), 277.
[59] Ibid., 275-276.
[60] Ibid., 276.
[61] Ibid., 277.

The states took back control of federal roads in April 1979, and the federal government transferred equipment and training facilities to the states, but the failure of states to properly maintain federal roads forced the abandonment of the arrangement after eight months.[62] It was replaced in 1980 with the contract maintenance system, intended to eventually take over all federal roads, for all except select roads where the states still acted as federal agents. Federal roads are still generally better maintained than state roads. [63] This contract system was taken over by ghost contractors. Ajai's study shows that of 56 road maintenance contracts awarded in 1988, by December of the same year 40% of the contracts were at 0-25% completion (which itself may have been inflated as the results were based on 'payment certificates', rather than performance).[64] A construction industry magazine article in 1986 confirmed this version of events, noting that the failed contract system introduced 'within the last decade and particularly since 1979' had been a disaster and that road maintenance was paid for but never executed.[65]

In summary, in the case of road maintenance, the attempt to rapidly expand the road system led to the quick assignment of responsibility to entities (the states) which lacked the required infrastructure and training. Their failures led to a reliance on the unsupervised contract system and resulted in ghost construction. When Hirschman noted in 1967 that 'the building and repair of highways is handled by an organisation which wholly distinct from the users, so that any malpractices in construction and maintenance are of no concern to the truck operators that ride on them', he did not anticipate just how

[62] Ibid., 277-279.
[63] Ibid., 279.
[64] Ibid., 280.
[65] C.S.O. Akande, 'Contract System in Nigeria: Which Way Forward? A Return to Sanity', *Construction in Nigeria*, Vol. 3, No.1 (1986).

significantly road maintenance practices, once outsourced to private contractors, would decline, with disastrous affects for all road users.[66]

4.8 Public sector investment productivity

The analysis in this chapter indicates that only about one third of officially recorded investment, even before taking into account contract inflation, actually occurred. Therefore, the investment that did occur was much more productive, relative to the price paid, than has been acknowledged to date. It is possible to identify the sectors in which this productivity occurred. Of the two most visible areas of government 'legitimate' investment, infrastructure and industry, the near complete failure of the government industrial works, which will be discussed in detail in Chapter Six, suggests that it was infrastructure which has been the underappreciated area of investment. Within infrastructure, investment outcomes varied by sector.

Although ordinary road maintenance, as has already been discussed, was heavily undermined by ghost contractors, other investment in government civil engineering works made a clear and impressive impact on economic productivity. The civil engineering and construction contractor Julius Berger Nigeria, whose detailed job list for the oil boom period is included in Chapter Five, was favoured for many government civil engineering projects, including bridges, highways and ports. These types of works were important for national economic productivity and by project type if not by cost, and

[66] Hirschman, *Development Projects Observed*, 143.

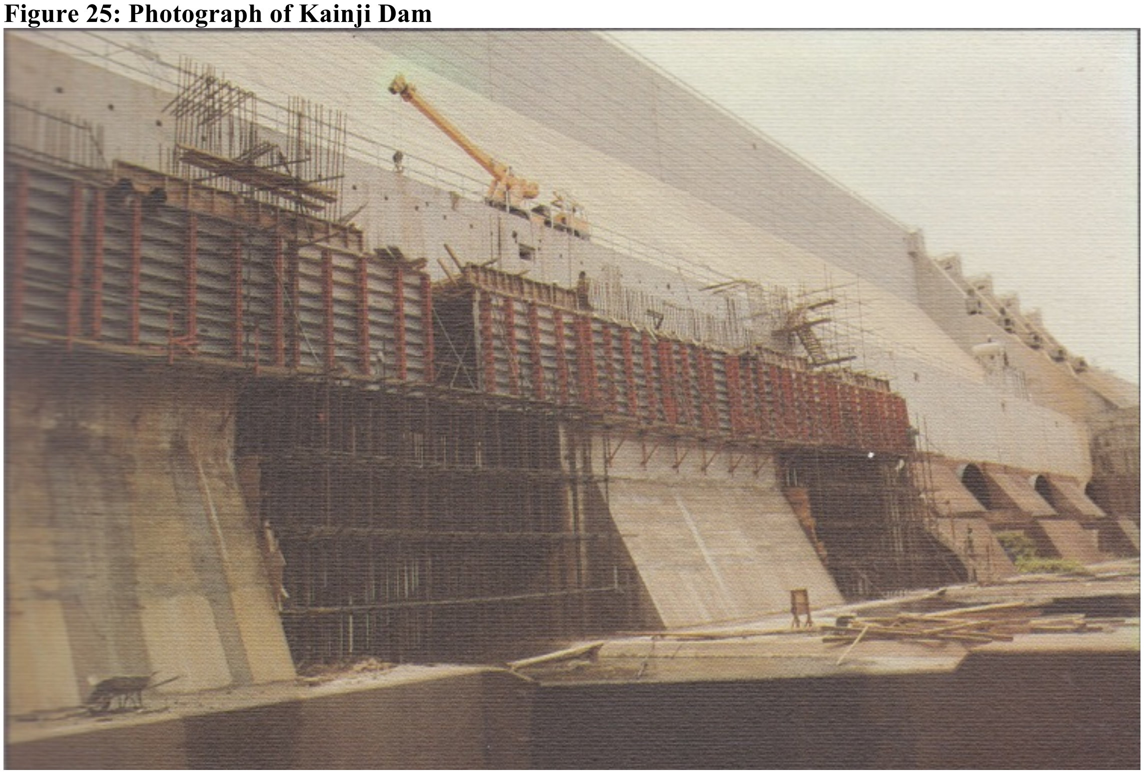
appear to have been amongst the highest returning investments. The ports of Tin Can Island and Warri helped decongest Lagos' port, the problems of which had contributed to extended shortages and delays in industrial investment in the mid-1970s. The work on the Carter Bridge and the Eko (Second Mainland) Bridge in Lagos helped keep the link between the capital and the mainland safe and operable, and is still used by millions of commuters and commercial travellers.

Railways appear not to have been recipients of much public investment during the oil boom. As has been mentioned, scholars including Forrest have noted the neglect of the network.[67] Until the early 1960s the import-export trade depended predominantly on the railway for transporting goods. During the 1960s the road network expanded and the railway system deteriorated. Frequent strikes also made trains less reliable. While rail held 53% of total import/export traffic relative to roads in 1960, this dropped to 32% by 1969/70, 22% in 1970/71, and 5% by 1976/77.[68] A 1988 World Bank study assessing the state of Nigerian infrastructure noted that at the time of writing '[t]he national railways are plagued by maintenance and rehabilitation problems. Trains move at an average speed of 5 km/hour...transport by truck has, over the years, captured a large portion of the total freight market at the expense of rail.'[69]

[67] Forrest, *Politics and Economic Development in Nigeria*, 148
[68] S.A. Olanrewaju, , 'Modal Participation in Freight Transportation in Nigeria: The Role of the Railway', *The Nigerian Journal of Economic and Social Studies*, Vol. 22, No. 3 (1980), 416-417.
[69] Alex Anas and Kyu Sik Lee, 'Infrastructure Investment and Productivity: The Case of Nigerian Manufacturing, A Framework for Policy Study', *The World Bank Policy Planning and Research Staff, Infrastructure and Urban Development Department, Discussion Paper* (1988), 7.

The Nigerian electricity network was also an area of massive underinvestment, but what was legitimately invested into it was very high returning. Cappa and D'Alberto won jobs for the National Electric Power Authority (NEPA) around the Kainji Dam, during the late 1960s and 1970s, as can be seen in the below photograph.

Figure 25: Photograph of Kainji Dam



Source: Cappa and D'Alberto Limited, *50th Anniversary in Nigeria 1932-1982.*

Figure 26: Federal budget allocation to electric power 1973-1985

	Naira MM	% Budget Growth	Peak Capacity (MW)	Capacity Growth	Location of New Capacity
1973	1		398		
1974	25	1720%	398	-	
1975	115	354%	518	30%	Delta
1976	160	39%	854	65%	
1977	207	29%	854	-	
1978	509	146%	2044	139%	Kainji, Sapele, Delta, Afam
1979	540	6%	2044	-	
1980	370	(331%)	2044	-	
1981	222	(340%)	2344	15%	Sapele
1982	112	(349%)	2656	13%	Afam
1983	112	(31%)	2656	-	
1984	168	50%	2656	-	
1985	110	(334%)	3096	17%	Egbin

Source: Ayodeji Olukoju, ''Never Expect Power Always': Electricity Consumers' Response to Monopoly, Corruption and Inefficient Services in Nigeria', *African Affairs* , Vol. 103 (2004), 64-65.

The chart above shows the amounts invested in generation capacity. The peak of spending was in 1979, following which spending plunged. Despite the investment which was made, electricity capacity did not keep up with demand and actual capacity was less than installed capacity. Complaints about poor supply of electricity date at least from the early 1960s, and the poor provision directly hurt, amongst others, the construction industry. Hopwood noted in 1977 that construction industry building sites required their own generators because 'there is no reliable supply of power'. [70] In December 1977 the chairman of West African Portland Cement Company (WAPCO) noted that there were 'severe national power supply problems', during which the company 'saw serious disruption in our production plants and a consequent reduction in sales. [He added that] [o]ur industry is very sensitive to power failures not only due to direct losses of production whilst the plant is stopped but also due to damage to plant from uncontrolled interruptions'.[71] When building its new cement plant at Shagamu in 1978, WAPCO had

[70] Gillian Hopwood, 'Building Costs in Nigeria', May 1977, 3, GH Archive. Partly published under 'Nigeria, Building in a Boom Economy', *RIBA Journal* (1981).
[71] Chairman's Statement, West African Portland Cement PLC, *Annual Report 1978,* 6.

to plan ahead to protect its kilns from the impact of the inevitable blackouts, and installed 5.4 MW (of the total 14MW needed) of diesel-powered generation capacity.[72]

Olukoju, an expert on Nigerian infrastructure, dated regular power supply and outages from the early 1980s, which prompted the large scale private move to reliance on generators. He cites annual spending on portable generators rising 33% between 1981 and 1983, during which the major industrial sector's annual spending on private generation capacity reached N750m. He noted that small businesses were the hardest hit, many being forced to use simple non-electrical tools which dramatically limited their productivity.[73]

According to the 1988 World Bank paper, the cost of privately provided electrical generation was so high that if 6,000 Nigerian manufacturing firms with an average of 100 workers each had invested in a total of N900m in privately purchased electricity generating equipment, one third of what that equipment would cost today, that investment would be have been enough to fix NEPA's facilities and provide enough electricity for the entire country including residential areas. [74] Major industries like aluminium and cement found it more economical to shut down 10-20% of the time rather than pay for enough generating capacity, as their equipment became damaged from power outages. The paper found that businesses with fewer than 30 employees generally did not find it

[72] Peter Pugh and J.F. Ade Ajayi, *Cementing a Partnership: The Story of WAPCO 1960-90* (Cambridge, 1990), 87.
[73] Olukoju, 'Never Expect Power Always', 55, 60-61.
[74] Anas and Lee, 'Infrastructure Investment and Productivity', 5.

worth their while to invest in generating equipment. [75] The need for privately purchased electricity must have been one of the single greatest factors limiting Nigerian business growth. The network which does exist, most of which was built in the oil boom period, is the network on which most small businesses and homes depend.

4.9 Conclusions for government oil boom investment

The amount of construction spending which was spent on the ghost industry, which included partially built and some non-performing structures, has been uniformly seen as a form of state failure by scholars. Tom Forrest cited a 1978 survey of abandoned construction projects in Nigeria to draw attention to high profile projects which fell victim to the ghost industry, generally characterizing them as examples of 'gross mismanagement and waste'.[76] While this view is inescapably accurate, it should also be noted that the ghost construction sector was as an example of the skill of the Nigerian state in coping with the challenge of its own political weakness. The building of homes, schools, hospitals and even roads were often fig leaves for cash transfers to networks needed to keep public servants in power, a pattern familiar across many continents and political systems.

Cash (through construction contracts), as well as public sector jobs, were the primary goods delivered to influential individuals and groups. Cash was preferred to the more diffused impact of actually delivering public goods and services. As a vehicle for

[75] Ibid., 6.
[76] Forrest, *Politics and Economic Development in Nigeria*, 176.

maintaining political popularity, ghost construction contracts had the additional benefits of being one-time in nature (unlike jobs), involved very large cash sums and were ideologically popular with the public who, at least in the early 1960s, associated construction contract awards to European companies with unfair colonial-era expatriate advantage. The goods that ghost construction contracts were supposed to deliver were hard to scrutinize by laymen, were only expected to be delivered over the very long term, and often were appearing for the first time and so the public did not really expect or rely on them as they failed to deliver. Possibly two thirds of what appears to be investment was not investment at all– it was a rapid, informal, redistribution of wealth. The ghost construction sector should not be seen as mysteriously unproductive investment but rather as a series of informal direct transfers to the private sector.

The construction sector was not the only industry the government used to reward supporters. Government 'investment' in the agricultural sector during the same period is widely thought to have served the same cash-transfer purpose as 'investment' in construction, as did the creation of new states. Joseph cited scholarship demonstrating that government loans served the same purpose, as 'given the high level in Nigeria of the defaulting on "development loans" from state agencies, such loan programmes can more appropriately be seen as instruments of private capital accumulation.'[77] Joseph also noted the many practices associated with ghost contracts, including favouring certain areas for projects, over-budgeting for construction in development plans, and the avoidance of

[77] Joseph, *Democracy and Prebendal Politics in Nigeria*, 86-87.

putting contracts out to bid, all of which 'came to serve as effective instruments for privatizing public wealth'.[78]

As the size of the cash payments available increased with increased government revenue from oil, their desirability increased and the rewards for political influence increased. Gaining political influence and therefore access to oil revenues became an occupation of its own and lowered the relative return of other more productive sectors, as has been shown to have occurred in many other countries experiencing a resource boom.[79]

The quantification of the ghost industry points to three conclusions about Nigerian government investment. The first is that Nigeria was a dysfunctional state, but not incompetent at achieving its goals, for which construction was merely a 'fig leaf'. Its successive administrations at the federal and state level for varying amounts of time achieved the unstated objective of remaining in office, using ghost construction as a tool. Ghost construction was a useful political device, not a failed attempt at construction or a low returning investment. The decision to give a contract to a ghost contractor instead of a legitimate, capable one appears to have been, at least at some levels of government, a calculated one.

The second is that legitimate investment, particularly in infrastructure, is likely to have been much more productive than previously thought, though productivity itself can be difficult to quantify. In civil engineering, legitimate construction contracts provided water

[78] Ibid., 86.
[79] Alan Richards, 'Oil Booms and Agricultural Development: Nigeria in Comparative Perspective', in Michael Watts, ed., *State, Oil and Agriculture in Nigeria* (Berkeley, California, 1987), 97.

systems, the infrastructure to keep cities functioning and alleviated key bottlenecks in nationwide transport systems. In the electricity sector, despite the inadequacy of the network, most Nigerian residences and small businesses nonetheless relied completely on the national grid. In the area of government-financed and controlled industrial investments, investment returns, as predicted by Bevan, Collier and Gunning, were almost unanimously very low or non-existent, even when high-quality structures were built by the legitimate industry.

Finally, given the extent of the ghost construction industry it follows that much of what appeared to be public *investment* was actually a form of *consumption*, from which little growth could be expected. The suggestion of the size of the ghost industry in this chapter indicates that the Nigerian national accounts for this period probably produced a highly misleading picture of government investment during the oil boom period, with serious implications for analyses based on official data.

CHAPTER FIVE: The Volume of Construction Built During the Oil Boom

5.1 The conventional narrative

All substantial quantitative attempts to measure total Nigerian construction volume and investment to date have relied on construction data in Nigerian national accounts, which the previous chapter showed, especially during the later years of the oil boom, were significantly flawed. Therefore, the existing literature does not provide a quantitative benchmark against which other measures of construction volume can be compared. However, several scholars have done considerable primary research in the form of interviews and surveys into the nature of large scale investment and interaction of public and private sector investment during the oil boom, including Thomas Biersteker and later, Forrest.

Forrest observed that during the 1970s there was a gradual shift in 'rewards' from the public sector to the private sector. Government investment rose early in the decade on the back of the rise of oil prices and production increases after 1973/74, and the bulk of private investment in industry took place in the later years of the decade. His profiles of the experiences of Nigerian businessmen and businesswomen during the 1970s demonstrate that construction contracts were a key mechanism through which financial surpluses were transferred from the public sector to the private sector, in addition to trading and other services. In particular, the 1974-1978 'long oil boom' caused 'a great expansion of trading and construction. All forms of intermediary activity flourished (contracting, consultancy and commission agents) and 'arrangees' (in Nigerian parlance) had a field day'.[1] In some cases funds accumulated through these services were then invested in industry.[2] He writes that this gathering of 'momentum' in industrial investment towards the end of the decade and in the early 1980s was visible across national urban areas including Kano and Kaduna (northern Nigeria), in Aba and Onitsha (eastern Nigeria) and in the western states and around greater Lagos.[3] This was consistent with Biersteker's earlier finding that 'there has been a significant movement of indigenous businessmen into productive economic activities, at least up through 1982.' This was due to a combination of factors including the indigenization programme, banking reform, protectionist trade policy, and easier credit.[4]

Though the private sector may have been increasingly investing in building in the later stages of the oil boom, scholars have noted that it also increasingly felt the need to invest in buildings which were socially important but not directly economically productive. Berry found in her work that during the oil boom as the government became openly oriented towards satisfying patronage networks instead of providing public services, the need for individuals to invest in hometown networks increased. This stimulated superfluous retail building as 'people often used surplus to create or reinforce social

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[1] Tom Forrest, *The Makers and Making of Nigerian Private Enterprise* (Ibadan, 1995), 41.
[2] Ibid., 42, 151.
[3] Ibid., 43.
[4] Thomas J. Biersteker, *Multinationals, the State, and Control of the Nigerian Economy* (Princeton, 1987), 245, 253.

relations rather than to produce or acquire the means of production per se.'[5] For example, she notes one town where political competition before the elections of 1979 directly led to a rise in spending 'either on the duplication of existing facilities (clinics, post offices, etc.) within the town or on the erection of political monuments'.[6]

Other literature has categorized Nigerian investment trends during this period as comparable to a broader set of oil-rich countries including Algeria, Ecuador, Indonesia, Trinidad and Tobago, and Venezuela, in which 'a dominant common feature has been the speedy use of oil rents to fund domestic, and overwhelmingly public, capital formation'. Within this group Nigeria stood out for its high private consumption relative to public consumption before the oil boom. Its initial public investment programme was seen as focused on primary education and roads, before being expanded to industrial activity and higher education. In addition, the windfall of the first oil boom (1974-1978) is seen as having been weighted more towards investment, whereas the second windfall (1979-1981) was spent more on consumption.[7] Other scholars have seen Nigeria as generically undergoing an 'urban boom', typical in states experiencing a resource boom of any kind, in which the state uses its increased spending power, as articulated by resource boom scholars, 'both for current expenses and on a variety of large-scale investment projects, typically infrastructure and urban industry…Stimulated by the growth in state

[5] Sara Berry, 'Oil and the Disappearing Peasantry: Accumulation, Differentiation, and Underdevelopment in Western Nigeria' in Michael Watts, ed., *State, Oil and Agriculture in Nigeria* (Berkeley, 1987), 218.
[6] Ibid., 219-220.
[7] Alan H. Gelb, 'Adjustment to Windfall Gains: a Comparative Analysis of Oil-Exporting Countries', in J. Peter Neary and Sweder Van Wijnbergen, eds., *Natural Resources and the Macroeconomy* (Oxford, 1986), 56, 59, 62-64.

spending…private investment in construction and distribution also soars. The result is a mutually reinforcing urban construction and consumer boom'.[8]

In summary, the view of the existing literature is that from the late 1970s onwards in Nigeria construction investment had an increasing private sector component, though since public sector demand was also growing the private sector contribution was not necessarily an increasing proportion of the whole. Construction contracts were an important mechanism of transferring cash from the oil boom from the public to the private sector (the subject of the previous chapter of this thesis), and over time as resources were accumulated this resulted in more private sector led building. It should be noted, however, that neither the existing literature nor this chapter argues that all or even the bulk of the resources leaked through ghost construction contracts to the private sector resulted in building. It is almost certain that much of what was transferred to private networks was consumed rather than invested. But some portion of it was recycled into building, and funded at least part of the construction discussed in this chapter.

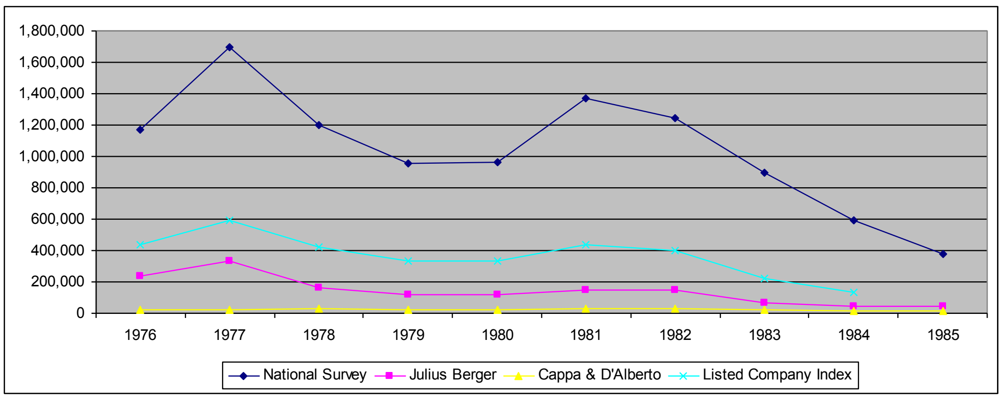
5.2 Measuring volume

A logical starting place for measuring construction volume is to adjust the values of legitimate construction investment (compiled in the previous chapter from a national survey and a listed company index) into construction volumes by deflating them with a construction sector cost index, the components of which are discussed in detail in Chapter

[8] Alan Richards, 'Oil Booms and Agricultural Development: Nigeria in Comparative Perspective', in Michael Watts, ed., *State, Oil and Agriculture in Nigeria* (Berkeley, 1987), 94.

Seven. The naira value of construction investment shown in the previous chapter showed two booms, with two equal size peaks in 1977 and 1982, separated by a peak to trough fall of about 40%. Adjusted to reflect volume, this chart still shows two booms, but the second boom was much smaller and took place a year earlier than the nominal chart indicated.

Figure 27: Deflated construction contract values (Thousand Naira)



Source: Contract values: for 'National Survey' and 'Listed Company Index' see from 'legitimate construction proxy' and the listed company composite in Chapter Four. For company data see Appendix B. All are deflated by composite construction deflator in Chapter Seven, in 1976 Naira.
Note: Listed company composite includes Julius Berger, Cappa and D'Alberto, CWA, G. Cappa, Taylor Woodrow, Arbico, Dumez, Roads Nigeria. Julius Berger is included but was not yet listed.

At first glance, the construction booms appears to correspond to the two oil mini-booms the Nigerian government experienced around the same time. Nigeria experienced its first oil boom in 1973-1974 (not covered in the above data), had a brief recession in 1977-1978, and then a second oil boom in 1979-1980. The deflated construction trends in the above chart seem to fit the same pattern, taking into account a reasonable delay of several years for construction projects to be budgeted, planned and executed, and taking into account the generally inflationary environment, which would have made the second construction boom less pronounced in real terms.

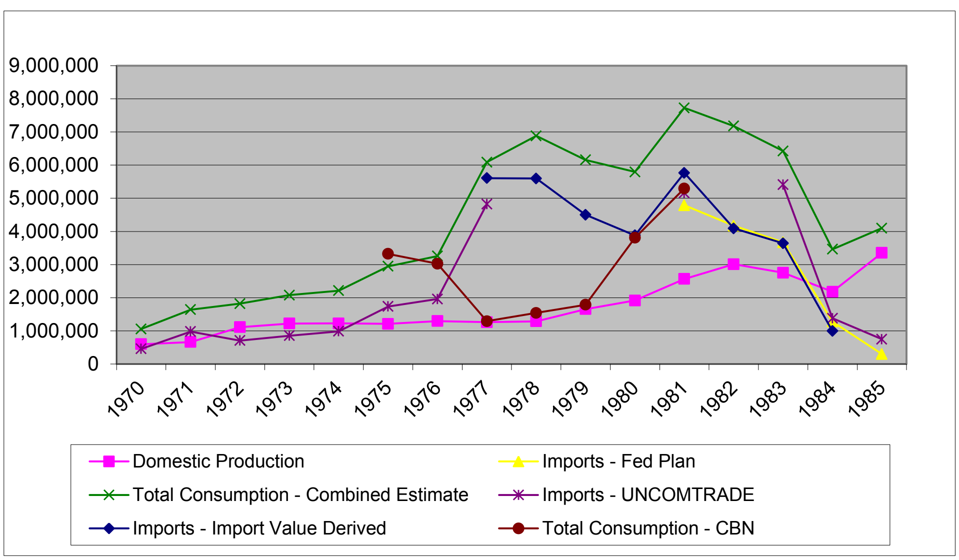
But does the above construction trend represent total construction volumes in Nigeria? As argued in the last chapter, these construction amounts were made up of construction contract values reported by firms who responded to a government survey as well as Nigeria's listed construction firms. They do not include small-scale or informal construction activity, which may have been a significant portion of construction and which may have responded to the oil boom with different construction trends. Such informal and small scale building would likely have been financed by the private sector, making the above measure biased towards a public sector investment trend. An alternative approach is to consider the total volume of cement consumption, which would include the entire industry, both the formal and informal sectors.

5.3 Cement

Using cement to measure building has precedent both in Nigeria and in elsewhere in Africa. As was noted in Chapter Two, Nigerian capital formation estimates in the 1950s were partially compiled and checked by assuming that cement represented a certain portion of building costs and then using the value of cement imports (before there was significant domestic production of cement) to produce a value for total building construction. As was previously noted, in East Africa Jill Wells has compared, over 1989-1996, cement consumption trends to construction GDP trends to illustrate, through inconsistencies in trends of the two series, the existence of unrecorded (informal) construction activity, represented by cement and construction employment statistics but not captured in construction GDP.[9]

The Nigerian cement consumption, the green line in the chart below, shows a similar pattern to the deflated construction investment chart. Two mini-booms are evident, the first peaking in 1978 and the second peaking in 1981. These correspond within a year or so to the peaks in the legitimate construction industry indicator discussed in the previous section of this chapter. However, the second boom is considerably larger than the first. This suggests that the privately funded informal sector, not captured in the construction survey, was a much larger component of the second mini-boom. This is consistent with the suggestion in the literature of a rising private sector component of construction in the later years of the oil boom.

Figure 28: Cement consumption 1970-1985 (tonnes)



[9] Jill Wells, 'Construction and Capital Formation in Less Developed Economies: Unraveling the Informal Sector in an African City', *Construction Management and Economics*, Vol. 19, Iss. 3 (2001), 268.

Source: See Appendix C for the source key, and Appendix C.6 for notes.

However, official statistics of the annual volumes of cement consumption (production plus imports) for the 1970-1985 period are incomplete and at points unreliable, particularly their import component. The cement import data for the 1974-1983 period, almost the entire oil boom, should be triangulated with other sources of data about cement demand.

In particular, import data from 1974 to 1977 is problematic due to the cement armada incident, which is described in Chapter Six. This resulted in much imported cement being spoiled on arrival which may still have been accounted for within imports, or cement may have arrived in a different year than it was ordered. In addition, the market does not seem to have had control over the annual quantity imported during the armada episode – due to over-ordering, imports instead depended on port capacity, which expanded in 1977 with the opening of Tin Can Island. It is clear that as a partial cause of the incident more cement was ordered by the ministry of defence than was intended to be used in the short term. Therefore, what appears to be a dramatic boom in cement demand and consumption may have been more modest in reality.

Supporting more modest estimates for the 1974-1977 years than import data implies are the estimates given by WAPCO and Nigercem management in 1978. It is intriguing that managers from both of the major operating domestic producers, WAPCO and Nigercem, in late 1978 gave lower annual cement consumption than import data and official statistics indicate. At the time it announced its initial public offering announcement, the

WAPCO chairman O.I. Akinkugbe gave Nigeria's annual cement consumption to be 3.6m tons, with imports totalling 2.3m tons and domestic production making up the 1.3m ton balance.[10] At this point, WAPCO was just bringing on new capacity to bring their total to 1.45m, so presumably the chairman was referring to totals before his own new capacity was added. A month later, the general manager of Nigercem said that Nigeria needed 2-3m tons of imports to make up for lack of domestic production, saying that his own company 'was not producing at full capacity due to power restrictions'.[11] These 2-3m tons of imports indicated by domestic producers are roughly half of the import number suggested by UN data and the Import Value Derived data (detailed below) and less than half the number of imports cited by Olaloku for 1977-1978.

It is difficult to know whether domestic cement producers or official statistics would offer more reliable figures. The WAPCO company history estimates 3m tonnes of domestic production in 1983 and 1984, which is higher than other estimates, but lists imports as 3.7m tonnes in 1983 and 1.3m tonnes in 1984, consistent with other sources.[12] Official statistics show that in 1975, over a year after the first steep oil price rise, cement consumption increased nearly 50% in a single year. In 1977 cement consumption appears to have increased nearly 100%. Supporting evidence for the higher official import data are the later estimates for the years 1979-1982 which support similar levels of imports to the 1977 figure, making it appear that the country was capable of absorbing such large quantities of cement after all.

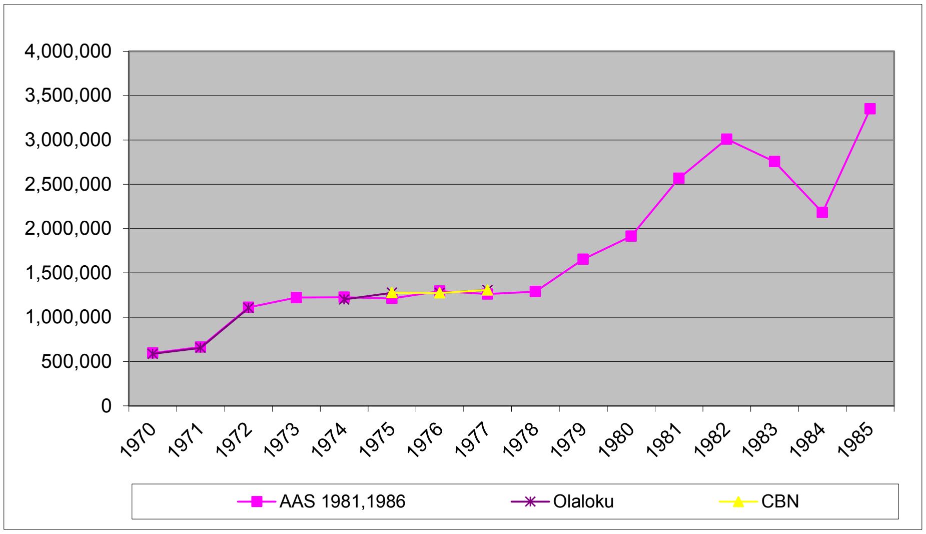
[10] '3.6m tonnes of cement consumed in one year', *Business Times*, 15/8/78, 24.
[11] John Nwosu, '2M tonnes needed for projects', *The Daily Star*, 13/9/78, 1.
[12] Peter Pugh and J.F. Ade Ajayi, *Cementing a Partnership: The Story of WAPCO 1960-90* (Cambridge, 1990), 115.

For the years 1977 to 1983 data is missing or accounts are inconsistent by a wide margin. For example, the total cement consumption figures given in the CBN annual reports for 1977-1979 almost exactly correspond with domestic production data, and appears to overlook imports altogether (at least from the 1979 report onwards, which also revises down earlier data). In an effort to complete the data for the years for which no import volumes are given at all from official sources, the charts of cement imports and cement consumption below use the Naira value of imports to fill in the years from 1977 to 1984. These values are divided by a price series (see Appendix C), and adjusted for the lower price of imports compared to retail prices, a result of the distribution margin. The result is a series (called Import Value Derived) of cement volumes which matches other sources for several overlapping years, and is used to triangulate other sources of evidence.

It should be noted that Amdii, who spent time analysing historical government expenditure on building materials over time in Nigeria, noted the apparent peaks in building which corresponded to oil prices but pointed out that expenditure statistics were highly unreliable in this period and 'one can not ascert with certainty any relationship between what was disbursed and what was actually acquired physically.'[sic].[13]

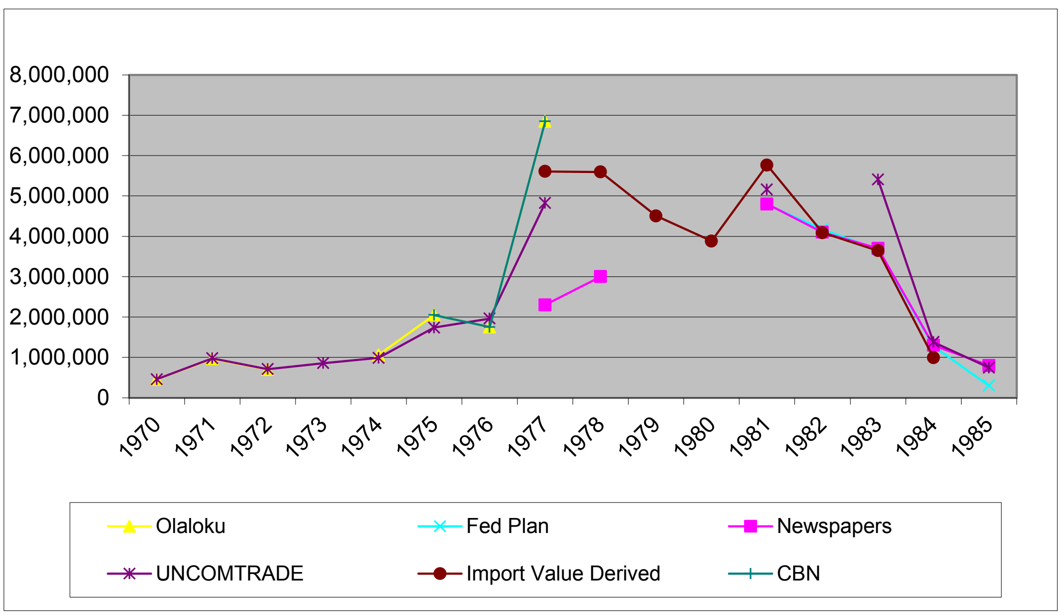
[13] I.E.S. Amdii, *Analysis of Government Housing Policy in Nigeria* (Zaria, Nigeria, 1993), 61.

Figure 29: Domestic production of cement 1970-1985 (tonnes)



Source: See Appendix C for the source key, and Appendix C.7 for notes.

Figure 30: Cement imports 1970-1985 (tonnes)



Source: See Appendix C for the source key, and Appendix C.8 for notes.

In addition to the problems with cement data reliability, cement consumption is an imperfect indicator of construction in Nigeria during the 1970-1985 period for other reasons. The country was still transitioning to using the modern materials of cement blocks and roofing sheets. A study of housing in Lagos shows that by 1970, only 66% of homes were made of cement or concrete covered brick with iron or asbestos roofs, 20% had cement plastered mud walls, and the rest were made of other materials, such as bamboo.[14] Cement was heavily used in civil engineering projects, such as bridges and dams, which formed a larger portion of government construction contracts through the 1970s and early 1980s. The much higher proportion of cement used by civil engineering projects compared with buildings, and the lack of disaggregated cement use between the two project types makes cement an imperfect measure of any one type of construction. In order to get insight into the composition and drivers of construction activity during the oil boom, it is helpful to examine primary and secondary documentation from the construction industry, which offer qualitative descriptions of project types, funding sources, events and long-term trends which influenced construction activity.

5.4 The view from the construction industry

Construction companies were the conduit through which all government and industrial investment in construction flowed during the oil boom period. The formal construction sector was charged with building all but the smallest construction projects. Financial accounts and descriptive reports from contractors, building material suppliers, and large industrial construction clients are used to provide first-hand insight into supply and demand issues affecting a broad range of construction projects. This section describes

[14] B. Onimode, 'Urbanization and Income Distribution: Intra-Urban and Urban-Rural', *in Urbanization and Nigerian Economic Development: Proceedings of the 1977 Annual Conference of the Nigerian Economic Society* (Ibadan, 1977), 93.

formal sector construction demand from 1970-1985 occurring in four overlapping phases. The first phase took place in the context of the growing pre-oil boom construction demand described in Chapter Two, and was driven by the added demand from post-civil war reconstruction efforts and a modest private sector factory building boom. The second phase, from 1974-1983, was the public sector building boom, funded by the receipt of oil revenues. The third phase was the complete collapse of public sector building demand from 1983. The fourth phase was the private sector building boom, in both the industrial and retail sectors, which began in the late 1970s and lasted into the mid-1980s. The retail part of this private sector boom is discussed in more detail in the next section of this chapter.

5.4.1 Phase One: Civil war reconstruction, barracks and factory boom

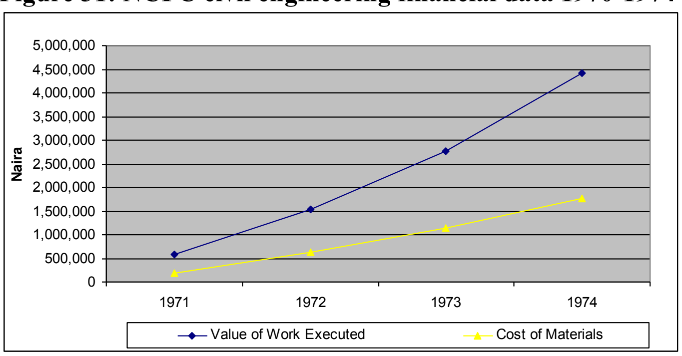
The end of the civil war in 1970 created its own mini-building boom. The army, which had grown to 200,000, and had to be demobilised into new barracks together with their families and spread around the country to reduce the risk of another military coup. There was some reconstruction work needed, especially in the east of the country where the fighting took place, but barracks-building in particular was a major government preoccupation. Oil rent more than doubled in dollar terms from 1970 to 1972, so the government had increased revenues with which to build. By 1972 newspapers were referring to both the public sector and private sector construction boom of the recent years.[15]

[15] Femi Adefela, 'The Nigerian Cement Industry', *NBC Newstalk*, 23/11/72.

> [In 1972] Due to the rising tempo of social development in Nigeria, cement is no longer regarded as a luxury…Cement is gradually taking the place of mud in buildings…in the market, its demand continues to outstrip the supply despite all efforts….[this] is accentuated by the development of cities, reclamation of swampy areas and above all, the reconstruction of war-damaged buildings.[16]

These trends are demonstrated by the below financial trends from the government-controlled Nigeria Construction and Furniture Company (NCFC) , which show the booming sales of a company bidding for contracts in the east of Nigeria in the aftermath of the civil war, the area hit hardest by fighting. The below job list shows that nearly all the jobs were government contracts, except for several oil and manufacturing related industry contracts.

Figure 31: NCFC civil engineering financial data 1970-1974



Source: East-Central State (Nigeria), *Report of Administrative Board of Inquiry into the Nigeria Construction and Furniture Company Limited From 1970 to 30 November, 1975*, Official Document No. 1 of 1976 (Enugu, 1976), 10.
Note: March 31 year end. 1971 value of work executed is for the period January 15 1970-March 31 1971. 1971 expenses represent the 'period to 1971'.

[16] B.I. Odiachi, 'Ukpilla Cement Factory Opens Officially Today: The Company Has Bright Future in Competition with Others', *Nigerian Observer*, 25/2/72, 22.

Table 12: NCFC partial job list 1970-1976

Major Projects Completed Between 1970 and November 1975
Reconstruction of Government House, Enugu
Rehabilitation of the Parliament Building, Enugu
Niger Dam Substation, Onitsha
Four bridges along Lagos-Ikorodu Road
Reconstruction of former Minister's Quarters
Shell-BP Camp, Oguta
Onitsha Main Market
Emperor Haile Selassie Orthopaedic Hospital, Enugu
Approach roads to Onitsha Main Market
Hot-rolled ashphalt on some Enugu roads
Operating theatre, University of Nigeria Teaching Hospital, Enugu
Aba Textile Mills
Senior Staff Quarters, University of Nigeria
Ebony Paints Factory, Awkunanaw
Construction of Oguta Ramp
Abakpa Nike Bridge
Faculty of Engineering, University of Nigeria, Nsukka
Projects in Progress December 1975/ January 1976
Enugu-Abakaliki road rehabilitation
Imo River Bridge
Damaged bridges at Egbema and Nteje
Enugu township roads reconstruction
Continental Medical Complex, Oji River
Access roads at Independence Layout, Enugu
Akpoh bridge reconstruction, Abakaliki
N.B.C. Broadcasting Stations, Enugu, Calabar and Benin
Zarma Oil Wells, Rivers State
Office Annex at Government Lodge, Enugu
Kaduna Airport drainage
Mr. Ukpabi Asika's house at Onitsha
I.M.T. Electrical/Electronic Block, Enugu
Enugu-Abakaliki road maintenance contract

Source: *Report of Administrative Board of Inquiry into the Nigeria Construction and Furniture Company*, 3-4. Construction job list only.

Government oil rent almost doubled again from 1972 to 1973. For the formal construction industry, the boom in resources spurred the building of factories and army barracks, as well as some oil industry building in the early 1970s. In 1970 Godwin and Hopwood recorded that they were working on two brewery projects, bank branches across the country for UBA, a police staff college in Jos, as well as a number of factories and factory extensions, as well as work for the oil company Shell.[17] In interviews, they have described their post war work as mainly lots of factories, noting that it was 'not a big boom, but a little boom'. The partial Cappa and D'Alberto job list from 1970-1974 below also shows mostly factories, and according to interviews they were also building

[17] GH Job list, GH Archive.

army barracks. Godwin and Hopwood have noted that a World Bank programme beginning at the same time had tendering procedures that favoured the less experienced local contracting firms, which struggled with labour and material requirements.[18]

Figure 32: Cappa and D'Alberto job list 1970-1974

YEAR	PROJECT	LOCATION	CLIENT
1970	Unity House, Marina	Lagos	Wemabod Estates Limited
1970	5 Star Textile Factory, Isolo	Lagos	5 Star Ind. Ltd.
1970	Afprint Textile Factory, Isolo	Lagos	D.K. Chanrai
1970	Bhojsons Textile Industries Limited, Ilupeju	Lagos	Chanrai Brothers
1970	Computer Centre, Marina	Lagos	S.B.W.A.
1971	Nichemtex Textile Factory	Ikorodu	U.N.T.L.
1971	Poplin Textile Factory, Ilupeju	Lagos	Chanrai Brothers
1972	Malt Silos, Ikeja	Lagos	Guiness Nigeria Limited
1972	O.P.D. Centre	Lagos	L.U.T.H.
1973	Art Block and Lecture Theatre, Akoka	Lagos	UNILAG
1973	Fertiliser Plant	Kaduna	S.S.P.
1974	Metropolitan Housing Scheme, Surulere	Lagos	F.P.W.D.
1974	Power House Extension Unit 11-12	Kainji	National Electric Power Authority
1974	Residence At Victoria Island	Lagos	Chief L.A.K. Adewale
1974	Power House Extension Unit 5-6	Kainji	National Electric Power Authority
1974	Army Barracks, New Bussa	Kainji	Ministry of Defence
1974	Adriatic Company Complex (Eko Court) V/Island	Lagos	Initially Adriatic Co.Ltd. Subsequently LSDPC
1974	Bank Premises	Kaduna	U.B.A.
1974	Tafawa Balewa Square Complex	Lagos	F.P.W.D.

Source: Cappa and D'Alberto Limited, *50th Anniversary in Nigeria 1932-1982*, 56.

5.4.2 Phase Two: Public sector building boom

From 1973 to 1974 Nigeria's oil rent quadrupled in dollar terms. By then, the government had started to accelerate its building plans to reflect its larger budget, but the exponential increase took time to trickle into building projects. The federal government had a huge list of projects which required construction, including barracks, 44,000 promised low

[18] John Godwin and Gillian Hopwood, 'Construction Potential in Nigeria: 2000', *West Africa Committee Journal* (2000), 2.

income residential units, a refinery and various other industrial projects.[19] Therefore the mid-1970s saw industry growth for building consultants, cement manufacturers and building contractors. Godwin and Hopwood were growing, and in addition to a head office in Lagos, other offices were opened in Ikeja, Kano, Kaduna and Jos. The firm formed a group practice with other building consultants to bid for the increasingly large projects coming to the market.[20]

Consistent with the view of existing literature, the below partial job list of Cappa and D'Alberto, whose work until 1974 had been dominated by factories and barracks, shows a significant shift to doing almost all government buildings from 1975, as the swollen government budget expanded construction of both buildings and civil engineering projects.

Figure 33: Cappa and D'Alberto Job list 1974-1978

YEAR	PROJECT	LOCATION	CLIENT
1974	5 Blocks of Flats Cat "C" Victoria Island	Lagos	F.P.W.D.
1975	Training Centre at National Stadium	Lagos	Sports Commission
1975	Special Guest Houses for Heads of State V/Island	Lagos	F.P.W.D.
1975	3 Blocks of Flats Cat "D", Iganmu	Lagos	F.P.W.D.
1975	Student's Hostel and Hydraulics Project	Lagos	UNILAG
1976-77	Executive Council Chambers	Lagos	F.P.W.D.
1976	Chief of Staff House	Lagos	F.P.W.D.
1976	Dodan Barracks Offices	Lagos	F.P.W.D.
1976	Extension to Parliament Building and National Hall	Lagos	F.P.W.D.
1977	Oduduwa House, Victoria Island	Lagos	Wemabod Estates
1977	Water Reservoir	Kainji	Kwara State Government
1977	Creek Military Hospital	Lagos	Ministry of Defence
1977	Tractor and Equipment Complex, Oregun	Lagos	U.A.C.
1977	A. J. Seward Factory, Oregun	Lagos	U.A.C.
1978	Residence at Victoria Island	Lagos	Alhaji T. Usman
1978	Dumez House	Lagos	Dumez Nigeria Limited
1978	Blocks of Flats	Lagos	Mrs. Olaleye
1978	Philips Warehouse and Service Buildings, Ikeja	Lagos	Philips (Nigeria) Limited

Source: Cappa and D'Alberto Limited, *50th Anniversary in Nigeria 1932-1982*, 58.

[19] 'Expensive Cement!', Sketch View, *Daily Sketch*, 31/8/74, 3.
[20] Report attached to letter from Godwin and Hopwood to C.J. Guyit, The Permanent Secretary, Ministry of Works, Jos, 1/7/77, GH Archive Job 586, Boxes 79.

The CWA oil boom job list below is not segregated by year, but shows significant both industrial and public sector work. An account of a former employee at the firm sums up the atmosphere of the construction sector from the mid-1970s to 'about 1980' as '[t]he 'happy time' for construction companies' when contractors could 'pick and choose' contracts with little competition over the 'exploding demand'.[21]

Table 13: CWA oil boom sample job list

Industry
Match Factory, Port Harcourt
Ashaka Cement Works
Iwopin Paper Mill
Guinness Brewery, Benin
Bata Shoe Factory
WAPCO Offices, Shagamu
Public sector
Gusau Water Supply Scheme
Road from Calabar to the Cameroun Border
Extensions to Sokoto Water Supply
Mainchi-Daki Takwas Road
Bida Water Supply Extension
Other
Australian High Commission, Lagos
British High Commission, Lagos

Source: Peter Farrington, 'Costain (West Africa) Plc. A History of the Company 1948-2005, A Personal Narrative', unpublished (2005), 5.

There was so much new construction in progress concurrently that the primarily infrastructure builders Julius Berger had to, in addition to mixing their own concrete, build their own complete supply chain to get access to timely servicing and repairs. To circumvent the materials supply shortage from the cement armada (described in the next chapter) Julius Berger chartered its own fleet of ships which became 'one of the largest

[21] Peter Farrington, 'Costain (West Africa) Plc. A History of the Company 1948-2005, A Personal Narrative', unpublished (2005), 5.

shipping companies servicing West Africa for some time' and chartered aircraft. In their account

> [o]n ten days in October 1976, ten motor ships left Bremen, Antwerp, Rio de Janeiro, ports in Poland, Spain, Japan and the USA, heading for Lagos. On board they had a total of 70,750 tonnes of supplies for us. The freight was…brought on our own barges to the wharf at the builders yard…this was taken care of by the transportation department [of Julius Berger] whose job it also was to handle the extensive customs formalities.[22]

They were busy enough to make it worth their while to have their own concrete parts plant, which at its most stretched employed 1,500 workers, and '[t]he cement warehouse, the aggregate stockpiles and the monthly output in 1976 already corresponded to those of a large precasting factory in the Federal Republic of Germany.'[23] Their pre-building engineering work and planning was largely done in Wiesbaden in Germany. Materials were purchased in Germany and transported by sea and air to Lagos, including vehicles worth about DM150m. [24] For the Inner Ring Road, built between 1975 and 1979, 140,000 tonnes of asphalt were produced. By January 1978, Julius Berger alone had manufactured 500,000 tonnes of asphalt. [25]

The Julius Berger Nigeria job list gives insight into the types of public sector projects chosen and amounts spent. Their work during 1970 to 1985 included the more complex roads and bridges, four ports, two integrated steel plants, and the beginnings of some infrastructure work for the new Federal Capital Territory of Abuja.

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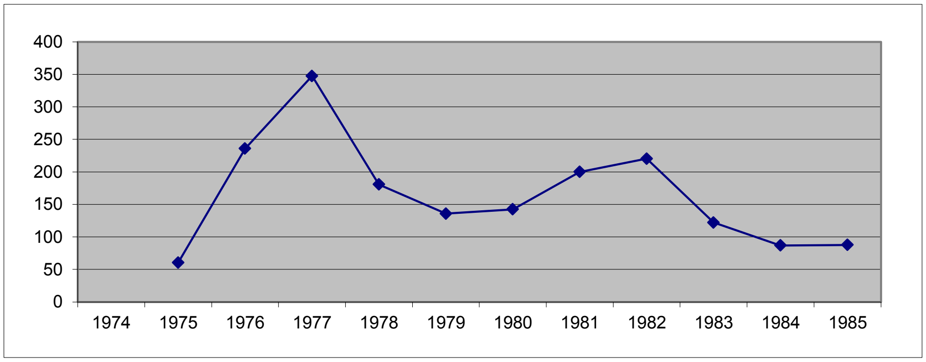
[22] Dieter Blum, *Construction in Nigeria*, (Wiesbaden, 1981), 52.
[23] Ibid.
[24] Ibid.
[25] Ibid.

Figure 34: Julius Berger nominal annual sales (Naira MM)



Source: Company annual reports and stock exchange handbooks. See Appendix B.

Table 14: Julius Berger job list 1965-1985

Julius Berger Job List		Contract Value			
Date	Project	Deutschmark	US Dollar	Naira	Client
1965-67	Eko Bridge, Lagos	74,000,000	18,527,792		Fed Min Works and Housing
1967-68	Fishing Port, Lagos	2,000,000	501,630		Western Region Government
1969-70	Itoikin-Epe-Lagos bridges	4,489,600	1,144,430		Lagos State Gov. Min of Works and Transport
1969-71	Eko Bridge Extension, Lagos	52,200,000	13,306,143		Fed Min Works and Housing
1970	Postwar reconstruction of Niger Bridge near Onitsha	1,000,000	274,273		Fed Min Works and Housing
1970-72	Itoikin-Epe-Lagos Road	28,000,000	7,679,649		Lagos State Gov. Min of Works and Planning
1970-71	Mokwa Experimental Farm	200,000	54,855		Fed Rep of Germany
1970-71	Guesthouses in Epe and Badagri	1,700,000	466,264		Lagos State Gov. Min of Works and Planning
1971-73	Liberty (Laminga) Dam and Water Treatment Plant, Jos	38,970,000	11,211,162		Government of Benue-Plateau State
1971-72	Partial repair of Carter Bridge	3,800,000	1,093,211		Fed Min Works and Housing
1971-73	Lagos-Badagri Expressway, section I	65,000,000	18,699,655		Lagos State Gov. Min of Works and Planning
1972	Hydraulic Engineering, Lagos, Lagos-Apapa, Five Cowrie Creek	7,437,165	2,332,862		Lagos State Gov, Min of Defence, Nigerian Police
1972-73	Owo River Bridge	11,182,500	3,507,685		Lagos State Gov. Min of Works and Planning
1972-73	Lagos-Iganmu Interchange Bridge	30,000,000	9,410,289		Lagos State Gov. Min of Works and Planning
1972-74	Ikorodu-Itoikin Road	34,760,000	10,903,388		Lagos State Gov. Min of Works and Planning
1973	Hydraulic Engineering, Lagos	667,500	252,077	165,840	Nigerian Ports Authority, Motor Boat Club Lagos
1973-74	Volkswagen Assembly Plant, Lagos (JV with MCC)	23,600,000	8,912,387	5,863,412	Volkswagen of Nigeria
1973-75	Eko Bridge, Final Phase, Lagos	53,760,000	20,302,115	13,356,654	Fed Min Works and Housing
1973-75	Jebba Bridge, Kwara State	67,780,000	25,596,677	16,839,919	Fed Min Works and Housing
1974	Hydraulic Engineering, Lagos	495,000	191,712	120,543	Fed Min of Works
1974	Roads, Lagos	15,800,000	6,119,287	3,847,640	Lagos State Gov. Min of Works and Planning
1974-77	Falomo Bridge, Lagos	54,802,000	21,224,632	13,345,468	Lagos State Gov. Min of Works and Planning
1974-78	Lagos-Ibadan Expressway, Lot I	165,000,000	63,903,950	40,181,055	Fed Min Works and Housing
1974-78	Ogun River Floodplain Bridge	132,000,000	51,123,160	32,144,844	Fed Min Works and Housing
1974-78	Ojota Interchange Bridge	13,700,000	5,305,964	3,336,245	Fed Min Works and Housing
1974-78	Ogun River Bridge	62,600,000	24,244,771	15,244,449	Fed Min Works and Housing
1974-78	Bridge over a swamp	15,800,000	6,119,287	3,847,640	Fed Min Works and Housing
1974-77	Bridge over a swamp	28,000,000	10,844,307	6,818,603	Fed Min Works and Housing
1975	Julius Berger Office Building	2,300,000	936,864	576,602	Julius Berger Nigeria
1975-76	Lighter berths I and II near Lagos	45,210,000	18,415,479	11,333,997	Nigerian Ports Authority
1975-76	Badagri Creek Bridge	46,200,000	18,818,737	11,582,187	Fed Min of Works and Planning
1975-77	Asa River Dam	56,227,000	22,903,055	14,095,923	Kwara State Gov, Ilorin
1975-77	Ikorodu Viaduct, Lagos	69,722,200	28,400,081	17,479,124	Fed Min Works and Housing
1975-78	Outer Ring Road West (Apapa-Ikeja Expressway), Lagos	260,144,500	105,965,173	65,217,364	Fed Min Works and Housing
1975-78	Malu Road Interchange Bridge	57,920,000	23,592,668	14,520,352	Fed Min Works and Housing
1975-78	Ikorodu Road Flyover	13,700,000	5,580,448	3,434,545	Fed Min Works and Housing
1975-78	Railway lines and Agege Motor Road Flyover	14,500,000	5,906,314	3,635,102	Fed Min Works and Housing
1975-78	Badagri Road Interchange bridge	7,000,000	2,851,324	1,754,877	Fed Min Works and Housing
1975-78	Porto Novo Creek Flyover	24,200,000	9,857,434	6,066,860	Fed Min Works and Housing
1975-78	Bridge to Tin Can Island Port	52,050,000	21,201,629	13,048,763	Fed Min Works and Housing
1975-78	Isolo Road Flyover	12,800,000	5,213,849	3,208,918	Fed Min Works and Housing
1975-78	Third Apapa Wharf Extension	335,000,000	136,456,212	83,983,390	Nigerian Ports Authority
1975-79	Inner Ring Road, Lagos	1,200,000,000	488,798,371	300,836,023	Fed Min of Works
1976	Itoikin-Ijebu-Ode Road Bridge	25,000,000	9,932,459	6,223,735	Fed Min Works and Housing
1976	Lagos-Badagri Road Bridge	24,000,000	9,535,161	5,974,786	Fed Housing Authority
1976	Airport Access Road Bridge, Lagos	19,900,000	7,906,238	4,954,093	Fed Min of Works
1976-77	Maryland Junction Bridge, Lagos	19,628,000	7,798,172	4,886,379	Fed Min Works and Housing
1976	Lagos Roads for FESTAC	95,000,000	37,743,345	23,650,194	Fed Housing Authority
1976-78	Reconstruction of Lagos-Badagri Road	72,000,000	28,605,483	17,924,358	Fed Min Works and Housing
1976-77	Badagri-Semi Pogi Road	162,000,000	64,362,336	40,329,805	Fed Min Works and Housing
1976-77	Tin Can Island Port, Lagos	800,000,000	317,838,697	199,159,532	Nigerian Ports Authority
1977	Isolo Mushin Road	19,000,000	8,186,127	5,276,606	Lagos State Gov Min of Works and Housing
1977-78	Govenor's Residence, VI, Lagos	5,111,000	2,202,068	1,419,407	Gov of Plateau State, Min of Works
1977-78	2 Waste Incinerators, Lagos	36,000,000	15,510,556	9,997,780	Lagos State Gov, Min for Special Duties
1977-79	Warri Port	304,000,000	130,978,027	84,425,697	Nigerian Ports Authority
1977-79	New Carter Bridge	154,000,943	66,351,117	42,768,543	Fed Min of Works
1978-79	Creek Road in Lagos-Apapa	52,000,000	25,935,162	16,471,999	Fed Min Works and Housing
1978-79	Sports Center, Lagos	1,364,000	680,299	432,073	Nigerian Army
1978-79	Housing in Lagos-Kiri Kiri	17,631,166	8,793,599	5,585,010	Seimens Nigeria, VW
1978-79	2nd Ogun River Bridge, near Abeokuta	10,000,000	4,987,531	3,167,692	Ogun State Gov
1978-80	Shen River Dam and water treatment plant	196,000,000	97,755,611	62,086,765	Plateau State Water Board
1978-82	Aladja Steel Plant, Warri (JV with Strabag)	630,000,000	314,214,464	199,564,601	Fed Min of Industry, Lagos
1979-80	Govenor's Residence, VI, Lagos	7,800,000	4,252,999	2,508,996	Rivers State Gov
1979-80	Govenor's Residence, VI, Lagos	9,175,000	5,002,726	2,951,287	Cross River State Gov
1979-80	Extension of VW Plant, Lagos	6,844,576	3,732,048	2,201,668	VW of Nigeria
1979-80	Administration Building, Lagos	4,096,140	2,233,446	1,317,590	Nig Ins. Of Journalism
1979-80	Oworonsoki-Ojota Link Road	171,335,000	93,421,483	55,112,668	Fed Min Works and Housing
1979-80	Ogudu Bridge	53,000,000	28,898,582	17,048,305	Fed Min Works and Housing
1979-80	Warri By-Pass	148,000,000	80,697,928	47,606,588	Fed Min Works and Housing
1979-81	Hydraulic Engineering Access Channel to Warri Port	227,532,000	124,063,250	73,189,340	Fed Min of Transportation
1979-81	Rolling mill, Jos	69,900,000	38,113,413	22,484,463	Fed Min of Industries
1979-81	Prep work for Ajaokuta Steel Plant	51,500,000	28,080,698	16,565,806	Nigerian Steel Dev Authority
1980-81	Flood protection for Ajaokuta Steel plant	122,900,000	67,601,760	36,796,081	Nigerian Steel Dev Authority
1980-82	Sapele Port, Bendel State	157,200,000	86,468,647	47,065,451	Nigerian Ports Authority
1980-85	Ajaokuta Steel Plant, Lot II	1,089,000,000	599,009,901	326,045,015	Ajaokuta Steel Company
1980-82	Warri Bypass Extension, Bedel State	184,600,000	101,540,154	55,268,971	Fed Min of Works
1980-83	Road bridge over Niger River, near Ajaokuta	180,685,000	99,386,689	54,096,826	Fed Min of Works
1980	Repair of Bailey Bridge, Suleja-Abuja Road				
1980-82	Civil Engineering, Roads for Abuja	383,993,000	211,217,272	114,966,945	Fed Cap Dev Authority
1980-85	Warri Bypass, Warri Bypass Extension				
1980-81	East-West Highway to Ammassoma, Rivers State				
1981	Railway Bridge, Ajaokuta				
1981-83	Pankshin/Langtang Water Supply Schemes				Plateau State Water Board, Jos
1981	Delta Ports Bypass Channel, Bendel State				
1983-97	Fertilizer Plant, Onne				NAFCON
1983	Abuja North-West District Infrastructure				
1983-89	Ajaokuta Steel Complex				
1983	Priority Rolling Mill, Ajaokuta Steel Complex				
1983	Abuja Central Area				
1983	Ajaokuta Road				
1983	Ajaokuta Railway Bridges				
	Flour Mill, Apapa, Lagos (Flour Mills of Nigeria)				
1983	Standard Flour Mills, Apapa, Lagos				
1984	Lagos-Eti Osa Road Phase I and II				
1984	Ajaokuta Road Bridge				
	Ethiope River Bridge and Jamieson River Bridge				
1985	Bar Beach Sand Replenishment				

Source: Company data, see Appendix B and Julius Berger website http://www.julius-berger.com; Blum, *Construction in Nigeria*. US Dollar/Deutschemark rate: Lawrence H. Officer, "Exchange Rates Between the United States Dollar and Forty-one Currencies,", MeasuringWorth, 2009. URL: http://www.measuringworth.org/exchangeglobal/. Source for the US Dollar/Naira rate 1973-1980: Anthony Kirk-Greene and Douglas Rimmer, *Nigeria since 1970* (London, 1981). Average annual Dollar/Naira rates used except for 1973, which is for January 1, and 1980, which is for June.
Note: Some projects were done in consortium, job list may be incomplete. Dates are approximate. Exchange rate conversions are calculated by the rate in the first given year of the project.

The contract values given from 1965 to about 1981 reflect the relative weight of the various types of investment. From 1973 through 1980, Julius Berger was involved in contracts worth over N2 billion, all government civil engineering projects with only a very few small exceptions such as a plant for Volkswagen Nigeria.

The sudden increase in government demand for building caused a major dislocation in prices building inputs including labour, materials, land, and competent construction firms as will be discussed further in Chapter Seven. The shortage of cement alone was slowing down all building, despite contractors and government contracted works typically getting cement at the official (and not higher market) prices.[26]

1978-1980: Softening of demand

In 1977 the Nigerian government started to borrow significantly from abroad to maintain spending levels; this trend accelerated in 1978 as oil production started to fall. The public sector financial constraint caused by reduced oil revenues appeared to affect cement consumption immediately. WAPCO reported that demand fell for the first time in 'many years' and it opened its 1978 financial year (in December 1977) with 75,000 tons of cement in inventory against just 12,000 the previous year, which they blamed on reduced

[26] Patrick Sanwo, 'Need for a better plan on cement', *Daily Times*, 3/[month unclear]/74.

demand.[27] In what must have seemed like poor timing, WAPCO had already partly commissioned their new cement factory, Shagamu, in the same year, which brought raised the cement capacity of the company to over 1.6m tonnes per year. [28]

Despite softening of demand, there were still cement shortages in some parts of the country and according to 1978 newspaper report cement was 'gradually disappearing from the markets east of the River Niger' and prices in Port Harcourt had more than doubled in three months. It notes '[a]t the construction site of the Port Harcourt post office complex, masons were being massively retrenched since the abortive search for cement began.' The National Supply Company (the government bulk buying agency) in Port Harcourt had not received a shipload of cement since January of that year. [29]

Construction demand did not recover in 1979. According to Pugh and Ajayi, for WAPCO, it 'was a difficult year. The country as a whole experienced a recession, reducing demand.' Constraints on imports reduced competition but also made it more difficult to get spare parts.[30] WAPCO's return on investment was reportedly down to just 6.6%, and S.O. Ige, the chairman of WAPCO, was angry that the Price Control Board would not permit all of their requested cement price increases.[31] Cappa and D'Alberto in their report for the financial year ending March 1979 reported that 'not enough new contracts are being signed, as is the case now, resulting from the cutback in government

[27] Some words were unclear in the available copy and the quote given is the best approximation possible. Chairman's Statement, West African Portland Cement PLC, *Annual Report 1978*, 6.
[28] 'Ewekoro – The Success Story', *Daily Sketch*, 4/12/81, 6.
[29] Egwu Egbunike, 'Cement Price up Again?', *Daily Star*, 24/3/78, 16.
[30] Pugh and Ajayi, *Cementing a Partnership*, 104.
[31] Ibid., 104-105.

spending for capital projects.'[32] The president of a construction industry association affirmed in October 1978 that this trend was industry-wide, saying that: '[t]he economic "dry wind" that has been sweeping the Country appeared to have affected the Construction Industry more than any other' and noting that even government clients were not paying promptly forcing contractors to borrow funds to finish projects.[33]

Pugh and Ajayi note that in 1980 the Nigerian cement supply and demand situation was 'almost in balance', and in that year's annual report the WAPCO chairman noted that the lack of increase in prices was partly due to the 'natural prevailing market constraints imposed particularly by cement imports.' Turnover and profits were essentially flat.[34] Pugh and Ajayi cite the extraordinary development at the end of that year (given the previously inexhaustible demand for cement during the oil boom) of WAPCO shutting down production for close to a month 'owing to lack of demand', and profits trending at 1/6th of what had been budgeted.[35]

It was not clear in 1980 if the economic situation was improving or would worsen. A former CWA employee dated the industry decline from 1980, noting that 'starting about 1980, the construction sector went into slow decline which continued unabated'.[36] At the very least the market softening increased competition for the available jobs. According to

[32] Cappa and D'Alberto Limited, *Annual Report and Accounts 1979*.
[33] Moses Obiekwe, President of Federation of Building and Civil Engineering Contractors in Nigeria, Annual Dinner Speech, *Construction in Nigeria*, Vol. 4, No. 4 (1979), 7-8.
[34] Pugh and Ajayi, *Cementing a Partnership*, 107.
[35] Ibid., 113.
[36] Farrington, 'Costain (West Africa) Plc. A History of the Company', 6.

G. Cappa, in the spring of 1980 felt that 'the construction industry had begun to emerge from a period of recession'.[37]

1980-1982: Small recovery

By the end of 1980 and in the first few months of 1981 the construction industry had turned a corner. The board of G. Cappa in March 1981 expected that the next financial would be better than the previous one. They were working at full capacity and were hiring again.[38] In its 1980 annual report the mostly government-reliant Julius Berger, though calling the 1980 year 'satisfactory', noted 'the award of new contracts from various government authorities and the improvement in our economy as a result of improved oil revenue', and they anticipated 1981 would be even better, and also expected to increase hiring.[39] Likewise Cappa and D'Alberto's March 1981 annual report also noted 'some signs of improvement in the economy generally and in the industry in particular'.[40] Pugh and Ajayi noted improved appetite for WAPCO cement in the six months from June to November 1981,[41] in spite of the continued industrial disputes and the General Strike in May 1981.

By December 1981 Julius Berger showed a 40% increase in sales over the previous year, had just invested over N52m in the business including in new plant and machinery, and again expected to increase hiring in 1982. [42] Some significant infrastructure work for the

[37] G. Cappa Limited Summary, *Lagos Stock Exchange Handbook 1984*.
[38] Ibid.
[39] Julius Berger Nigeria Limited, *Annual Report 1980*, 8-9
[40] Cappa and D'Alberto Limited, *Annual Report and Accounts 1981*.
[41] Pugh and Ajayi, *Cementing a Partnership*, 113.
[42] Julius Berger Nigeria Limited, *Annual Report 1981*, 8-9

new national capital of Abuja started in 1981, with federal government planning to move to Abuja before the rainy season in 1983.

Despite general improvement in construction demand in 1981, government finances were still in trouble, and in 1982 it passed the Economic Stabilisation Act (ESA) which restricted imports including some essential industrial parts and both construction materials and construction material inputs, with 'drastic' impact on contractors.[43] By March 1982, despite Cappa and D'Alberto achieving its highest ever annual turnover, warning signs of government austerity were already on the horizon for new contracts, and their chairman noted '[f]ewer projects are being commenced, competition is stiff and materials are both scarce and expensive' while anticipating lower profits in the year to come.[44]

5.4.3 Phase Three: Public sector demand collapse

By mid-1983 public sector construction demand had collapsed due to a combination of a poor economic environment led by lower oil revenues and constraints on imports which drove up prices for key construction inputs. According to Pugh and Ajayi, the WAPCO chairman 'sounded quite desperate', and was concerned about being able to get import licenses needed to operate, even threatening that the company may need to be shut down if they were not received.[45] In the annual report for the year ended March 1983, the Cappa and D'Alberto chairman affirmed that 'signs of recovery within the building

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[43] *FOCI in the New Millennium* (Lagos, 1999), 315-316.
[44] Cappa and D'Alberto Limited, *Annual Report and Accounts 1982*.
[45] Pugh and Ajayi, *Cementing a Partnership*, 115.

industry have not been forthcoming' due the 'prevailing economic recession' in which 'contract awards are fewer, competition is stiff and profit margins continue to decline'.[46] A former employee at CWA noted that the company would have been in trouble had it not had one enormous government water project, the Water Supply Expansion Scheme for the Water Corporation of Oyo State which continued for much of the decade.[47] In their 1983 report, Julius Berger noted the 'slow-down of work in Abuja', and 'few new contracts'. They lowered their planned capital expenditure for 1984 and noted 'huge' outstanding debts due to the company for completed work, noting that 'the outlook for 1984 is not very encouraging'. Staff levels, over 10,000 in 1980, were down to 6,566.[48]

In 1984, the construction industry's problems had multiplied, and were detailed in an industry publication. In addition to fewer new contracts, contractors were owed 'huge sums of money' for non-payment of executed construction by government entities and parastatals. This caused cash flow problems, high interest charges, and threatened smaller firms with bankruptcy 'with very grave consequences for the employment market'. They were coping with a turnover tax which had been imposed on the industry, and in many cases mobilisation fees, to help a contractor finance the initial stages of a contract, were cancelled. The 1982 Economic Stabilisation Act had made it difficult to import building materials, with the federation representing that '[t]he restriction of importation of all building materials, including construction plants, lubrication oils, reinforcing bars and

[46] Cappa and D'Alberto Limited, *Annual Report and Accounts 1983*.
[47] Farrington, 'Costain (West Africa) Plc. A History of the Company', 5-6.
[48] Julius Berger Nigeria Limited, *Annual Report 1983*, 8-9.

explosives, as well as machinery, and spare parts which are not available either in sufficient quantities or at all in Nigeria, is counter productive.' [49]

Only one new contract – for a road-building – was highlighted in the 1984 Julius Berger annual report. Staff levels had fallen 19% from the previous year, pre-tax profit fell by one third after an already depressed year, and the company faced serious working capital problems due to non-payment for work and the resulting high interest charges.[50] By the end of 1985, the economic outlook had 'not improved', and sales and profit remained essentially flat. Management was proud of stabilising turnover though no new contracts were announced in the report.[51] Over the first few years of the 1980s, Godwin and Hopwood went from having 22 expatriate employees to just two, reflecting the reduced work.

5.4.4 Phase Four: Private sector building boom

Industrial demand

During the oil boom, the government liberally manipulated trade, tax, and bank policies to create an economy which fit its vision of a strong and eventually self-sufficient nation. Import substituting industrialization was a policy goal. While from 1974 to 1976 import duties were generally relaxed, in 1977 some import duties were actually raised and

[49] 'Federation Visits Minister of Works and Housing', *Construction in Nigeria*, Vol. 1, No. 1 (1984).
[50] Julius Berger Nigeria Limited, *Annual Report 1984*, 8-9.
[51] Julius Berger Nigeria Limited, *Annual Report 1985*, 8-9.

products banned, while duties on imported raw materials were relaxed.[52] Along with the oil-derived new spending power in the Nigerian economy, these government regulations caused factory building to boom in the later years of the 1970s. The Cappa and D'Alberto job list reflects this: the upturn it experienced in the late 1970s and early 1980s was mainly in the construction of factories, although the public sector was recovering from its brief recession at the same time.

Figure 35: Cappa and D'Alberto partial job list 1979-1982

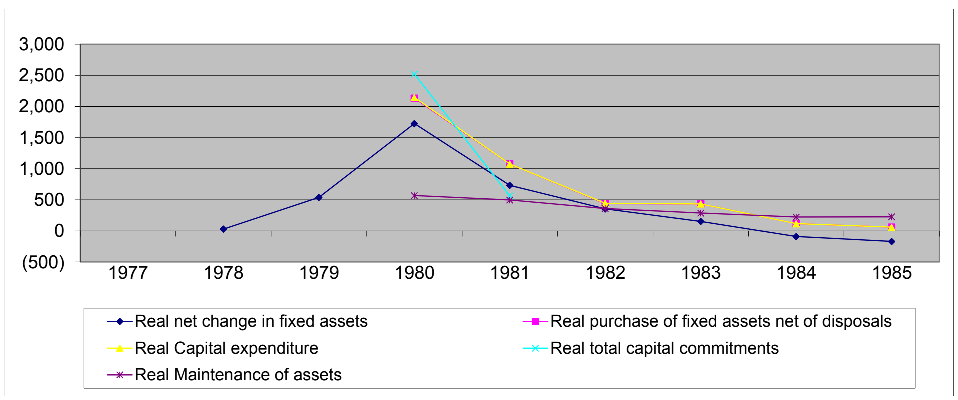
YEAR	PROJECT	LOCATION	CLIENT
1979	Peugeot Factory Extensions	Kaduna	Peugeot (Nigeria) Limited
1979	Philips Office Block, Ikeja	Lagos	Philips (Nigeria) Limited
1979	Broking House	Ibadan	Femi Johnson
1979	Factory and Housing for FSN (Nig.) Ltd. Phases I and II	Agbara	F.S.N. (Nigeria) Limited
1979	Record Factory, Badagry Road	Lagos	Phonogram (Nigeria) Limited
1979	St. Nicholas House	Lagos	Dr. Majekodunmi
1980	M. & E. Office Block, Ikeja	Lagos	U.A.C.
1980	Central Bank Extension	Ibadan	Central Bank of Nigeria
1980	Office Accommodation	Ibadan	Societe Generale Bank (Nigeria) Ltd.
1980	Office and Factory Extensions, Ikeja	Lagos	Cocoa Industries
1980	Beecham Factory	Agbara	Beecham (Nigeria) Limited
1981	Ikoyi Hotel Annexe	Lagos	Nigerian Hotels Limited
1981	Glaxo Factory	Agbara	Glaxo (Nigeria) Limited
1981	American International School, Victoria Island	Lagos	A.I.S.
1981	Housing Scheme, Ikoyi	Lagos	C.F.A.O.
1981	Warehouse and Garage	Ibadan	C.F.A.O.
1981	Faculty of Vet. Medicine	Ibadan	U.C.I.
1981	Office Block at Strachan Street	Lagos	Chief H.O. Davies
1981	Kingsway Stores	Kaduna	U.A.C.
1981	Block of Flats, Ikoyi	Lagos	N.H.L.
1982	Committee Room and Offices	Lagos	Catholic Mission
1982	Factory for Upjohn	Agbara	Upjohn (Nigeria) Limited
1982	Bottling Factory	Otta	Nigerian Bottling Company
1982	Continental Can Factory	Otta	Continental Can (Nigeria) Limited

Source: Cappa and D'Alberto Limited, *50th Anniversary in Nigeria 1932-1982*, 58.

[52] J.F.E. Ohiorhenuan, 'Nigerian Economic Policy Under the Military', in *The Nigerian Economy under the Military: Nigerian Economic Society Annual Conference, Kano, 30th April-3rd May 1980* (Zaria, 1981), 69.68-69.

Industrial demand began its boom after the public sector boom, but ended at about the same time. When the formal construction sector as a whole collapsed in 1983, this also included the industrial sector. At the end of the March 1983 financial year Cappa and D'Alberto had just finished major private sector projects at Otta and the Agbara industrial estate, and were working on a hotel and several office blocks. They had already won two more office block contracts in Lagos and a project in Abuja, on which work had already started. But overall, the result for the year was poor. A dividend was still paid, perhaps demonstrating lack of desire or need to reinvest those funds for future growth.[53] The charts below show the peaks of real capital expenditure in 1980 and 1982 of two industrial companies, Nestle and Flour Mills, before they experienced a dramatic fall.

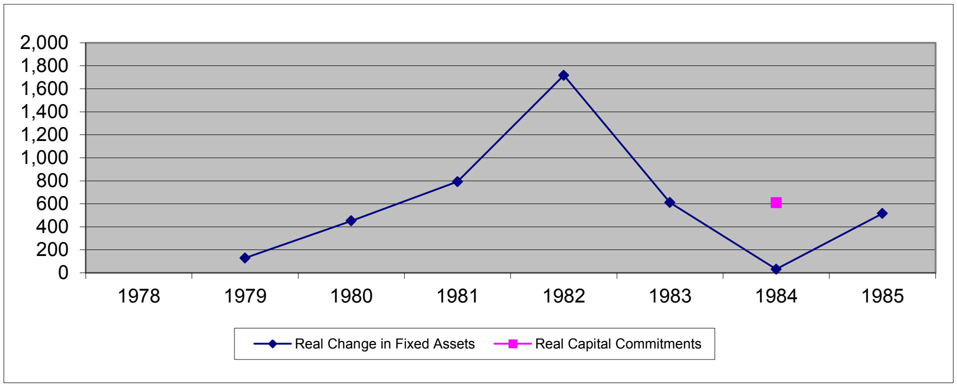
Figure 36: Nestle real capital spending 1978-1985 (Naira MM)



Source: Company annual reports. See Appendix D.2. In May 2003 Naira, deflated by CBN 12MMA CPI in Appendix A.1.

[53] Cappa and D'Alberto Limited, *Annual Report and Accounts 1983*.

Figure 37: Flour Mills real capital spending 1978-1985 (Naira MM)



Source: Company annual reports. See Appendix D.3. In May 2003 Naira, deflated by CBN 12MMA CPI in Appendix A.1.

Retail demand

Retail building trends during the oil boom are more difficult to disaggregate than industrial building and public sector building. While the retail sector used cement blocks for building when cement was available and/or affordable, the scale of cement required for civil engineering works driven by the public sector means that total cement usage cannot be used to measure private sector demand in this period. The retail sector generally used the services of small-scale informal contractors and/or bricklayers, and so retail demand, except for the largest projects, would usually not be captured by the reports or sales figures of the largest contractors.

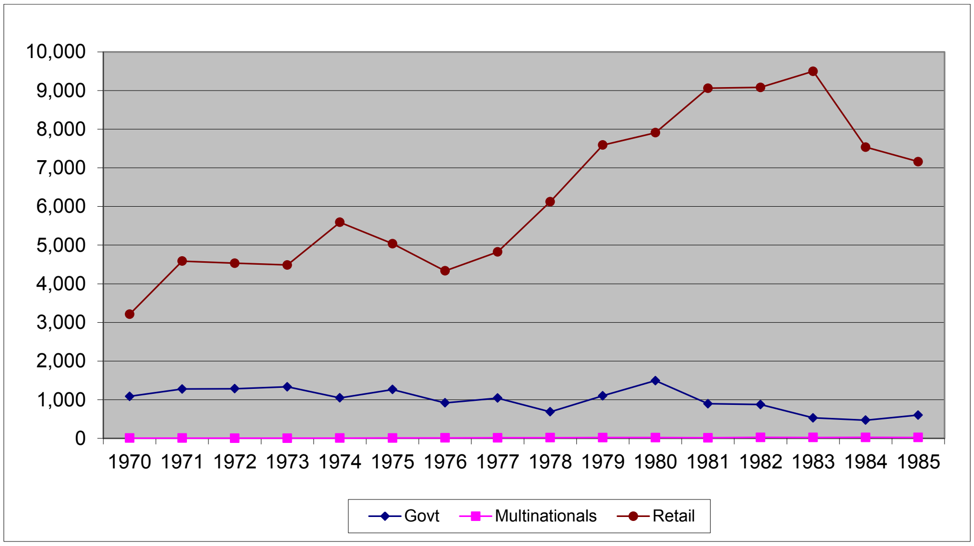
An alternative way to measure changes in retail spending on building is to consider roofing material sales. Much government building, including modern administrative buildings and civil engineering, did not use roofing sheets, and so public demand should not excessively distort the data. Factories, like the one shown in the picture below, did use roofing sheets, but the limited number of large-scale factories that were built moderates the impact of large scale industry in roofing sheet data.

Figure 38: Photograph of Nichemtex Textile Factory, Lagos, built 1971-1973

Source: Cappa and D'Alberto Limited, *50th Anniversary in Nigeria 1932-1982*.

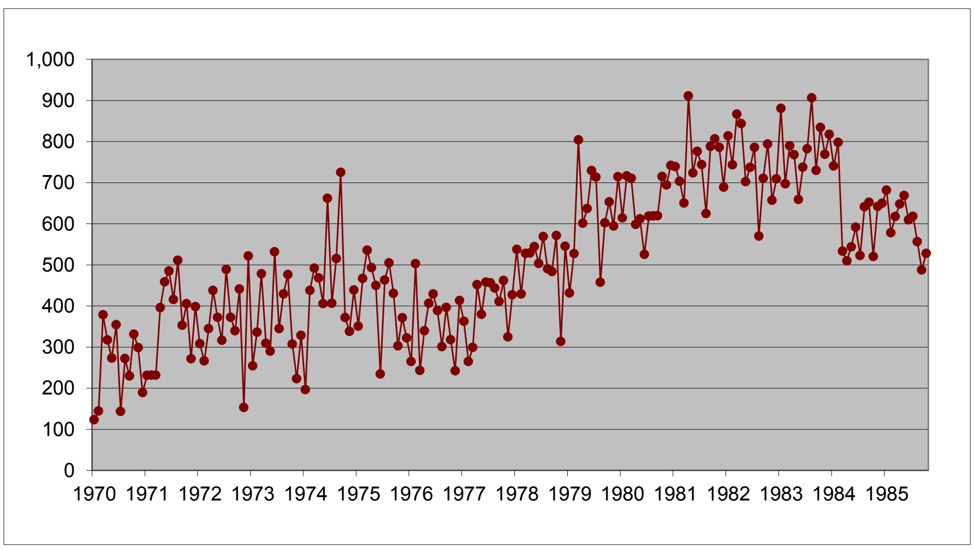
The charts below show fibre cement roofing material sales by volume of a major Lagos-area roofing sheet provider, Nigerite, a Belgian-Nigerian joint venture.

Figure 39: Nigerite annual fibre cement sales 1970-1985 (m² n'000)



Source: Company data.

Figure 40: Nigerite monthly fibre cement sales 1970-1985 (m² n'000)



Source: Company data.
Note: Includes roofing and ceiling sheets.

The Nigerite fibre cement roofing sales, which represent mostly high end housing volumes, demonstrate an entirely different trend than the one represented by formal construction industry contract values and cement consumption. There are two periods of minor growth, in 1971 and 1974, before an enormous boom beginning in 1978 and peaking in 1983, followed by a decline in 1984 and 1985 to the levels of the late 1970s. The sharp difference – almost an inverse relationship in the initial stages – between the roofing sheet trends and those of the cement and formal construction sector indicates that residential building followed a different trajectory than industrial and public sector building. In the residential sector, if Nigerite roofing sheet sales can be used as a proxy for the broader sector, there was no building recession in 1979-1980. The housing building boom started later and lasted longer than the public sector construction boom.

The CBN also report annual data on roofing sheet consumption for select years, but the reliability of this data deteriorated in the late 1970s when the CBN was struggling with the state of its national data collection and it cannot be considered a true indicator of trends. For example, its 1976 report shows almost unchanged roofing sheet consumption from approximately 115,000 tonnes in 1975 to 113,000 tonnes in 1976, which was about 95% domestically produced.[54] Its 1977 report shows a revised estimate of 1976 of about 192,000 tonnes, a 67% increase on 1975 and only 67% domestically produced. It also shows a 193% rise in consumption to 562,000 tonnes in 1977, indicating that by this time roofing sheets consumed were over 70% imported.[55] While this might at first seem to indicate that the housing boom of the late 1970s was led by cheaper imported sheets (Nigerite fibre cement shown in this thesis was mostly for the mid-to-high end market), and occurred even earlier than the Nigerite data suggests, the 1979 report revises down

[54] Central Bank of Nigeria, *Central Bank of Nigeria Annual Report and Statement of Accounts 1976*, 25. Roofing sheets in one chart appear to be mistakenly given in tonnes instead of thousand tonnes.
[55] *Central Bank of Nigeria Annual Report and Statement of Accounts 1977*, 23.

this figure and in particular the imported portion. It shows a 1977 consumption figure of 172,000 tonnes, close to the domestically produced portion of the original estimate, indicating that the data for imports was perhaps deemed unreliable.[56] The 1979 and 1980 reports show a dip in demand in 1978, and then another boom from 1980, when consumption reached 200,000 tonnes. [57] From the 1981 report, the quality and quantity of data available to the CBN had deteriorated so much that only half-years of consumption could be shown, and the data was only collected from the Nigerian Ports Authority (NPA), leaving the impression that if anything, the figures for that year could very well only be representative of roofing sheet imports.[58] The consistency and reliability of the Nigerite data makes it a much better indicator of trends.

What drove retail demand? Savings, wages and affordability of materials

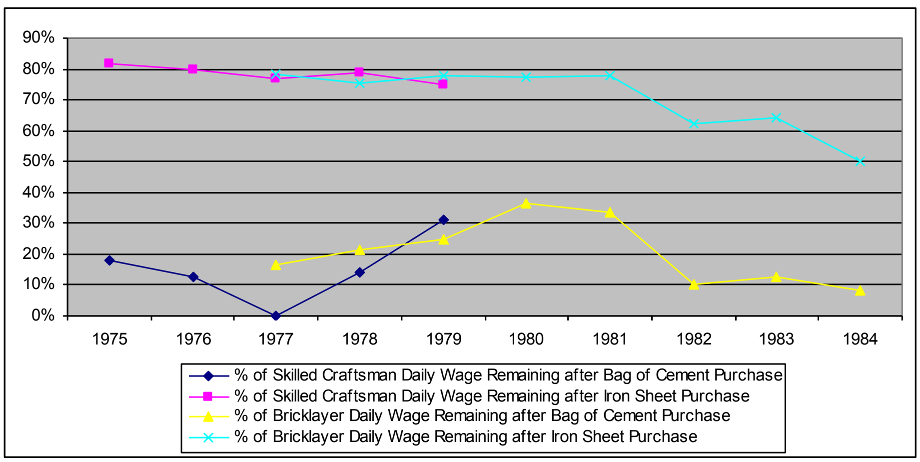
How can the roofing sheet data be explained in light of the patterns of government oil revenue, cement consumption and private industry demonstrated earlier in this chapter? Within the private sector, trends in large-scale industry and small-scale/residential/retail private sector need to be considered separately. For small scale retail building and housing, a key driver of retail spending was the level of wages relative to the price of construction materials.

The charts below use two key retail building materials, cement and roofing sheets, and wages for construction labourers, to indicate fluctuations in affordability. The chart shows that cement was least affordable from 1975-1977, when cement prices were at

[56] *Central Bank of Nigeria Annual Report and Statement of Accounts 1979*, 23.
[57] *Central Bank of Nigeria Annual Report and Statement of Accounts 1980*, 29.
[58] *Central Bank of Nigeria Annual Report and Statement of Accounts 1981*, 26.

their peak due to public sector building demand. Nigerite roofing sheets show depressed sales in the same years, indicating that the Nigerite trend could potentially apply to the whole housing market, not just the high-end. Both sources indicate likely depressed housing in the middle years of the 1970s despite increases in cement consumption, indicating a public sector civil engineering peak and a private sector building/housing trough.

Figure 41: Affordability of cement and iron sheets 1975-1984



Source:
Skilled craftsman wages from: 'Cost of materials as it affects property values', *Nigerian Statesman*, 26/3/80, 12. Average annual costs, December year end.
Bricklayer wages: T.I. Aduloju, 'The Effect of the Rising Costs of Building Materials on Housing Programmes in Ondo State', B.Sc. dissertation, Department of Quantity Surveying, University of Ife, Nigeria (1985). Ondo State Ministry of Economic Planning and Statistics, Statistics Division, Akure. As found in *Construction in Nigeria,* Vol. 3, No. 1 (1986).

A staggered building boom

The idea that the middle of the 1970s and the height of the oil boom was a public works boom and a housing bust is confirmed by the CBN whose 1976 annual report records a year when '[p]ublic works featured prominently in construction activities'.[59] Okigbo

[59] *Central Bank of Nigeria Annual Report and Statement of Accounts 1976*, 24.

wrote that the expansion of bank credit to real estate and construction from 7.4% in 1970 to 22.5% in 1978 was driven by

> [g]overnment spending on construction – roads, ports, harbours, airports and buildings which necessitated considerable working capital requirements on the part of the construction companies. The credit went, therefore, not to house builders directly but to large companies that won government construction contracts.[60]

In 1975 in an acknowledgment that residential building was lagging demand, the government attempted to encourage investment in housing by introducing initial capital allowances of 5% on building expenditure but at the same time set up a panel to discuss rent control,[61] which would have had the opposite of the intended effect and further discouraged new building. Government residential building in 1975 and 1976 was not more than marginally significant compared to the size of the country and population, but was certainly more impressive than any previous effort at providing public housing.[62] The Federal Housing Authority (FHA) reported building about 5,000 and 10,000 homes, respectively, mostly in Lagos and Kaduna.[63] However, it is clear from the evidence presented in this chapter that government efforts to encourage residential building during most of the 1970s were largely unsuccessful. Chapter Six and Seven will further argue that in addition to being unsuccessful, these efforts were actually counterproductive.

The situation for the private sector and housing in general had started to improve in 1977. In the same year, to encourage more residential building the government set up a mortgage bank, and commercial and merchant banks were told to lend 5% of their loans

[60] P.N.C. Okigbo, *Nigeria's Financial System* (Harlow, 1981), 64-65.
[61] *Central Bank of Nigeria Annual Report and Statement of Accounts 1975*, 49.
[62] Modupe Mononke Omirin, 'Land for Private Low Income Housing: An Evaluation of the Effect of Land Nationalisation Policy in Lagos Metropolitan Area, 1968-1988', PhD thesis, Queens College, University of Cambridge (1991), 218.
[63] *Central Bank of Nigeria Annual Report and Statement of Accounts 1976*, 25.

for residential buildings. In order to tackle the problem of difficult land acquisition, the federal government committed to acquiring large building plots in well located suburbs and preparing them for private sector development so that they could 'lease them to individuals and institutions for allocation to their staff for building owner-occupied houses', which if carried through likely had the opposite of its intended effect and again crowded out private sector land acquisition and discouraging building. In 1977 bank credit to construction rose from a monthly average of N303.6m to N547.5m and the FHA, according to the CBN, built about 12,000 housing units. [64] However, by the second half of 1977 there was a world oil glut and government entities were feeling constrained. States were told they were responsible for their own housing programmes but many could not afford to continue them. The Land Use Decree of 1978 was enacted to make land acquisition easier for government entities, but importantly, it vested ultimate authority over land with state governments, not the federal government. State governments frustrated federal housing plans and used their power over certificates of occupancy as a political tool.[65] This likely contributed to the fact that the Federal Housing Authority in the first year of the decree only completed 1,282 units.[66] Nigerite data shows that as the public sector slowed down its building programme, roofing sales boomed, and there must have been a considerable backlog of unmet demand in residential building. In 1979 the new civilian government established the Ministry of Housing and the Environment, having run for office partly on a platform of increasing the supply of housing.

[64] *Central Bank of Nigeria Annual Report and Statement of Accounts 1977*, 4, 24.
[65] I.E.S. Amdii, *Analysis of Government Housing Policy in Nigeria* (Zaria, 1993), 109.
[66] *Central Bank of Nigeria Annual Report and Statement of Accounts 1978*, 4, 24.

Cement prices became increasingly more affordable for private individuals, reaching a peak of affordability in 1980. In 1980 CBN data shows a 14% and 15% increase in roofing sheet and paint consumption respectively, but essentially flat cement consumption.[67] This suggests a likely rise in housing, commercial and possibly industrial building and a corresponding fall in civil engineering. In 1982 when Economic Stabilisation Measures (ESA) hurt imports and increased building prices, affordability dropped. Roofing sheet trends show that roofing sheet sales didn't start dropping until 1984. The short lag between the drop in retail building and the ESA and the start of the government austerity-driven recession is likely due to some construction being financed by savings, which would not have been immediately hurt by the general economic environment.

Conclusion

The narrative of the oil boom from the companies in the construction industry fits Forrest's assertions about government and industrial investment in this period. His observation that the 1970s saw two waves of spending, the first driven by an increase in government spending and the second funded by Nigerian industrialists and retail builders in the late 1970s, is largely supported by evidence from the construction industry. Even though the job lists from industrial contractors demonstrate that the same multinationals who invested in the early 1970s were reinvesting in the late 1970s, many of them extending factories built five or so years earlier, the ownership of many of those companies, because of the indigenization decrees of the 1970s, were by then largely Nigerian.

[67] *Central Bank of Nigeria Annual Report and Statement of Accounts 1980*, 29.

However, how much the pattern of delayed private sector building was due to the time taken for the accumulation of investment capital as suggested by Forrest, reinvestment of dividends trapped by government regulation or some other explanation is not conclusive from the data presented in this chapter. Evidence from the retail sector suggests that affordability of materials was a key determinant of private sector building demand, and later chapters will further argue that government crowding out was the primary influence on affordability. How the government entered the construction supply chain in order to relieve shortages and have more control over prices is therefore a critical question to be answered.

CHAPTER SIX: Ghost Supply

> [O]nly scanty attention was paid to the management of aggregate demand. Indeed, the emphasis placed almost exclusively on augmenting aggregate supply was the central reason why the policy package of the review year could not check the accelerating price level.
>
> Central Bank of Nigeria Annual Report and Statement of Accounts for the Year Ended 31st December 1975

A comment in the 1975 annual report of the CBN, quoted above, observed that the government was unsuccessfully attempting to manage the rising price of construction by exclusively focusing on increasing supply in the construction market, instead of moderating demand. Slowing down popular and socially important capital projects was politically unpalatable in a period when everyone knew that the government was richer than it had ever been in modern memory. In addition, the government knew that its own needs during the oil boom, particularly for building materials, could not be met by existing local industries. It wished to profit from the construction boom, improve its balance of payments, and play a more active part in what was seen as a vital industry shaping Nigeria's industrial future. Involving government entities in the construction supply chain also seemed a good idea given that, as described in Chapter Three, the strategy was used relatively successfully in the pre-oil boom 1950s and 1960s.

However, as the 1975 CBN annual report so presciently observed, the government attempts to increase the supply of construction inputs to meet the rising demand of the oil boom did not have their intended effect. Such efforts were 'ghost supply': although they very publically consumed government resources, a significant part of the promised supply failed to materialize, and the efforts instead further distorted the construction market. An understanding of why and how these bottlenecks occurred is crucial to understanding why the construction market during the oil boom was not able to meet even the 'non-ghost' construction demand, in spite of the vast amounts of funding it consumed.

Each of the five sections hereunder is a case study outlining an attempt by the Nigerian government to ease the construction supply bottleneck. These case studies include examinations of direct cement importation, local cement production, government-run contractors, steel production, and land nationalisation.

These issues have wider relevance to the Nigerian economy. The public sector expanded into every major industry. With astonishing consistency, almost none of these companies covered their costs and a number failed outright.[1] This investigation into state expansion into the construction sector, apart from explaining the levels of construction supply in the market, shines a light on the causes of this widespread public company failure and helps explain the context and the consequence of both oil boom and bust investment trends. The phenomenon, described in Chapter One of this thesis, of widespread social acceptability of diverting government funds in Nigeria during this period and its relationship to construction trends can be observed through the evidence in this chapter.

[1] Nigerian Electric Power Authority (NEPA) and the Nigerian External Telecommunications (NITEL) have been mentioned as exceptions to this rule. See Tom Forrest, *Politics and Economic Development in Nigeria* (Oxford, 1993), 149.

6.1 The cement armada

The confluence of an exploding oil-fuelled budget, an exponentially growing building programme and a cement shortage together culminated in one of the Nigerian government's most infamous scandals, the 'cement armada'. The events were centred around a government ministry's attempts to directly import cement from abroad to help alleviate the cement shortage for its building programme. The scandal epitomised profligacy with government funds, public officials using their access to gain illegal personal benefits, major avoidable planning errors and disorganisation which attracted wider illegal involvement. It also caused severe port congestion which lasted for several years: ships waited on average 250 days in 1975 to unload their goods,[2] and the port was still congested in early 1978,[3] with attendant inflation and product shortages, including shortages of construction materials. The events were a major blow to the Nigerian economy of the 1970s and played a role in bringing down the government in a coup in mid-1975. The following account is based primarily on the report of the official investigation into the scandal and local media reports.[4]

Of all government construction projects planned at the close of the civil war in 1970, barracks' building was the utmost priority for the Nigerian Ministry of Defence (MoD). Barracks were necessary to re-house and spread out the recently enlarged military.

[2] Dan Shneerson, 'Investment in Port Systems: A Case Study of the Nigerian Ports', *Journal of Transport Economics and Policy*, Vol.15, No.3 (1981), 202.
[3] Barbara Conway, *Maritime Fraud* (London, 1990), 37.
[4] Federal Ministry of Information, *Report of the Tribunal of Inquiry into the Importation of Cement* [Belgore Report], (Lagos, 1976). The report gives cement weights in both tons and metric tonnes, and specifies that it refers to metric tons in its cement contract appendix, though the distinction is not always clear in the body of the report. There is a less than 2% difference between the two measures, and so any inconsistency makes little difference to the overall narrative.

Following a meeting in 1971, a plan was agreed to build the required barracks over five years. The building contracts were not issued until after plans were drawn up in July 1972.[5] However, rising cement costs were increasingly making the signed contract cost estimates unrealistic. In a tight cement market, the MoD set about trying to find cement for its army contractors. The two individuals principally involved in structuring and approving the cement contracts were Ibrahim Damcita, permanent secretary of the MoD, and his deputy in charge of army development projects, C.G. Lakin-Smith, formerly of the British Army. Damcita was responsible for signing off on all the contracts, while Lakin-Smith was the primary point of contact for suppliers and their representatives, and negotiated the details of the agreements.

The MoD estimated its annual cement needs at 2.9m metric tonnes, based on a projection of 40 army building jobs per year.[6] Up until 1974 Nigeria had never imported more than 1m tons in a single year. The MoD attempts to source the cement from local suppliers including Nigercem and WAPCO were fruitless, partly because WAPCO said it had pre-existing commitments to provide cement for the building needs of the Second World Festival of Black Arts and Culture of 1977.[7] The government entity responsible for bulk buying, the National Supply Company (NSC), could only offer 30,000 metric tonnes.[8] Having decided it would have to import the cement directly, the MoD, via the Ministry of External Affairs, notified Nigerian missions and embassies abroad that it was attempting

[5] Ian Campbell, 'Army Reorganization', in K. Panter-Brick, ed., *Soldiers and Oil* (London, 1978), 75.
[6] *Report of the Tribunal of Inquiry into the Importation of Cement*, 12.
[7] Ibid., 9.
[8] Ibid., 10.

to source cement in standard contract sizes of 240,000 tons. The letter was sent October 29 1974. [9]

It therefore became widely known that the MoD was looking for cement. It also became widely known – though it was not stated in the letter to the embassies – that the MoD was giving out the supply contracts for cement at a $60/ton. The MoD had decided to set the price apparently around a benchmark which they received from the NSC. [10] Importantly, it was the very fact that the price was considered 'fixed' (as opposed to a competitive bid process which might have attempted to select the lowest bidder) that was used to justify the contracts not needing to have the oversight of a tenders board.[11]

Ayida, who was then a civil servant in the Ministry of Finance, has written that by 1974 the world market price for cement had, 'apparently unknown to the Ministry of Defence', softened. [12] $60/ton was actually up to $5 above the market price. [13] The stated reason for the generous price was that earlier contracted shipments of cement ranging from $51-54/ton in 1974 had failed to be delivered, and some of these had not put up performance bonds. Private sector building records also confirm that there were in fact delays in cement deliveries during late 1974.[14] The MoD therefore raised the price in order to ensure delivery and, on the recommendation of Ayida, started requiring a 3% bond. The consequence of the MoD's settled price becoming widely known as a set price, not a

[9] Ibid., 41.
[10] Ibid., 17-18.
[11] Ibid., 17, 19.
[12] Allison A. Ayida, *Reflections on Nigerian Development* (Ibadan, 1987), 260.
[13] *Report of the Tribunal of Inquiry into the Importation of Cement*, 42.
[14] Letter from P.A. Barrett, The Metal Box – Toyo Glass Company of Nigeria Ltd to G. Cappa, 31/10/74, GH Archive Job 473, Boxes 199-203.

maximum price, was that regardless of market conditions almost all contracts were priced at $60. Despite the NSC providing a price benchmark, there was even one instance of a cement supplier contracted to supply both the MoD and the NSC at the same time selling at $60 to the MoD at $59 to the NSC.[15] The cement contracts became, in the words of the inquiry, a multi-layered 'racket', with several component parts.

First, the MoD deliberately ordered far more cement than was needed. Despite the building needs of the MoD being not more than 6m metric tonnes for the following two years, the 69 contracts considered by the scandal inquiry, signed from December 1974 to June 1975, totalled 16.23m tonnes of cement, valued at over $900m.[16] The tribunal report stated that the reason for this was that Damcita and Lakin-Smith deliberately over-ordered cement on the assumption that there would inevitably be delays and in the hope that at least some of what was ordered would come. It is true that when most of the contracts were signed, none of the cement had arrived yet. The MoD was first notified of a planned delivery in April 1975, and the first cement arrived May 1975. [17] Ayida added his weight to the sympathetic interpretation of the over-ordering noting that:

> [i]t [the MoD] placed orders in the firm belief that many of the suppliers could not perform. Frankly, somebody did not add up the cumulative order on which delivery would have taken at least three years to clear through the Lagos port working 24 hours a day and satisfied the country's requirements for five years.[18]

According to newspaper reports citing Damcida, the MoD had been threatened by several people in the Federal Military Government anxious to speed up their building programme and 'was forced' to order the cement because of 'pressures from certain quarters…one of

[15] *Report of the Tribunal of Inquiry into the Importation of Cement*, 18.
[16] Ibid., 12.
[17] Ibid., 11-12.
[18] Ayida, *Reflections on Nigerian Development*, 260.

such pressures came from the former Head of State, General Yakubu Gowon' for whom the new barracks were urgent.[19]

Second, as the contracts were given at a generous price, and all suppliers needed a Nigerian representative, Nigerians, often without suppliers behind them, were securing supply contracts, and then selling them on around the world to brokers and eventually suppliers, with each party taking a commission. Commissions were up to $4/ton, so on the most common size of contract could yield $960,000.[20] There does not seem to have been a systematic approach to assigning these lucrative contracts. There was a fabled story that 'a lady just passing by saw a crowd and on enquiring and being told that the crowd were waiting for cement contracts she got in and won a contract for 14 million dollars!'[21] Many government officials were later shown to have benefitted from the cement contracts, either personally or through their families. The Head of Army Engineers recommended contractors, and a senior naval officer was involved in distributing contracts.[22] MoD paperwork showed that the department knew of the commissions that Nigerian representatives were getting.[23] Accountants at the MoD were involved in both giving out and receiving contracts.[24] CBN employees were also participating in the racket.[25] Ambassadors, connected to the events because of the letter to the embassies, themselves got involved in arranging contracts including the Nigerian Ambassador to Turkey. In one case an ambassador himself signed an agreement with a

[19] Bisi Oloyede, 'Gowon, others, caused cement orders says Malam Ibrahim', *New Nigerian*, 5/11/75, 1,16.
[20] *Report of the Tribunal of Inquiry into the Importation of Cement*, 18.
[21] Ibid., 20.
[22] Ibid., 27-28.
[23] Ibid., 81.
[24] Ibid., 40.
[25] Ibid., 54.

cement supplier.[26] Some local representatives got their contracts through ministry connections. [27]

Third, the contracts included unnecessarily generous terms to suppliers, with complicity from the MoD. One accountant at the MoD admitted to changing contract terms for supplying companies, including altering 19 letters of credit which ranged from permitting substandard cement and extending expiration dates.[28] In one case the performance bond was found to have been falsified. [29] In the part of the contract detailing the law under which the contract was to be governed, the MoD deputy Lakin-Smith let suppliers insert whatever country they wanted, later saying that he understood that except for the USSR, most law with respect to governing contracts was the same![30] In addition, the covenants contained in the contracts were unnecessarily unfavourable to the Nigerian government.[31]

Fourth, a significant amount of cement was contracted after at least some port congestion was evident. Damcita reportedly ordered that no more cement be contracted after December 31 1974, though he apparently made several exceptions to this and agreed to approve those which were already 'in the pipe-line'.[32] In spite of this, the tribunal found that 'at least 23 fresh offers' were accepted after the supposed deadline.[33] By May 1975 port congestion was severe enough to be mentioned at a Ministry of Transport meeting

[26] Ibid., 42.
[27] Ibid., 23.
[28] *Report of the Tribunal of Inquiry into the Importation of Cement*, 38-39.
[29] Ibid., 59.
[30] Ibid., 34.
[31] Ibid., 16-17.
[32] Ibid., 31-32, 65.
[33] Ibid., 65.

when Lakin-Smith was present.[34] While cement for the MoD did not arrive until May, when the port was already somewhat congested, it was the later arrivals of cement through the rest of 1975 and 1976 which caused the most severe problems. The 67 contracts listed in detail in the inquiry were priced from $59-60/metric ton. Five were signed in 1974, 36 from January to March 1975, and 26 during April, May and June 1975. The 67th contract was signed June 7 1975. Most were for the standard sized contract of 240,000 tons. Of the 67 contracts listed, 15.4m tons were ordered, and 2.6m tons eventually delivered.[35] In addition, other public entities were placing their own orders for cement, not taken into account in the MoD inquiry.

Fifth, demurrage clauses in the cement contracts caused enormous expense to the government. The ports were congested for at least 14 months due to cement ships waiting, at various points estimated at 250-500 ships during 1975, and the Nigerian government was obliged to pay a day rate while the ships waited to discharge their cargoes. A later examination of the contracts showed that although demurrage was a standard potential component of an import contract, under the circumstances demurrage should not have been included at the levels set in the contracts.[36] This was especially true in a port which was already congested when the contracts were being written. Not only did the cement contracts include demurrage, but during the scandal demurrage was actually increased from $3,500/day to $4,100/day.[37] Lakin-Smith said that he discussed

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[34] Ibid., 66.
[35] Ibid., 120-122.
[36] Ibid., 76.
[37] Ibid., 22.

the demurrage amounts in the contracts with the MoD's legal consultants.[38] Lakin-Smith had not consulted the ports for the appropriate discharge rates with which to plan and pace the contracts. He set the rates at 1,000 tonnes per day and issued in at least one case up to four contracts per day.[39] According to one estimate 'for 300 ships that waited before the July, 1975 change of government, over N1.05 million was being spent daily' by the federal government.[40]

Sixth, once the port congestion was evident, the scandal took on the added dimension of the port attracting ships from all over West Africa not carrying cement but who wanted to claim lucrative demurrage in the confusion of the Lagos port. Even ships carrying cement were being given multiple names to claim extra demurrage.[41] One British legal case in the aftermath of the scandal demonstrated that the inability to dock the cement prompted at least one of the cement suppliers to claim that cement had been sent when the vessels, as well as the cement, had most likely never in fact existed. The presiding judge, Lord Denning, noted that

> [i]n practically every one of these eight ships the bills of lading appeared as if there had been a ship which had changed its name…[and made out that] they were shipped at a port in Greece called Volos. When the solicitor from London went out to Greece he found that it was all "moonshine' in effect. They never had any of these ships on Volos at all. And Volos had not got the quantity of cement or anything like it to fulfil these supposed bills of lading. What is more, the harbourmaster did not know of any being put on board or sent forward, and so forth. So a very strong case was made out that these bills of lading were not genuine at all. They were forged in respect of goods which had never existed.[42]

[38] Ibid., 35.
[39] Ibid., 65.
[40] 'Cement Crisis..Cement/The Inside Out', *Sunday Chronicle*, 20/3/77, 12.
[41] *Report of the Tribunal of Inquiry into the Importation of Cement*, 77.
[42] *Etablissement Esefka International Anstalt v Central Bank of Nigeria* (Court of Appeal) [1979] 1 Lloyd's Rep. 445 at 447.

The congestion of the ports and the confusion of the contracts took years to overcome. According to newspapers, at the end of 1975 'the battle to stop imported cement from coming into the country like a locust invasion, is still on'.[43] The federal government took over all existing orders, banned new orders, tried to make sure that cement ships could only come to Nigeria after they had clearance from the Nigerian Ports Authority, built new 'discharge points' at Badagry, and built new and larger warehouses.[44] The 'scams' surrounding the cement armada were well publicised and much discussed by the Nigerian media:

> the demurrage racket and the concomitant plan by its perpetrators to block Nigerian ports with ships carrying unwanted cement was a deliberate move to strangulate the nation's economy for the benefit of those who gained from the racket. A good example is the incident that happened after the Ijewere Committee had re-negotiated cement contracts with overseas suppliers. Just at a time when the ban on new shipments was beginning to take effect, 100 new cement consignments appeared at the Lagos port. [45]

Ironically this did not cause a glut of cement in Nigeria, because the ports were so congested that imports of all goods were slowed down and many experienced shortages, including cement, and contributed to general inflation. Newspapers reported that 'there is no cement' and contractors were fighting over it:

> At a recent meeting of contractors in the State, it was agreed that registered contractors according to their categories, pay a certain deposit for cement that is being anticipated. At the time of writing, cement could be got in Calabar at N4.50 and at Uyo, its N4.20 usually after fierce scramble. About Calcemco, a source said: "if we have to wait for our quote from Calcemco, it means we can build". [46]

By the end of 1975, reportedly 4m tons ordered had been landed and delivered. The government attempted to reschedule delivery and cancel up to 50% of the total order.[47]

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[43] 'Editorial/The cement scandal', *The Nigerian Observer*, 5/11/75, 3.
[44] Ibid.
[45] Ibid.
[46] 'Cement Crisis..Cement/The Inside Out', *Sunday Chronicle*, 20/3/77, 12.
[47] 'Comment/Ijewere Reports', *Nigerian Tribune*, 22/11/75, 1-2.

The government did not know how much had been delivered, or whether what had been delivered was still usable. According to newspaper reports, some was spoiled when it arrived.[48] Some of the cement was reportedly sold to other countries along the West African coast, since it could not be off-loaded in Nigeria. No doubt partly because of this fiasco, by early January 1976 none of the new barracks, for which the cement was originally ordered, were ready.[49]

In 1975, the construction firm of Julius Berger was commissioned to build the third Apapa Wharf Extension, six additional berths, in an attempt to alleviate the crisis at the port. In 1976 Julius Berger built two lighter terminals at Kiri Kiri. As this was still not enough new capacity, in July 1976 they won a contract to build an entirely new turnkey port facility in Lagos, called Tin Can Island, on the condition that it be ready in fifteen months. The new port had ten berths, each 250m long. Tin Can Island was built at the same time that Julius Berger was building the Ring Road around Lagos, and the simultaneous timing of the projects, combined with the port congestion, made the task a mammoth one. According to a company account

> our central concrete and bituminous mixing plants were supplied with aggregates from our own quarry with an annual capacity of approximately 900,000 tonnes. There were 500-600 trucks and 60 mixing trucks for transporting materials by road. Our own buoy berths within the harbour basin permitted us to keep unlading 4-6 chartered ships at a time with our own lighters notwithstanding the catastrophic lack of port facilities at that time[.][50]

[48] 'Editorial/The cement scandal', *The Nigerian Observer*, 5/11/75, 3.
[49] Campbell, 'Army Reorganization', 75.
[50] Dieter Blum, *Construction in Nigeria*, (Wiesbaden, 1981), 130.

The Tin Can Island port contract was worth DM 800m and at times employed up to 5,500 Nigerians. It took 250,000 tonnes of material, 35 shiploads.[51] It was finished in October 1977.

Nigerian government efforts to minimize the cost of the cement contracts and demurrage claims also became part of the scandal. The Cement Contracts Negotiating Committee (CCNC) was set up in December 1975 to negotiate settlements with companies contracted to supply cement public sector bodies whose agreements had been disrupted during the cement armada fiasco. The CCNC was authorised to pay compensation and accrued demurrage charges, which eventually came to N185.6m, after agreement with most suppliers.[52] Some large cement suppliers were urged to settle their contracts on the promise that they would become favoured Nigerian government suppliers in future, but smaller contract holders with no ongoing cement business had little incentive to discount the amount due. One interview with a participant in the government effort suggested that some of those on the CCNC were known to have been taking bribes from suppliers to give them favourable settlements, and there were even reports of unexplained deaths of potential whistleblowers. A typical example of the forgiving nature of the Nigerian state towards its employees, the white paper of the tribunal which reported to the Federal Government on the cement scandal was relatively generous in its judgement of the individuals involved, and the resulting punishments were mostly limited to demotion, loss of benefits or dismissal for very few individuals.[53] New tendering procedures were to

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[51] Ibid., 52, 54.
[52] 'Cement contracts committee dissolved', *New Nigerian*, 23/10/78, 13.
[53] Federal Ministry of Information, *Federal Military Government's Views on the Report of the Tribunal of Inquiry into the Importation of Cement*, (Lagos, 1976), 8-17.

be drawn up which would provide more checks to prevent this from happening again.[54] The report of the tribunal itself was not, according to many accounts, widely available to the public until much after the events.

International interest in the cement armada negotiations was extraordinarily high. The Nigeria government was replaced in a military coup in mid-1975, and the new leadership attempted to simply cancel the cement contracts. In the United Kingdom, when cement suppliers attempted to use the courts to enforce the contracts Nigeria claimed that it was immune from such prosecution due to its sovereign status. Nigeria lost on appeal in what was a landmark legal case limiting the scope of sovereign immunity, *Trendtex Trading Corporation v. Central Bank of Nigeria* (1977).[55] There was significant political and commercial interest in the United Kingdom to enforce the cement contracts, not just from contract holders but also from their creditors. Before the Nigerian government had a chance to further appeal the case to the House of Lords, the *State Immunity Act of 1978* was passed by parliament, precluding any possibility of a different legal outcome. Lawyers for the Nigerian government then attempted to argue that the contracts were secured improperly, but were obstructed by several individuals in government who would not let them see evidence they had collected which suggested there had been bribery. The CCNC was dissolved in late 1978, marking the end of the episode, though various lawsuits continued.

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[54] 'Allison Ayida was not negligent', *New Nigerian*, 25/5/76.
[55] *Trendtex Trading Corporation Ltd v Central Bank of Nigeria* [1977], Queens Bench Law Reports 529.

The cement armada is an example of a government attempt to bolster its supply of construction inputs, which ended up having the opposite effect. This was not just because of planning errors or bad luck, but because government contracts were used as a fig leaf for redistribution of public funds to private individuals. It was the 'supply' version of the 'ghost demand' outlined in Chapter Four.

6.2 Domestic cement production

As with the efforts to import cement during the cement armada, government entry into domestic cement production during the oil boom was similarly problematic and unsuccessful, and all the more clearly so because the domestic cement industry *before* the oil boom, as described in Chapter Three, was an example of both public and private sector industrial success. In 1966, the year before the Nigerian civil war began, domestic cement production rose to just over 1.1m tons per annum (TPA), with imports having dropped to less than 200,000 tons. In an example of mostly market-driven import substitution (though aided by government investment and tariff protection), a competitive domestic industry successfully supplanted imports during the 1960s, causing the real retail price of cement to decline. At the war's end in 1970, cement consumption was about 1m tons, almost back to its 1966 pre-war levels. However, domestic production was down by about 40%, partially due to the Nigercem plant, near the eastern city of Enugu, and the Calabar plant, also in the east, being shut down during the war. Imports made up the gap in supply, partly contributing to price increases of over 50% between 1966 and1970.[56]

Although as described earlier, government entities had made some dubious locational and design decisions about new cement plants during the 1960s, problems facing domestic cement production accelerated and worsened after the civil war and at the start of the oil boom, despite the boost in demand. Most plants, with the exception of WAPCO (in which the government had some equity interest but not a controlling stake), were owned and controlled by one or more government entities. Given the minimal degree of loyalty that employees and management in Nigeria generally felt towards government shareholders of businesses, this increasingly led to their being pulled between using their jobs to extract value for their social and political networks, and their legal obligations towards their government shareholders. Nigeria started the oil boom in 1973 with five cement plants (WAPCO's Ewekoro, Nigercem, Sokoto, Ukpilla and Calabar) and by 1981 had added three entirely new ones (WAPCO's Shagamu, Benue and Ashaka), but during the oil boom much of the domestic cement capacity became a 'ghost' cement industry, geared towards different objectives than producing cement, and operating below theoretical capacity and suffering from unnecessary delays and shutdowns due to distracted management. A number of plants were built with an economically unviable design and/or location, dooming them to failure even with the most skilled management. Industry volume growth in the 1970s came mostly from one company, the privately-controlled WAPCO, which nearly doubled its capacity in 1978 to 1.45m TPA. In contrast, the existing plants of Nigercem, Ukpilla, Calabar and Sokoto, stopped

[56] See Table 6 in Chapter Three.

producing or were operating much below installed capacity, and were not able to significantly contribute to production during the oil boom period at all.[57] The remarkably poor performance of these four plants merits further discussion.

Nigeria's first cement plant, the government-owned Nigercem's plant at Nkalagu in eastern Nigeria was producing at capacity in the mid-1970s. However, by 1978, at the same time as its rival WAPCO was expanding, Nigercem was having major problems and the chairman admitted that 'production of the company dropped considerably.'[58] In a newspaper interview the company ascribed some of their problems to transportation and power. They blamed the poor state of the roads, and the railway, which used to handle 40% of their traffic, could then only handle 20% of the transportation needs due to a shortage of covered wagons. They also claimed that tonnage was much less in 1978 than in 1974 due to National Electric Power Authority (NEPA) problems. They stated that from November 1977 to May 1978, 'we have not been able to receive full power. In June, we received full power and thought our problems were over. But the position worsened again'. They only had 50% of the power they needed and were forced to install two generators in preparation for power shutdowns.[59] Although WAPCO also struggled with power and transportation, those factors did not cause near company collapse as they did for Nigercem.

[57] 'The Cement Crisis', Editorial, *Renaissance*, 12/9/73, 1. The article mentions the plants at Ukpilla, Sokoto and Calabar as not 'effective'.
[58] Cyril Mbah, 'Cement firm in financial difficulty', *The Punch*, 14/11/78, 11.
[59] 'Focus on Nigercem', *The Daily Star*, 18/9/78, 9.

By 1980, a newspaper reported that production shortfalls were causing Nigercem to lose N0.4m every month, from 'low usage of equipment which had been lying idle for some time'. A 1975 N28m expansion programme was finished but 'the installed equipment could not be operated without coal' and the chairman claimed that the Nigerian Coal Corporation was 'not co-operating'. Nigercem had management problems and there were allegations that promotions and dismissals had been based on 'tribalism'.[60] In 1981 newspapers reported that Nigercem finally was closed and its workers sent home by the governors of Anambra State and Imo State. The company chairman resigned. N200,000 of property was destroyed by saboteurs.[61] The factory was running a N32m deficit,[62] and the company struggled to restart significant production through the 1980s.[63] Government-controlled Nigercem had deteriorated to the extent that its operation could no longer be compared to its privately-controlled rival WAPCO.

Ukpilla, in which the government had a 90% share, struggled from the start.[64] It was producing in early 1972 but was closed again within a year and was dormant for some time.[65] Various excuses were offered for Ukpilla's closure, including problems it had with limestone production, and mechanical issues. According to one account, '[b]ecause of some technical faults, the plant's electrostatic precipitator collapsed in late 1972. The collapse brought down with it the raw assembly mill.'[66] The plant started producing again

[60] 'Nigercem Loses N0.4m Monthly', *Nigerian Chronicle*, 18/3/80, 12.
[61] 'Nigercem workers vacate premises', *Nigerian Standard*, 10/11/81, 11.
[62] Emmy Irobi, 'Jim explains closure of Nkalagu factory', *The Punch*, 6/3/82, 7.
[63] Federal Ministry of Industries, *Industrial Master Plan Studies: Cement* (April 1991), 24-26.
[64] R.K. Pillai, 'Ukpilla Cement Company – A Problem Child From Its Inception', *Nigerian Observer*, 25/2/72.
[65] 'A Huge Drop in Cement Output', *Daily Times*, 1/2/73.
[66] *Industrial Master Plan Studies: Cement*, 90.

in 1975, and was 'renovated' to increase production in 1978,[67] but at most it was then producing 220,000 TPA, and may well have been producing less.[68] An expansion was commissioned in 1983, but, according to a 1991 government report, the plant was a 'typical State-government-run project which has continued to face managerial, technical and production problems.'[69]

Calabar's factory, Calcemco, was commissioned in 1970 but also faced problems from the start because the factory was so far from its limestone quarry.[70] In 1981 the chairman of Calcemco threatened to shut it down due to problems accessing the quarry. The senior staff association claimed that the machinery was obsolete, and its shareholders 'indifferent', though the government continued to reinvest. Newspapers called Calemco one of the 'sick babies', which continued to attract funding '[w]hen even companies that are wholly-owned by the state government were given only promises, scarce funds were being pumped into the company. The Federal Government, one of four other partners in the venture, is said to have paid up its quota of N800,000'.[71]

Sokoto's cement plant too never operated at its full 100,000 TPA capacity for long during the oil boom because of 'faulty design', and had to be converted from wet process to dry process. According to one report 'the nominal capacity remained elusive because of a poor technical management, lack of spare parts and poor power generation to make for a

[67] Supplement! Ukpilla Cement Co Ltd., *Nigerian Observer*, 28/10/78.
[68] 'Cement factory embarks on big projects', *Daily Express*, 23/6/78, 5; Andrew Isibor, 'N35m Expansion Project Completed', *New Nigerian*, 25/10/78, 3.
[69] *Industrial Master Plan Studies: Cement*, 91.
[70] Ibid., 24-26.
[71] Editorial. 'The Fate of Calcemco', *Nigerian Chronicle*, 17/11/81, 3.

smooth operation'. The original plant had to be abandoned and another one built, but it was never able to operate profitably during the oil boom.[72] Shareholders decided on a plan for 'resuscitation and expansion' of the factory in 1976, and signed a contract in 1979, for which work began late 1980.[73]

The two government cement plants built entirely from scratch towards the end of the oil boom, Ashaka and Benue, seemed to have been somewhat more successful than the initial four government plants. In 1979 Ashaka cement, in Bauchi state, was commissioned with 750,000 TPA capacity.[74] It managed to produce 400,000 TPA in 1979, 700,000 TPA in 1983, and nearly 600,000 TPA in 1985.[75] Production had dropped by 1985 due to the national fiscal crisis 'manifesting in the shortage of raw materials',[76] but a government report called it 'one singular success story of cement production in Nigeria'.[77] The Benue factory too fared better but although it had been established in 1975, by the time it was commissioned in 1981with a capacity of 900,000 TPA, it had just missed the peak of oil boom demand. [78] Over the ten years after commissioning, although production reached a high of over 800,000 tonnes in 1985, it was producing less than 500,000 by 1989 when the whole industry was operating at less than 60% of its installed capacity.[79]

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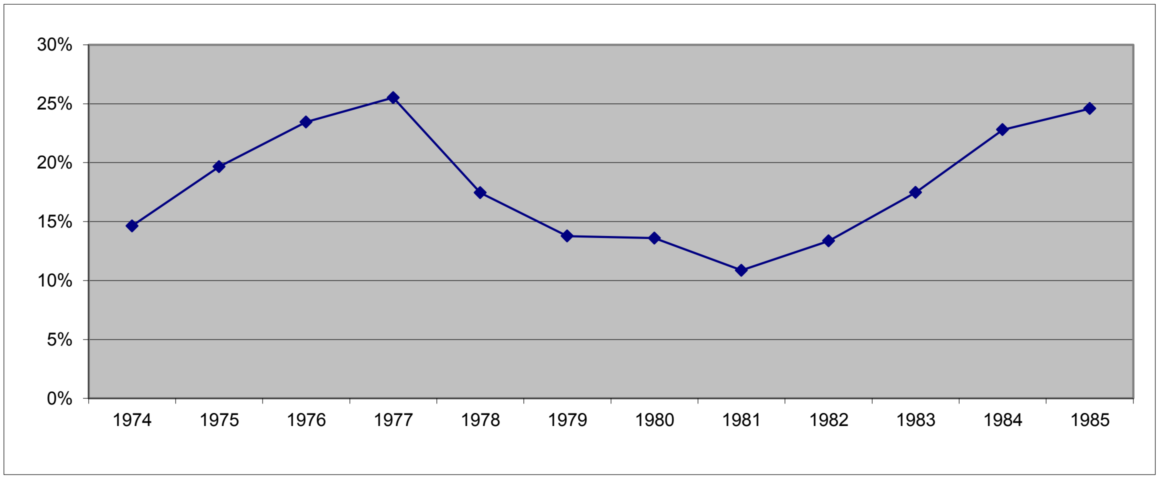
[72] *Industrial Master Plan Studies: Cement*, 24-26.
[73] Gbenga Oguntimehin, 'Federal Govt Signs Loan Agreement', *New Nigerian*, 9/2/80, 13.
[74] Federal Ministry of Information, 'N140m cement works opens tomorrow in Bauchi State', Press Release No. 1096, 18/7/79.
[75] Sara T. Bikton, 'Re-organising Ashaka Cement Company for Greater Productivity', *Daily Times*, 25/7/85, 5.
[76] Ibid.
[77] *Industrial Master Plan Studies: Cement*, 92.
[78] Department of Information, 'President Shehu Commissions Benue Cement Factory', Late Press Release No. 227, Executive Office of the President, 16/2/81.
[79] *Industrial Master Plan Studies: Cement*, 24, 91.

It should be pointed out that regardless of the government ownership or control of individual plants, the operating environment for the domestic cement industry during the oil boom was worsening. Selling prices were government regulated and so cement manufacturers did not always benefit from the high market prices, even as costs grew in this highly inflationary period. In addition, transportation infrastructure and electricity capacity was worsening, and it was increasingly difficult to import key spare parts, including parts for needed generators. The situation for cement companies was perhaps worse than for other manufacturing industries because power cuts damaged the kilns. In 1982 tariffs were placed on cement imports, which had been duty free, improving the competitive position of domestic producers. Despite these challenges, it was mostly due to the negative impact of government involvement in the industry that domestic production of cement in Nigeria went from being a well-run, competitive industry in the 1960s to stagnation and in some cases collapse in the 1970s, in spite of the soaring demand.

The WAPCO pre-tax profit margin in the chart below, which demonstrates the sharp changes in profitability for domestic cement production over the oil boom period for a privately run plant, is a benchmark against which the state plant failures can be compared. Low and declining margins from 1978 to 1981 may be ascribed to cost inflation which was not matched by cement prices increases, but overall the WAPCO profits show just how unnecessary the other cement company failures were.

Table 15: WAPCO pre-tax profit margin 1974-1985



Source: Company annual reports. See Appendix B.

6.3 Steel plants

The Nigerian steel plants are the largest example of planned new construction supply during the oil boom consuming instead of adding to construction supply. In 1979 as part of a major government attempt to create a domestic steel industry, it established the major integrated steel plan of Ajaokuta and five other steel projects: Delta Steel Company in Aladja, the Jos Steel Rolling Mill, Oshogbo Steel Rolling Mill, Katsina Steel Rolling Mill, and the Associated Ores and Mining Company. As an example of the scale of the projects, of the over N2 billion contracted by the construction firm Julius Berger between 1973 and 1980, about N633m was spent on their contracts alone for Ajaokuta and the Delta Steel Company at Aladja, a fraction of total government spending on the plants. Both Ajaokuta and Delta Steel Company plants were ultimately unproductive investments.

The Nigerian government entry into steel production, and its failure, differs from other case studies discussed in this chapter due to the role of the project in Nigerian international diplomacy. This partly explains why the project was allowed to continue despite its evident lack of economic viability. The Nigerian government's displeasure at the positioning of the Western powers during Nigeria's civil war led to the acceptance of Soviet assistance in the Ajaokuta steel project. The integrated steel plant in Ajaokuta was actively planned in the 1960s, but the agreement to build it was signed in 1976, and the completion date was supposed to be 1985. As Gbolahan Alli-Balogun phrased it, '[w]hat started off with a political decision is still being handled as a political project' despite it being clear at the outset that the plant would not economically produce steel if built as planned, due to its technology, raw material needs, and location.[80] The Soviet Union, which provided the technical assistance for the plant, got the $2 billion turnkey contract, and Julius Berger Nigeria, Dumez and Fougerolle-Fougerolle Nigeria shared the infrastructure contracts.[81]

However, problems with the steel plants which could be initially blamed on planning errors, like the cement armada, subsequently became a 'honey pot' which attracted other illegal activity, mostly due to the enormous size of the plants.[82] The completion of the Ajaokuta plant was repeatedly delayed, beginning in 1983, when some contractors slowed and eventually stopped work.[83] According to a 1988 article on the plant, the basic

[80] Gbolahan Alli-Balogun,'Soviet Technical Assistance and Nigeria's Steel Complex', *The Journal of Modern African Studies*, Vol. 26, No. 4 (1988), 633.
[81] Ibid., 631.
[82] Ibid., 633.
[83] Banji Oyelaran-Oyeyinka and O. Adeloye, 'Technological Change and Project Execution in Nigeria: The Case of Ajaokuta Steel Plan', in Osita M. Ogbu, Banji O. Oyeyinka, and Hasa M Mlawa, eds., *Technology*

infrastructure had not yet been finished. Scholars have blamed public officials diverting funds set aside for the civil works for part of this delay, especially during the Shagari administration.[84] The delays caused increased waste as according to one account, over 2,000 potential steel workers were sent abroad to the Soviet Union and India for training, of which 75% did not stay with the company after training as the facilities were not ready for them when they came back.[85] As with other government-run companies, rising costs and delays were caused by a mixture of avoidable errors in design and specification, the apparent result of both negligence and deliberate action, such as the Shagari regime's abandonment of 'zooming' – paying workers different wages based on their skill level – which had the effect of raising labour costs for some workers 196-384%.[86]

By 1991, the steel plants had already cost almost $6 billion.[87] Although the contract for the Delta Steel Company in Aladja was signed in 1977, and it was commissioned in January 1982 to produce iron billets, lack of working capital meant that by the mid-1990s it had never produced at more than a quarter of its planned capacity.[88] By 2000, the Ajaokuta steel plant was still not complete enough for full operation. In 2008 a government concession given to Pramod Mittal's Global Infrastructure Holdings (GIHL)

Policy and Practice in Nigeria (Ottawa, 1995), 290. Found at: http://www.idrc.sg/en/ev-30807-201-1-DO_TOPIC.html. Downloaded 6/8/11.

[84] Oye Ogunbadejo, 'Nigerian-Soviet Relations, 1960-87', *African Affairs*, Vol. 87, No. 346 (1988), 102.

[85] Osita Agbu, *The Iron and Steel Industry and Nigeria's Industrialization: Exploring Cooperation with Japan*, V.R.F. Series, No. 418, March 2007, Institute of Developing Economies, Japan External Trade Organization, 49.

[86] Oyelaran-Oyeyinka and Adeloye, 'Technological Change and Project Execution in Nigeria', 290.

[87] W. Keeling, 'Nigeria's Steel Failure Gets a Place to Hide', *Financial Times*, 28/3/91.

[88] Agbu, *The Iron and Steel Industry and Nigeria's Industrialization'*, 52.

to run the plant in 2005 was cancelled due to accusations of asset stripping, despite the fact that it had, according to newspaper reports, managed to start 'some production'.[89]

6.4 Government construction companies

As they did with other areas of construction supply, the Nigerian government got involved in buying stakes in and managing a number of construction contractors. For example, the public sector companies Road Construction Company of Nigeria and the Nigerian Engineering and Construction Company were set up (as joint ventures with firms from Yugoslavia and Italy)[90] because it was thought that 'since over 60 per cent of development projects involved construction in one form or another, it would benefit the government to engage directly in the construction industry.'[91] Similarly, in October 1974, the South Eastern State Government launched a joint venture construction firm with the Italian firm Italstat.[92] A study of the impact of the indigenization decrees on public sector expansion notes that states used the decrees as an opportunity to acquire companies particularly in northern Nigeria and particularly companies engaged in construction. [93] The failure of these government-owned and controlled contractors was almost complete. As Okigbo has since noted, 'only a very few of them [the state and federal government construction companies] have succeeded, most of them being overburdened with debt and

[89] Matthew Green, 'Nigeria Cancels Steel Plant Sale After Abuses Claim', *Financial Times*, 4/4/2008.
[90] Federal Ministry of Information, 'Federal Military Government Appoints Directors to NECCO and RICCON', News Release No. 745, 9/7/74 (Lagos).
[91] P.N.C. Okigbo, *National Development Planning in Nigeria, 1900-92* (London, 1989), 101.
[92] 'Govt Floats N.5m Building Firm', *Nigerian Chronicle*, 23/10/74, 1.
[93] Thomas J. Biersteker, *Multinationals, the State, and Control of the Nigerian Economy* (Princeton, 1987), 150.

close to bankruptcy.'[94] In late 1975 the Nigerian government appointed an inquiry board into the firm practices of the government-controlled Nigeria Construction and Furniture Company (NCFC) for the period 1970 to 1975, because sales and contracts had been increasing while at the same time profits were suspiciously decreasing. [95] The report of the inquiry, based on about 40 interviews and 100 documented statements, left behind a detailed view of the company's history during the early years of the oil boom, and gives unique insight into how state resources were used in construction and other industries, and is the primary source for the account given below.[96]

NCFC was founded in 1960 by the Eastern Nigerian Development Company and the Israeli company Solel-Boneh Overseas and Harbour Works Company Limited as a building and civil engineering contractor and furniture manufacturer.[97] It became an 'indigenous' company in 1967 and was based in the city of Enugu in eastern Nigeria.[98] It had recommenced operations after the war by April 1970, and worked on major projects including the reconstruction of Government House and Parliament Building in Enugu, bridges, roads, houses, a Shell-BP Camp in Oguta, a hospital, and university buildings.[99]

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[94] Okigbo, *National Development Planning in Nigeria*, 101.
[95] East-Central State (Nigeria), *Report of Administrative Board of Inquiry into the Nigeria Construction and Furniture Company Limited From 1970 to 30 November, 1975*, Official Document No. 1 of 1976 (Enugu, 1976), 1-2.
[96] Ibid., 2.
[97] Ibid.
[98] Ibid., 3.
[99] Ibid., 3.

Table 16: NCFC civil engineering financial data

Naira	March 31 YE	Jan 15 70- 1971	1972	1973	1974
Civil Engineering Construction					
Value of Work Executed		579,128	1,541,720	2,774,658	4,413,136
	Growth		166%	80%	59%
Contracting Profit before overheads		158,250	186,622	249,411	482,827
	% of work done	27%	12%	9%	11%
Profit after overheads		41,853	95,122	21,438	68,139
	% of work done	7%	6%	1%	2%
Expenses		**Period To 1971**			
Cost of Materials		176,153	620,542	1,142,125	1,777,288
	% of work done	30%	40%	41%	40%
Cost of Wages		107,808	374,512	608,832	882,178
	% of work done	19%	24%	22%	20%
Subcontracting Expenses		94,760	198,815	391,776	599,538
	% of work done	16%	13%	14%	14%

Source: *Report of Administrative Board of Inquiry into the Nigeria Construction and Furniture Company*, 10.
Note: March 31 year end. 1971 value of work executed and contracting profit is for the period Jan 15 1970-March 31 1971. 1971 expenses represent the 'period to 1971'.

The financial statements of the company show some of the problems in the business. Interestingly, wages were consistently about 20% of work done, whereas materials jump from 30% of sales in 1971 to ~40% in 1972-1974. Most importantly, profit after overheads fell from 7% of sales in 1971 to 1-2% in 1973-1974. Comparable average civil engineering profit for the industry was guessed to be about 20%.[100] The inquiry showed that the company was experiencing problems in five areas, detailed below.

First, there were increasing (apparently unauthorized) 'public relations' (PR) payments. In Nigeria 'PR' money is commonly understood to be a cash payment for an illegal or under the table transaction, normally in exchange for securing a contract. Furniture debts owed to the company were at times converted into PR payments, which appeared to the board of inquiry to be examples of fraud. Company PR consultant Chief Moses Obiekwe was appointed by the board on a fixed fee of N360 per year plus expenses. Instead, over

[100] Ibid., 10.

several years he was paid N170,850.[101] Similarly Alhaji Ibrahim Iman was paid N123,500. Iman's agent said that this was 2-3% of the value of the contracts he helped to secure, and that the percentages were approved by the highest levels of company management.[102] Houses were also built for officials of the previous government. According to the inquiry '[t]hese "favours" to persons in offices, and lapses in control contributed to a great extent in the Company not realizing its objectives of making reasonable profits.'[103] Other members of staff also spent very large amounts on PR. The role of the public relations consultants 'included getting information from confidential secretaries of institutions concerned with award of contracts in breach of their oath of secrecy.'[104] The marketing manager admitted he was paying bribes to get contracts, despite the fact that government construction contracts threatened that discovery of bribes would result in cancellation of the project, deletion from the contractor list and potential legal action.[105]

What is perhaps most striking about the way PR was described by the staff is that the expected notions of 'right' and 'wrong' when applied to this illegal activity either did not apply, or applied in reverse. The inquiry recorded that '[b]oth Chief Obiekwe and Chief Ladejo [Iman's agent] considered it a huge joke that they were being asked to account for the money [their fees]'. In an example of astonishing irony, when asked to name those in

[101] Ibid., 19.
[102] Ibid.
[103] Ibid., 10.
[104] Ibid., 19.
[105] Ibid., 20.

the company with whom he had agreed to share his fees, Ladejo claimed that he couldn't as this would be a 'breach of faith'.[106]

Second, employees, and in particular management, were paying themselves in multiple formal and informal ways. This was often through the discounted purchase of company products, sometimes at below cost prices, which was draining the company of money. Managers built homes and offices for themselves and bought company products at below market prices. At a 1971 board meeting the discount limit for company officers on furniture was set at 15%, except for members of the board, which was to be decided by the general manager. These discounts often turned out to be 50%.[107] Management claimed that the discounts were in some cases at cost and that they were advertising company products.[108] In costing for staff housing contracts overheads were not included in calculating prices. Staff also built without showing evidence of sufficient funding to pay for the project. Some of the company's declining profit was attributable to poorly costed contracts for employees and 'in their Report of 1974, the external auditors Messrs Akintola Williams and Co., commented on the alarming increase in the cost of contracts, and pointed out that some of the contracts affected included those for work done for the staff of the Company.'[109] The former chairman of the company had a house constructed at a price quoted as the 'barest minimum' building cost without overhead costs and electrical work and which eventually cost much more. The CEO charged him just N20,000 despite it costing the company N74,044 to build. [110] At times this became blatant

[106] Ibid., 19.
[107] Ibid., 6.
[108] Ibid.
[109] Ibid., 10.
[110] Ibid., 12-13.

theft. The former factory manager, asked to resign, was ‘diverting some of the Company’s properties to his own private [furniture] company.’ [111]

Related party transactions were an avenue of abuse by boards members in particular. In some cases board members got paid an advance for undone work, when the company had many outstanding trade debts. One board member supplied substandard gravel to the company but was paid for standard gravel. [112]

Third, there were major lapses in accounting and record keeping, despite the existence of an accounts department. The accounts department was supposed to make monthly reports on all outstanding contracts and pursue unpaid debts. It did neither. The report makes excuses for them, for instance: ‘because of the nature of the accommodation available to the Company it was not possible for the accounts department to carry out effectively some of its duties.’ [113] The Board of Inquiry let the company off by stating: ‘[w]e observe that the department is not experiencing the impact of the expertise of the three qualified accountants recruited in the last two years. The financial records are not up to date as would be expected.’[114] When the company agreed to supply monthly statements, these were never produced. Much higher sums were therefore spent than the agreed prices. In other contracts there were no bills of contracts. The company ‘maintained no budgetary control and financial cash flow which would help to detect where a job was in fact being undertaken a big loss…most of the major contracts undertaken by the Company were

[111] Ibid., 22.
[112] Ibid., 7.
[113] Ibid., 8.
[114] Ibid., 8.

executed at a loss.'[115] Huge debts were owed to the company in both its construction and furniture businesses.

Fourth, generally goods were improperly priced. Furniture was deliberately sold almost at factory cost, with no provision for overheads. The company focused on the high end of the market. The report notes 'the cost of sales promotion had increased annually without a commensurate increase in sales orders. The policy of marking up selling prices with the value of illegal payments alleged to be made to intermediaries led to selling at exorbitant prices'.[116]

Fifth, materials and capital expenditure were purchased improperly. There were allegations that equipment money was poorly spent. The general manager spent the money and according to the report was wrong in 'not adhering to the adverse report of his Plants Superintendent'. [117] In 1972 he bought four scrapers at N14,440 per scraper, for the Enugu airport project. They only worked for a few weeks. [118] The report notes 'it did not appear that the General Manager made sufficient effort to ensure that spare parts for the maintenance of these scrapers have been assured.'[119] Three scrapers had to be cannibalized to allow one to keep working. [120]

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[115] Ibid., 14.
[116] Ibid., 11.
[117] Ibid., 12.
[118] Ibid., 11.
[119] Ibid., 12.
[120] Ibid., 11.

What happened at the Nigeria Construction and Furniture Company was not an isolated or extreme case. What is apparent is not incompetence of employees and board members, but skilful management of the company by some to make profit for themselves and their contacts, not shareholders (the government in this case). They did this with impunity and in some cases openly. This phenomenon was so widespread that it cannot be viewed simply as stealing, though there is no doubt that in some cases that was the situation. This state construction company and others like it contributed to the ghost supply of the period, as well as leaked away government resources which could have been used for construction and other productive projects.

6.5 Land nationalisation

In addition to its participation in the construction market, the government also got involved in the land market, partly to facilitate its planned development projects. Over 1977 and 1978 the government finalized legislation which gave it ultimate ownership of all land. The Land Use Decree of 1978 was also at least nominally intended to make private acquisition of land easier and cheaper, especially in the south of the country where there were many conflicting claims to land plots. In practical terms this meant that the government could more easily compensate existing owners and occupiers at less than market rates when it wanted land for building projects. It facilitated land development and construction somewhat for government, but not generally for the private sector. The negative impact of government attempts at land nationalisation on private industry during the 1970s can be seen in the following case study of the Agbara estate.

A dispute over a new industrial estate at Agbara, just outside of Lagos, which lasted from 1974 to 1977 is representative of both government claims on previously privately held land and government participation in private industry. While the Agbara dispute was over before the Land Use Decree took effect, it shows how government authority over land use at times slowed down private sector and industrial building, by delaying permits and certificates of occupancy, etc, until a settlement could be negotiated. Forrest mentioned a controversy over the Agbara estate in his profile of Chief Adeyemi Lawson, but offers no further examination of the incident. [121] This case study is based on documents from Godwin and Hopwood, the main architects employed by the Agbara estate's developers, Lawsons & Co., during the period of the dispute. While the legal issues under contention are not examined here, a brief examination of the costs and processes of the dispute offer insight into the expense, time delay and instability that government interference in the land market caused in the 1970s.[122]

Chief Adeyemi Lawson bought up parcels of agricultural land about 20 miles west of Lagos near the village of Agbara to put together a 2,200 acre estate. His intention was to provide the framework for buildings and utilities and rent plots to major industrial companies for factories and offices.[123] Eventually the list of companies that submitted designs for buildings on the estate to the town planning authorities included John Holt, Standard Bank, Metal Box Toyo Glass, Associated Breweries, Johnson & Johnson, and a

[121] Tom Forrest, *The Makers and Making of Nigerian Private Enterprise* (Ibadan, 1995), 93.
[122] GH Archive Job 497, Boxes 370.
[123] Draft preliminary feasibility study by Godwin and Hopwood, date unknown, GH Archive Job 497, Boxes 370-381.

number of others.[124]

In February 1976 Ogun State was created out of the former Western State, and the new Ogun State Government (OGSG) decided to acquire 'a large parcel of land at Agbara' which included Lawson's estate.[125] In August 1977 representatives of the industrial tenant companies at Agbara met to discuss the resulting problems and 'explore possibility of whether an approach by the Industrialists to OGSG would stand a chance of eliciting the type of decision that the Industrialists (and Developers) desire.'[126] Government officials were impressed at the progress on the estate, and made it was clear that the outcome would come from one of three options: Lawsons & Co would keep the estate, OGSG would 'acquire' the estate, or OGSG would acquire it and lease it to Lawsons & Co for continued use as an industrial estate.[127]

By October 1977 OGSG was advertising directly in the newspapers for industrial, commercial and residential tenants for Agbara, attempting to cut Lawson's company out of the development, writing: 'The Government of Ogun State of Nigeria in pursuance of its development programme intends to allocate on leasehold or rental basis to suitable applicant plots of land at Agbara…Allocations will not be transferable and will be made only to bona fide developers.'[128] In the same month the architects were commiserating with the developer, Chief Lawson, on his expected loss of the estate:

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[124] GH Archive Job 497, Boxes 370-381.
[125] Notes from informal meeting of Agbara tenants, 29/8/77 [date unclear], GH Archive Job 497, Boxes 370-381, GH Archive Job 497, Boxes 370-381.
[126] Ibid.
[127] Ibid.
[128] Newspaper clipping, 3/10/77, GH Archive.

> I can only add my personal sympathy for the extremely worrying time you must be having at the time and hope that a way will be found out of the present impasse and that reason will prevail and a just solution found. In the meantime however, I realize that a strategy must be worked out on the assumption that the final ruling will be against the Estate.[129]

Not only was Lawsons & Co in danger of losing the estate, but those involved had already incurred significant costs. The architects noted that N250,000 of materials had already been ordered and 'the contractor intends to cancel all materials which have not yet been shipped and also to re-allocate supervisory staff if possible to other projects in Nigeria.…We have also stopped all work on Agbara Estate in the office with effect from September 30th 1977.'[130] Because of the conflict, development permits were delayed for at least 9 months, and caused the estate to lose a number of industrial clients who 'unfortunately turned away from Ogun State to other areas where the very high standards of developments planned are being eagerly welcomed'.[131]

The Ogun State Ministry of Justice was involved by December 1977[132] and by early 1978 negotiations finally resulted in Lawsons & Co receiving only about half of the original plot.[133]

The effect of the Land Use Decree and associated attempts to nationalise land were not uniformly negative for the ability of the private sector to build; they disproportionately

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[129] Letter from Godwin and Hopwood to Chief Lawson, Lawson & Company, Lagos, 10/10/77, GH Archive Job 497, Boxes 370-381, GH Archive Job 497, Boxes 370-381.
[130] Letter from Godwin and Hopwood to Chief Lawson, Lawson & Company, Lagos, 24/10/77, GH Archive Job 497, Boxes 370-381, GH Archive Job 497, Boxes 370-381.
[131] Letter from Godwin and Hopwood to Chief Planning Officer, Ogun State, 19/1/78, GH Archive Job 497, Boxes 370-381.
[132] Letter from Solicitor General and Permanent Secretary, Ministry of Justice, Ogun State to Lawson & Co, 23/12/77, GH Archive Job 497, Boxes 370-381.
[133] Letter from A.O. Lawson, Lawsons & Co. Ltd to Godwin and Hopwood, 15/2/78, GH Archive Job 497, Boxes 370-381.

hurt the organized industrial sector. Modupe Omirin used field surveys used to evaluate the impact of the Land Use Decree in private low income housing Lagos, and she found overall few major practical differences for private low income building resulting from the decree, although by making private land transactions illegal without governor approval, it made illegal much of what had previously been and continued to be a popular form of land acquisition.[134]

Conclusion

While it can be argued that some of the problems illustrated in these case studies were caused by non-ghost factors, such as bad luck or innocent planning errors, they all have elements of deliberate misspending of public funds in order to benefit non-public agendas. What is most important about this chapter is not any single scandal or unproductive investment case study, but the impact of all of these cases in their totality. They show that the various nominal efforts of the Nigerian government to increase the supply of construction inputs during the oil boom were an unmitigated failure. Just as Chapter Four demonstrated that capital projects were used for political and other ends, which resulted in 'ghost' demand for construction, this chapter shows that attempts to supply the inputs for capital projects suffered from the same fate. Government-controlled supply of construction existed in theory and in planning documents but not in the real construction market, where it might have helped reduce the price of construction, which was escalating rapidly and will be analysed in the next chapter.

[134] Modupe Mononke Omirin, 'Land for Private Low Income Housing: An Evaluation of the Effect of Land Nationalisation Policy in Lagos Metropolitan Area, 1968-1988', PhD thesis, Queens College, University of Cambridge (1991), 113, 202.

CHAPTER SEVEN: The Boom Price of Construction

> It is interesting to watch the progress of civil engineering works in Lagos and to speculate on the labour rates being paid for long hours, night shifts and Sunday working. The incentives must be extremely high and Government must be paying. The work is being done but with a total effect of the building industry of imbalance which leaves the Building Owner in the private sector in grave difficulties.
>
> Gillian Hopwood, 'Building Costs in Nigeria', May 1977, 4, GH Archive.
> Partly published under 'Nigeria, Building in a Boom Economy', RIBA Journal (1981).

Introduction

The oil boom coincided with high inflation: between 1975 and1985, inflation in Nigeria nearly doubled from its 1965-1975 average of 10% to 18%, more than four times that of its trading partners.[1] Scholars, applying Dutch disease theory, reasonably expect the price of construction to outpace even high overall inflation during an oil boom because unlike tradable goods, which can be imported at world market prices, construction needs to be produced domestically and is likely to experience at least initial bottlenecks in local supply.[2] This chapter examines how well the level and drivers of construction price in Nigeria fit this expectation. It aims to shed light on market coordination and to demonstrate how construction prices affected both construction trends and the wider economy.

[1] Gary G. Moser, 'The Main Determinants of Inflation in Nigeria', International Monetary Fund, *IMF Staff Papers*, Vol. 42, No. 2 (1995), 270.
[2] Fidel Ezeala-Harrison, 'Structural Re-Adjustment in Nigeria: Diagnosis of a Severe Dutch Disease Syndrome', *American Journal of Economics and Sociology*, Vol. 52, No. 2 (1993), 199-200.

Relative to their 1970 levels, construction prices did outpace the CPI for the entire decade of the 1970s. However, as with other aspects of the construction industry in Nigeria during this period, unexpected events and processes played a major role, exaggerating naturally occurring bottlenecks and diluting the impact of external sector supply. In contrast to the expectations of Dutch disease theory, the biggest bottleneck to increasing the supply of construction was its 'tradable' component, not its domestic production.

The price of the non-tradable components of construction, namely contracting capacity and labour, did rise initially as expected, but the most significant shortage in the industry was the supply of construction materials. In the 1970s materials were the largest component of the cost of construction. Materials were theoretically both domestically produced and imported, but due to the cement armada-induced port congestion and the deterioration of the government-controlled portion of domestic cement production, in practice the major construction materials were neither tradable nor significantly domestically produced for much of the decade. In the mid-1970s cement prices doubled in nominal terms and went up over three times in real terms. Real cement prices only fell when in 1977 and 1978 the new port of Tin Can Island eased port congestion and major new cement production capacity came on-line. This allowed the de-coupling of the tradable and non-tradable components of construction prices. When the price of contracting capacity also fell around 1978-1979 this was driven by a mini-crash in public sector demand, not by a general easing of an industry-wide supply bottleneck.

The price trends described in this chapter had important implications for the Nigerian economy. They demonstrate a major conflict of interest during the 1970s between the public and private sectors, as both fought over the same scarce building inputs. This chapter argues that it was partly this public sector crowding out which caused the dominance of the public sector of the during building and construction boom from 1973 until 1977-1978 demonstrated in Chapter Five. It argues that what allowed the private sector to participate in building when it did was not just the 'delayed accumulation' pattern described by earlier scholars, but was also the easing of construction prices. Construction price trends also inform a major scholarly debate about the impact of the building boom on the agriculture, until the oil boom the country's largest industry.

7.1 Construction price index and supply curve

Price index

Collecting historical construction price data in Nigeria is not straightforward, and as with other price series shown in this thesis, a collection of sources are collected and compared in order to derive the most accurate series. This section combines three historical sources of building cost trends to compile a single construction price index. The first source is a paper written by Gillian Hopwood, dated May 1977, which includes an index of building costs to the employer in Nigeria and in the UK from 1969-1976. Hopwood co-founded her architecture practice in Nigeria in 1955, based in Lagos but with offices during the oil boom period across the country. In the late 1970s, she was amongst the best positioned to reflect on long-term building costs trend from first hand observation. She notes that the

Nigerian pattern shown in the chart below is a reflection of local conditions, not African ones since '[a]s a general observation the trend [in Ghana and Sierra Leone]…has been similar to that in the UK.' She also noted a pause in construction inflation from October 1975, 'a marked slowing down in the rate of increase and is estimated to be approximately +1.5% per month – not compounded.'[3]

Table 17: Comparison of UK and Nigerian building costs 1969-1976

		UK	Annual Increase	Nigeria	Annual Increase
01 October	**1969**	100		100	
	1970	109	9%	124	24%
	1971	123	13%	140	13%
	1972	142	15%	156	11%
	1973	187	32%	205	31%
	1974	207	11%	242	18%
	1975	217	5%	410	69%
	1976	249	15%	482	18%

Source: Hopwood, 'Building Costs in Nigeria', 10.
Note: Data is assumed to be annual according to a December year end.

The second source is a government ministerial committee report published in 1981 set up to investigate the cause of escalating construction contracts costs. It found that construction costs in Nigeria were twice as expensive as similar contracts in Kenya and even 1.2 times higher than contracts in oil-rich Algeria.[4] Their analysis included the construction cost per square meter of 'rank and file' police quarters from 1973-1978, executed through the Federal Ministry of Works. Over time, the premium cost of Nigerian construction compared to other African countries noted by Hopwood and the

[3] Gillian Hopwood, 'Building Costs in Nigeria', May 1977, GH Archive, 10. Partly published under 'Nigeria, Building in a Boom Economy', *RIBA Journal* (1981).
[4] Federal Republic of Nigeria, *Report of the Ministerial Committee on the Causes of the Excessively High Cost of Government Contracts in Nigeria* (Apapa, 1981), 37.

ministerial report was maintained or widened: according to a 1984 report Nigerian contracts were about '200 percent above the all-African average'.[5]

Table 18: Average cost of rank and file quarters for the police force 1973-1978

	Naira/m2	Growth
1973	68	
1974	122	79%
1975	135	11%
1976	164	21%
1977	172	5%
1978	178	3%

Source: *Report of the Ministerial Committee on the Causes of the Excessively High Cost of Government Contracts in Nigeria*, 11.
Note: Based on 27 jobs executed by the Federal Ministry of Works, average cost given per square metre.

The third source is the official data on price levels from the CBN and the Federal Office of Statistics (FOS), and includes the construction sector deflator used in adjusting national accounts and the official CPI.

The chart below combines these three series, each available for incomplete and overlapping parts of the 1970-85 period, into one index, which is then used to deflate construction contract amounts. The composite index uses the Hopwood series from 1970 to 1973, instead of the also available sector deflator, as Hopwood was personally involved with large public and private sector building projects during that period and therefore her data can be considered more reliable. From 1974 to 1978 the survey in the ministerial report is used, as it was specifically designed to measure contract inflation and its sources and sample buildings are given, making it the most reliable of the three series. From 1979 to 1985 the CBN sector deflator is used. The series is missing data for 1981

[5] Michael Watts, 'Introduction', in Michael Watts, ed., *State, Oil and Agriculture in Nigeria* (Berkeley, 1987), 17.

and its 1983 figure appears unreliable in the context of other available evidence, so for those years for lack of a better alternative it is substituted with the accommodation, fuel and light portion of the CBN CPI, as it may be safely assumed to be closer to building costs than general CPI.

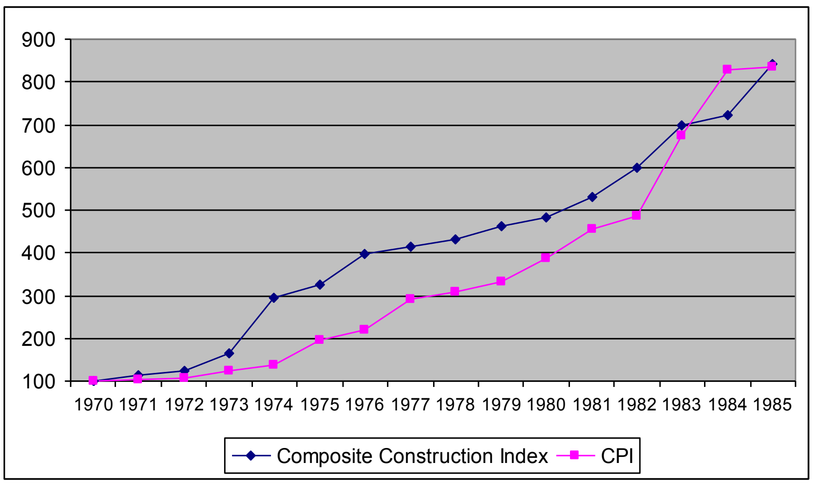
Table 19: Measures of building cost inflation 1970-1985

	Hopwood	Ministerial Report	GDP Sector Deflator	Accom. Fuel and Light CPI	Composite Construction Inflation	Composite Construction Index (base=1970)	CBN CPI (base=1970)
1970	24%		7%		24%	100	100
1971	13%		8%		13%	113	103
1972	11%		3%		11%	125	106
1973	31%		0%		31%	164	125
1974	18%	79%			79%	295	137
1975	69%	11%	-12%		11%	326	197
1976	18%	21%	8%		21%	396	221
1977		5%	-2%	15%	5%	416	290
1978		3%	7%	8%	3%	430	308
1979			7%	24%	7%	462	333
1980			5%	16%	5%	483	387
1981				10%	10%	531	455
1982			12%	6%	12%	598	486
1983			3%	17%	17%	697	675
1984			4%	27%	4%	722	827
1985			17%	8%	17%	842	836

Source: Hopwood: 'Building Costs in Nigeria', 10; Ministerial Report: *Report of the Ministerial Committee on the Causes of the Excessively High Cost of Government Contracts in Nigeria*, 11; GDP sector deflator and CPI (CPI used is year on year, not 12MMA): CBN, unpublished originally prepared for a 50th anniversary publication, CBN Statistics Department (Director, Dr. Sani Doguwa), Abuja, obtained April 2009. Accommodation, fuel and light portion of CPI from the CBN annual reports 1978, 1981, 1982, 1983, 1985 combined urban CPI.

The below graph shows the CPI and the composite construction price index. The widest divergences between the two indices are between 1974 and 1977. From 1977 to 1980, both construction and overall inflation flatten out. While both indices showed sharp increases in 1983, CPI rose much faster than construction prices and by about 1985 both have reached the same level, with prices over eight times the level in 1970. This pattern fits broadly with the conclusion of the 1981 ministerial report, which noted that the first critical turning point of the oil boom for contract prices was 1973, when 'suddenly funds were injected into the economy…contract prices and unit rates sky-rocketted to all time record levels in 1977-78'.[6]

Figure 42: Composite construction index and CPI 1970-1985



Source: See table above.

The oil boom construction supply curve

The relative price of construction in the above chart can be used to construct a construction supply curve, shown below. The y axis shows the unit price level of construction relative to CPI, using 1970 as a base year. The x axis shows relative volume, measured by volumes of cement consumed as a proportion of non-oil GDP (excluding construction). It shows, somewhat surprisingly, that there were two supply curves during the oil boom. The first one, from 1974 to 1976, as expected is upward sloping, with

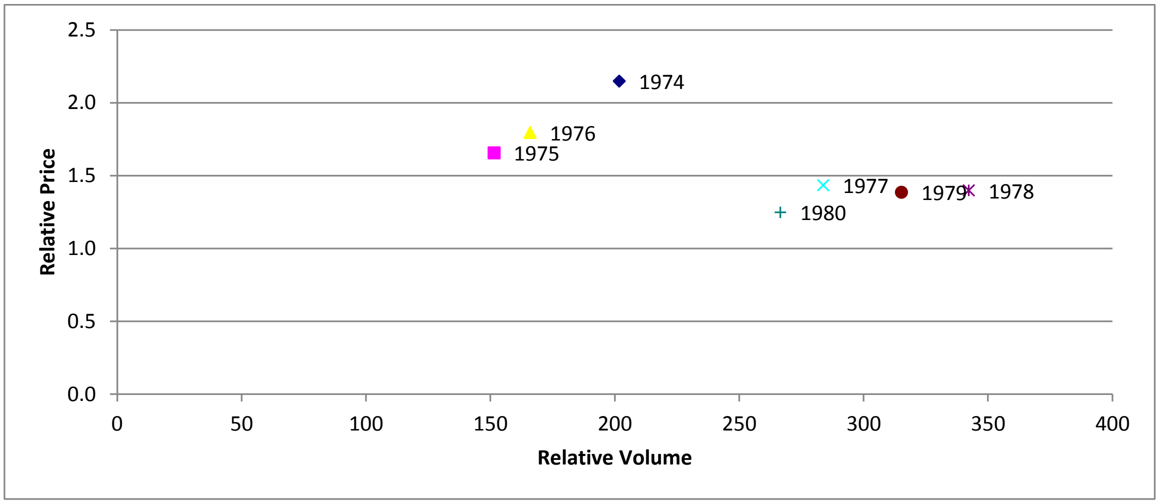
[6] *Report of the Ministerial Committee on the Causes of the Excessively High Cost of Government Contracts in Nigeria*, 11.

prices increasing as supply became increasingly capacity restrained and had more pricing power. The second one, from 1977 to 1980, is shifted to the left and is much flatter than the earlier curve.

How can this shift and flattening of the supply curve be explained? Two major events occurred in 1977-1979 which can be expected to have had a significant price anti-inflationary effect on construction prices. The first was the decongestion of the Lagos port, aided by the building of the new port of Tin Can Island. The second was the increase in cement production caused by the added capacity of WAPCO and the opening of the Ashaka cement plant. It is worth noting that although the cement armada and the port congestion it caused is widely and understandably seen as an example of a failure of a 'big push' investment strategy,[7] the measures taken to decongest the port – the building of Tin Can island and additional berths at the Apapa wharf – while too late to help with building costs for much of the oil boom, may turn out to have had long-term beneficial effects on building prices and prices more generally. There was also a drop in building demand in 1978-1979 which put further downward pressure on prices, but this appears to have occurred after the easing of supply bottlenecks lowered prices of tradable inputs.

[7] Paul Collier, *The Plundered Planet: Why We Must – and How We Can – Manage Nature for Global Prosperity* (New York, 2010), 141.

Table 20: Construction supply curve 1974-1980



Source: Relative price is the composite construction index as a proportion of 12MMA CPI (see Appendix A.1) both indexed to 1970, see table above for sources. Relative volume defined by cement consumption (see Appendix C.6, note 4) as a proportion of non-oil GDP excluding construction, in 1977/78 constant basic prices (see Appendix A.5).

7.2 The price of construction inputs

The components of construction contracts in Nigeria during the oil boom period included, in order of size, materials and labour (both of which would normally be at an industry standard cost), profit and overhead costs (a less transparent segment, managed by the contractor). An additional source of contract inflation was the contract type, which due to the balance of risk in pricing of all components could transfer additional profit to contractors above the normal level of industry contractor profit margin. Many construction contracts informally included a fee which was to be paid to whoever authorized or directed the contract award. These fees have been estimated to be '10,15, 20 and even 25% 'kickbacks' paid to highly placed officials and their agents.'[8] Such

[8] Mohammad Sanusi Abubakar, 'Manufacture and Construction', in M.O. Kayode, and Y.B. Usman, eds., *Nigeria Since Independence: The First Twenty Five Years* (Ibadan, 1989), 96.

payments could have been included in contractor profit, or been accounted for as a 'public relations' (PR) expense, and may have been included in company (and not contract) overheads costs. These fees were contract-specific and although potentially significant, cannot be disaggregated here. Fluctuations in the price of any of these components would have led to contract inflation or deflation.

Mohammad Abubakar's chart below demonstrates how the structure of construction costs was changing in the period leading up to the oil boom. It is particularly significant that consistently in Nigeria, except for the brief period of the 1960s which saw declines in the real price of cement, construction materials have generally dominated construction costs.

Table 21: Cost structure of the Nigerian construction industry 1957-1976

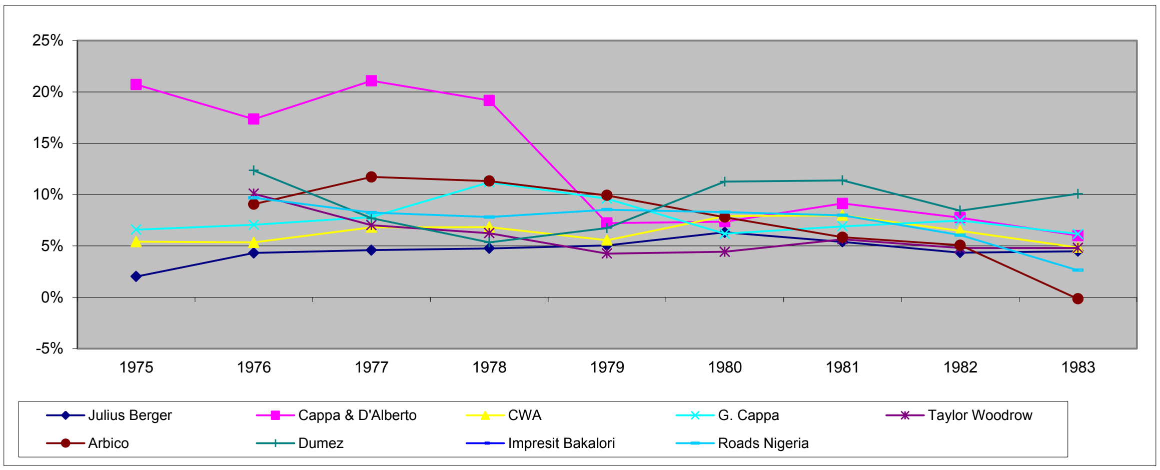
	1957		Africa	1966/67	1973/74	1976
	PWD	Survey	ECA Estimate	Ogumpa	Skoup	FOS
Labour	24%	24%	25-35%	32%	12%	14%
Materials	63%	61%	50-60%	48%	54%	55%
Overheads + Profits	13%	15%	10-20%	20%	34%	32%

Source: Abubakar, 'Manufacture and Construction', 98.
Note: ECA is the Economic Commission for Africa

7.2.1 Contracting supply

The above chart shows that by 1976, the middle of the oil boom period, contracting profits and overheads had doubled as a proportion of construction costs from pre-independence levels. Data from construction companies confirms the trend of the rising 'price' of contracting supply, or construction company profits as a percentage of total contract values. Financial information from the contractors listed on the Nigerian stock exchange, as well as the civil engineer Julius Berger, is available from about 1975. It shows that the high and in many cases growing levels of profits in the 1970s declined in 1979 before partly recovering in 1980 and 1981, but not, for most, to the levels of the 1970s. The rising price of contracting capacity explains part of the construction inflation in the 1970s.

Table 22: The price of construction capacity: pre-tax profit margin 1975-1983



Source: Listed Nigerian construction companies results, including Julius Berger, in stock exchange handbooks and company reports. See Appendix B.
Note: Pre-tax profit margin is pre-tax profit as a percentage of sales.

Can rising relative contracting profits be explained by the bottlenecks to new supply from overseas, as suggested by Dutch disease theory? The evidence suggests that there was a complex series of 'push' and 'pull' forces on new and existing supply, driven as much by politics, policy and international conditions as by the 'natural' bottlenecks expected by Dutch disease.

The oil boom did create, from the early 1970s, a superlative bidding environment for construction contractors and some degree of actual government encouragement towards foreign firms entering Nigeria. Prices were rising as, in the words of the 1981 ministerial report on construction inflation, 'the response in terms of supply of competent construction firms could not meet the rate of contract awards and thus the construction industry became a seller's market', and they reported that foreign firms were colluding when in the same region, or organizing themselves into 'zones' where they did not compete with one another.[9] One source notes 77 new firms entering the construction industry in the early 1970s based on company incorporation data. [10] Hopwood notes that the demand for competent contractors was totally overwhelming supply, creating 'a sellers market where competition has been almost eliminated and where contractors have been able to impose high profit margins and be selective about the work they will undertake'.[11] New foreign contractors brought in on government contracts had mixed results, either completing projects at very high prices, or starting projects without completing them.[12] Between 1970 and 1981 foreign investment in construction increased 24 times, versus 11 times in agriculture and 8 times in manufacturing related industries.[13]

The ministerial report on contract inflation contains analysis into how changing contract types provided another boost to contracting profits, a direct consequence of the supply bottleneck of the resource boom combined with the preoccupation of those with access to government funds with using that access for personal benefit. During the 1970s, because of the speed at which new construction projects were planned and contracted, very little

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[9] *Report of the Ministerial Committee on the Causes of the Excessively High Cost of Government Contracts in Nigeria*, 18.
[10] Thomas J. Biersteker, *Multinationals, the State, and Control of the Nigerian Economy* (Princeton, 1987), 140.
[11] Hopwood, 'Building Costs in Nigeria', 2.
[12] Ibid.
[13] Abubakar, 'Manufacture and Construction', 99.

time was taken to properly research construction costs or designs or conduct feasibility studies before negotiating contracts or putting them out to tender. [14] This resulted in more expensive contracts than would otherwise have been the case. Lump sum contracts were common for building contracts, which were high cost as at times the tender was made before the bills of quantities were available, forcing contractors to bid high to protect themselves against price fluctuations.[15] Single nominated tender contracts – where there was only one bidder – allowed for extra-normal contractor profit. Negotiated contracts, such as the one used for the 1976/1977 port on Tin Can Island, were also expensive as they were generally done before even drawings were done for the project, and so cost information could not be properly researched by the government before the negotiation.[16] Design and construction contracts were used for situations where again the government had insufficient cost data prior to negotiations, and were used for part of the Lagos Inner Ring Road.[17] Even during the late 1970s some construction was still contractor financed, such as part of the Shagamu Benin road.[18] Turnkey contracts, such as Bakalori irrigation scheme, were amongst the most expensive. In the Bakalori scheme, the irrigation of land cost over three times its normal price. [19] Although contracts were most often done under open tendering, more transparent contracts types such as cost plus contracts, with a fixed contractor profit margin, were rarely used.[20]

[14] *Report of the Ministerial Committee on the Causes of the Excessively High Cost of Government Contracts in Nigeria*, 5.
[15] Ibid., 11.
[16] Ibid., 12.
[17] Ibid.
[18] Ibid., 13.
[19] Ibid.
[20] Ibid., 15.

Despite these attractive 'pull' factors which boosted contractor profitability and which should have drawn more contractors to the Nigerian market, government trade and business policy was enacted creating a hostile operating environment for contracting firms, which would have had a 'push' effect on some new and foreign entrants into the industry. The construction industry was listed as a 'Schedule II' activity under the 1972 first Enterprises Promotion Decree, which mandated that Nigerian equity participation be at least 40%, which forced many owners to sell at below market values and discouraged new investment.[21] Shares of CWA were 5.98 times oversubscribed when they listed on the stock exchange.[22] Strict limitations were placed on dividends. It was politically unpopular to award major public sector building contracts to foreign firms, which further distorted the market.

At the same time, the government was using trade policy to manage its fluctuating balance of payment situation. This meant that there was unpredictable access to essential imports, including machinery, spare parts, employee visas, and material imports. Infrastructure, including electricity capacity, did not keep up with industrial requirements. Towards the end of the 1970s, the government cracked down on the formal construction sector in order to limit payments to the ghost construction industry. As was previously mentioned, in 1977 construction companies were targeted for a turnover tax of 2.5%, which replaced normal company tax in the event the turnover tax was a larger

[21] Biersteker, *Multinationals, the State, and Control of the Nigerian Economy*, 87.
[22] Ibid., 102.

amount.[23] It also banned mobilisation fees, often 10-20% of contract values, for some contracts.[24] The government crackdown on building consultants had started even earlier, when in 1974 it tried to force prices down by mandating a Federal Fee Scale, lowering architectural fees from 6% to 4.5%.[25] While all accounts show that many companies did enter Nigeria to participate in the construction market (including some offering contractor finance), these conditions, which were difficult and unwelcoming, placed limits on new entrants and likely prolonged the supply bottleneck. This bottleneck was caused by policy and politics, not by the resource boom.

In addition to local conditions, Nigerian contracting costs were also influenced by international conditions. In the 1950s and 1960s 'global contracting' grew with the rise of 'development planning' in newly decolonised countries, as an international group of construction contractors arrived in emerging economies to provide technical and logistical skill which had not yet been locally developed. The increasing exploitation of oil resources in the Middle East, which accelerated in the early 1970s after the 1973 Yom Kippur War led to general global inflation and the Middle East, Africa, Asia and South America were all affected. It also led to an increase in global demand for construction capacity. Contract values fell in the same regions in the first half of the 1980s, due to lower oil prices and an increasing debt burden, particularly in South America.[26] Nigeria, when oil prices fell, experienced this same oil-driven public sector construction

[23] J.F.E. Ohiorhenuan, 'Nigerian Economic Policy Under the Military', in *The Nigerian Economy under the Military: Nigerian Economic Society Annual Conference, Kano, 30th April-3rd May 1980* (Zaria, 1981), 69.
[24] *Construction in Nigeria*, Vol. 2, No. 5 (1977), 17.
[25] John Godwin and Gillian Hopwood, 'Construction Potential in Nigeria: 2000', *West Africa Committee Journal* (2000), 2.
[26] Paul W. Strassmann and Jill Wells, eds., *The Global Construction Industry: Strategies for Entry, Growth and Survival* (London, 1988), 2-5.

contraction and according to one first hand account, 'the large number of construction companies that had flocked to Nigeria during the boom years…were competing for a diminishing amount of work'.[27]

The cartoon below, published in a construction industry magazine in 1978, demonstrates some of the balance of 'push' and 'pull' factors for foreign construction companies. The reference to agricultural schemes refers to the government's attempts to arrest the decline in agriculture. NEPA refers to Nigeria's unreliable electricity provider. 'Go slow' is a Nigerian term for traffic. It shows that the supply of contractors, and therefore the price of contracting capacity, was the result not just of Dutch disease, but of a series of 'push' and 'pull' factors.

[27] Peter Farrington, 'Costain (West Africa) Plc. A History of the Company 1948-2005, A Personal Narrative', unpublished (2005), 6.

Figure 43: 1978 construction cartoon

Source: A. Angless, *Construction in Nigeria*, Vol.2, No. 2 (1978).

7.2.2 Labour

As with contracting capacity, labour needed to be mostly sourced locally and so can be considered non-tradable, but engineering capacity and some highly skilled labour in some cases had to be imported. Also as with construction capacity, the picture is more complicated than simply local bottlenecks temporarily driving up prices. Although data is scarce, the bulk of labour price inflation seems to have taken place between 1971 and

1974, due to the imposition of two mandatory wage awards, which affected the construction industry as well as industrial and government sectors. These awards dramatically increased the price of building. However, the wage inflation drove overall inflation, making the real wage gains only temporary, and after these awards until about 1978 real construction wages actually fell. From 1978 to 1982 real wage trends for the formal and informal construction sectors diverged; real formal sector wages, which were held up by labour activism, were stable to slightly increasing, while real informal sector wages continued to fall.

Wage awards

As Chapter Three described, urban wage labour, including construction labour, was relatively organized before the oil boom, which laid the foundation for later labour activism. The first award relevant to the oil boom period was the Adebo award, made after a wage review set up in 1970. Wages had not kept up with wartime inflation, and strikes were illegal during the civil war. [28] The commission applied its December 1970 recommendation, which included backdated awards,[29] to both the public and private sector, evoking strong objections from the formal private sector in 1971, and settlements were eventually negotiated with most of the large manufacturing companies and unions.[30] The Adebo awards were followed by a wage freeze.[31]

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[28] Robin Cohen, *Labour and Politics in Nigeria* (London, 1974), 233.
[29] Ibid., 235
[30] Olukunle Iyanda, ed., *The Lagos Chamber of Commerce and Industry and the Nigerian Economy: 1888-1988* (Ibadan, 1989), 76.
[31] K. Awosika, 'Nigeria's Anti-Inflationary Policies in the 1970s', *The Nigerian Economy under the Military: Nigerian Economic Society Annual Conference, Kano, 30th April-3rd May 1980* (Zaria, 1981), 285.

The second wage award was the 1974 Udoji award, which also covered both the public and formal private sector. In the construction sector, the Federation of Building and Civil Engineering Contractors negotiated with the union representatives at the National Joint Industrial Council for the Building and Civil Engineering Industry in Nigeria (NJIC) and the Federal Ministry of Works and Housing in implementing the award. Private employers agreed to the new wage, though the date of the retroactive award was negotiated.[32]

Hopwood observed the Udoji award having such a powerful impact on real wages of construction sector employees that it negatively impacted working habits and 'for 4-5 days after pay day workers are absent. After public holidays workers do not return and on up-country sites it takes 10-14 days to establish proper working after the annual holiday'. In the booming mid-1970s, formal sector workers had so much negotiating power that 'overtime pay is not wanted any more.'[33] Hopwood calculated that the Adebo award and the Udoji award 'increased with cost of site labour by more than 100%', since the backdated agreements filtered through from both the materials manufacturing industry and construction labour. Those two pay deals alone increased the price of building of more 'complex' structures by 65% and simple buildings by 45%.[34] The conditions of large company construction contracts normally allowed for the increased costs of labour to be reimbursed to contractors.[35]

[32] T.A. Adekanmbi, 'In the Beginning', *FOCI in the New Millennium* (Lagos, 1999), 8-9.
[33] Hopwood, 'Building Costs in Nigeria', 4.
[34] Ibid., 1.
[35] *Report of the Ministerial Committee on the Causes of the Excessively High Cost of Government Contracts in Nigeria*, 25.

Labour activism

Falling real wages after the awards spurred more labour activism, as organized labour fought with the government who, after the Udoji awards, tried to contain further wage increases to control inflation. Articles about wage unrest featured prominently in a 1978 issue of *Construction in Nigeria* magazine.[36] Private sector wage increases were capped by the government at 15% for low income workers and 10% for high income workers for 1980-1982. There was continuous agitation for wage increases in urban areas to keep up with the rising cost of living caused in part by limits on food and other imports, which culminated in the General Strike of 1981.[37] Only after the pressure of the General Strike,[38] the 1981 National Minimum Wage Bill set a minimum monthly minimum wage for the entire economy at N125, with an additional housing allowance of N15 and transportation allowance of N10, but there was delayed or noncompliant implementation in parts of both the public and private sectors.[39] A CBN annual report noted that in 1982 there were 30% more trade disputes, eight times the number of workers involved, and four times more man days lost than in 1981.[40] By 1983, when the construction slump was clearly evident, there were fewer industrial disputes – according to some accounts because of the increased 'fear of unemployment'.[41]

Partly due to labour activism, the chart below shows that after 1976 formal construction sector labour costs rose somewhat as a proportion of contracting costs, from 1976 to

[36] *Construction in Nigeria*, Vol.2, No. 2 (1978).
[37] Dafe Otobo, 'The Nigerian General Strike of 1981', *Review of African Political Economy*, No. 22 (1981), 68-69.
[38] Ibid., 71-79.
[39] Central Bank of Nigeria, *Central Bank of Nigeria Annual Report and Statement of Accounts 1981,* 33.
[40] *Central Bank of Nigeria Annual Report and Statement of Accounts 1982,* 30, 31.
[41] *Central Bank of Nigeria Annual Report and Statement of Accounts 1983*, 35.

1981-1983, though this should not be seen as evidence that labour costs were driving construction inflation. At the same time as the proportion of labour costs was increasing, real building material prices and contractor prices were falling, so labour costs might have looked proportionately larger even if they were not keeping up with inflation.

Table 23: Construction survey wages as a percentage of sales by region 1976-1985

	East	North	West	Middle Belt	Total
1976	15%	17%	13%	18%	14%
1977					
1978					
1979					
1980	25%	19%	17%	22%	19%
1981	17%	16%	20%	17%	19%
1982	28%	19%	21%	6%	21%
1983	23%	18%	21%	19%	21%
1984	25%	21%	16%	27%	18%
1985	26%	13%	18%	21%	17%

Source: *Annual Abstract of Statistics 1991*; *Report of Building and Construction Survey 1976*; *Report of Building and Construction Survey 1980*.
Note: East includes states Anambra, Cross River, Imo and Rivers. North includes states Bauchi, Borno, Gongola, Kaduna, Kano, Sokoto. West includes Lagos, Ogun, Oyo, Ondo, Bendel. Middle Belt include states Plateau, Kwara, Benue, Niger. 1976 excludes data from Benue state (which was created in February 1976). For Cross Rivers, the same data for 1984 was given for 1985. The Federal Capital Territory of Abuja was excluded.

However, the impact of organized labour activism differed for the formal and informal construction sectors. Construction employees working for registered firms and whose average annual wage per employee were captured in the survey data in 1976 and 1980-1985, as well as those working for the major contractors of Julius Berger and Cappa and D'Alberto show in the charts below, at least from 1977, stable, if not rising real wages until 1981 and 1982. These employees (admittedly the blended average wages for all employees, including managers and engineers) would likely have been unionized and would have benefitted from government regulation of wages. However, those recorded as labourers, craftsmen and bricklayers, not recorded as regular employees of a construction company and whose labour was likely to be more casual, overall had declining real wages from at least 1975. Even in nominal terms, there clearly was a wage gap between the formal sector and more casual labourers.

Table 24: Nominal construction annual wages (Naira)

	Julius Berger	C&D	Lagos Survey	National Survey	Ondo Bricklayer	Tested Craftsman	Untested Craftsman	Labourer	GH Skilled Labourer	GH Unskilled Labourer
1970									329	280
1971										
1972										
1973										
1974										
1975						2,009	1,461	1,096		
1976			1,000	990		2,192	1,461	1,096		
1977					2,192	2,374	1,644	1,278		
1978		2,275			2,557	2,557	1,826	1,461		
1979		2,636			2,922	2,922	2,192	1,826		
1980		2,888	2,507	2,095	2,922					
1981		3,148	3,567	2,700	3,287					
1982	5,680	4,059	3,846	3,596	3,653					
1983	3,505	3,807	3,761	3,483	4,383					
1984	4,134	3,552	3,720	3,229	4,383					
1985	2,895	3,293	3,258	2,785						

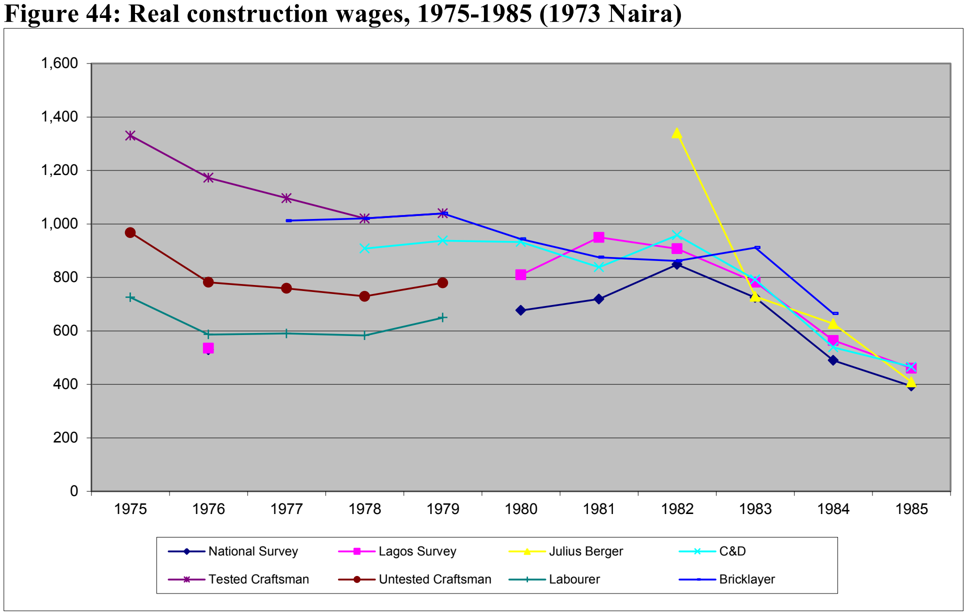
Sources:
Survey data: *Annual Abstract of Statistics 1991*, 211-215; *Report of Building and Construction Survey 1976*, 6-7; *Report of Building and Construction Survey 1980*, 6.
Julius Berger and C&D (Cappa and D'Alberto): Company reports and stock exchange handbooks, see Appendix B.
Tested and untested craftsmen, labourer: 'Cost of materials as it affects property values', *Nigerian Statesman*, 26/3/80, 12.
Bricklayer: T.I. Aduloju, The Effect of the Rising Costs of Building Materials on Housing Programmes in Ondo State, B.Sc. dissertation, Department of Quantity Surveying, University of Ife (1985). Ondo State Ministry of Economic Planning and Statistics, Statistics Division, Akure. As found in *Construction in Nigeria,* Vol. 3, No. 1 (1986).
GH: GH Archive contract files, client: UBA, 4/18/70.

Table 25: Real construction wages, 1970-1985

	Julius Berger	C&D	Lagos Survey	National Survey	Ondo Bricklayer	Tested Craftsman	Untested Craftsman	Labourer	GH Skilled Labourer	GH Unskilled Labourer
1970									400	340
1971										
1972										
1973										
1974										
1975						1,330	968	726		
1976			535	530		1,173	782	586		
1977					1,012	1,097	759	590		
1978		908			1,021	1,021	729	583		
1979		938			1,039	1,039	780	650		
1980		933	809	677	944					
1981		838	950	719	875					
1982	1,340	958	908	849	862					
1983	729	792	782	724	912					
1984	627	539	564	490	665					
1985	409	466	461	394						

Sources: Same as table above. Deflator: Vali Jamal and John Weeks, 'The Vanishing Rural-Urban Gap in Sub-Saharan Africa', *International Labour Review*, Vol. 127, No. 3 (1988), 279. In 1973 Naira, implied deflator of unskilled average wage in Table 2 of article.

Figure 44: Real construction wages, 1975-1985 (1973 Naira)



Source: Same as table above.

The dual construction wage structure

Two pictures emerge. The first is one of skilled and semi-skilled labourers, best able to win jobs in the formal and public sector, who benefitted from regulated and regular wages. There was a shortage of this skilled labour which was bidding up rates in the 1970s. As Hopwood put it '[t]here is a shortage of skilled labour…basic rates in Lagos are being exceeded by 20% - 100%...Nigeria no longer has a cheap labour force'.[42] The second is one of unskilled labourers who dominated the informal small scale construction firms. This two-tier structure is confirmed by the differences in average wages offered by large firms and small firms in the government construction company surveys, though the gap did narrow over time. In 1976 average employee income was N380 for partnerships and N1,124 for limited companies. In 1980 the comparable data was N977 and N2,187.[43] Importantly, however, it is clear that from at least 1975 neither formal nor informal construction wages appear to have been the main driver of relative construction inflation.

7.2.3 Land and building rents

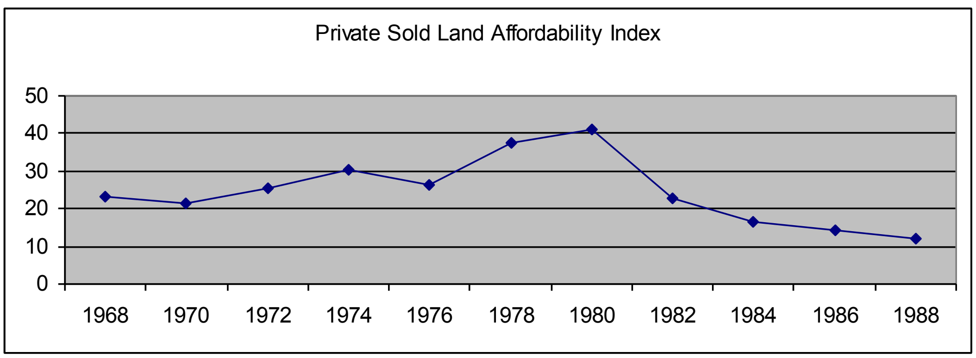
Although not strictly a construction input, affordability of land on which to build and rents of existing buildings were important considerations for both public and private sector building. Though land price data for this period is scarce, there is some evidence for Lagos, the then capital of Nigeria. In her study of Lagos low income housing 1968-1988, Omirin found that the oil boom caused a general 'conducive investment atmosphere', which raised demand for land, first affecting central areas of Lagos and spreading outwards. She wrote that land prices overall increase 5 to 6 times over the oil

[42] Hopwood, 'Building Costs in Nigeria', 5.
[43] Federal Office of Statistics, *Report of Building and Construction Survey 1980*, General Economic Statistics Division (Lagos), 1.

boom period, but notes that 'residential land in the periphery' rose by more and cites one example where between 1965 and 1980 the price of a land plot went up 14 times.[44]

Land prices and rents appear to have followed different trends. Land sales affordability seemed to peak between 1978 and 1980, consistent with the affordability of building materials as will be shown later in this chapter, but land rents appeared to continuously decline in affordability from the late 1960s to the mid-1980s.[45] This may be partly explained by the rising cost of new construction and newly introduced rent controls,[46] which would have limited the development needed for land to be turned into units for rent. Land affordability may also have been impacted by the 1978 Land Use Decree mentioned in Chapter Six, which was designed to ease public sector land acquisition but may have hindered private buyers.

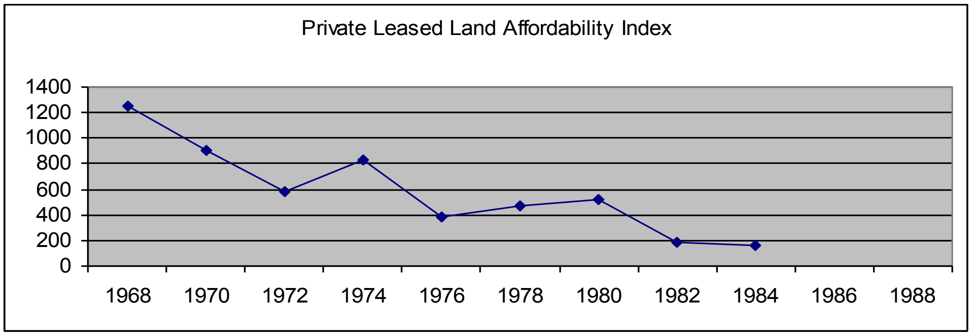
Figure 45: Private sold land affordability index 1968-1988



Source: Omirin, 'Land for Private Low Income Housing', 196.

[44] Modupe Mononke Omirin, 'Land for Private Low Income Housing: An Evaluation of the Effect of Land Nationalisation Policy in Lagos Metropolitan Area, 1968-1988', PhD thesis, Queens College, University of Cambridge (1991), 120.
[45] Ibid., 68-69.
[46] Ibid., 218.

Figure 46: Private leased land affordability index 1968-1988



Source: Omirin, 'Land for Private Low Income Housing', 196.

During the oil boom, financing methods to acquire land diverged for low and high income buyers. For low income buyers, over 1968-1988, Omirin found almost no change in financing methods, with most low-income people using savings and only 2.5-3% using bank facilities.[47] At the same time, for the more well-off, borrow-to-buy-to-let became common. Joseph in 1978 refereed to this method of real estate financing as that used by the 'non-industrial bourgeoisie' in Nigeria for whom '[p]olitical leverage has been used to secure loans from banks, or government agencies, which are used to buy land and to build houses, which are then let at exorbitant rents payable a few years in advance.'[48]

A sample land value survey of two properties from a high end estate agent in Lagos shows lease terms including upfront rent several years in advance. The survey results shown below, which cover the peak to the trough of the oil boom, show rents generally following the trajectory of the oil boom. Property A annual real rent costs decreased from 1979 to 1987. Property B shows an increase in real rents from 1979 to 1983, but a one-

[47] Ibid., 177.
[48] Richard A. Joseph, 'Affluence and Underdevelopment: The Nigerian Experience', *The Journal of Modern African Studies*, Vol. 16, No. 2 (1978), 228.

third decrease in the years of rent required up front, which is unsurprising given the instability in government finances and the cancellation of many government building projects after 1982 at the end of the oil boom. By 1988 Property B annual real rents had fallen below 1979 levels, with no additional years of upfront payment required.

Table 26: Sample Lagos rents 1979-1988

Property A - 5 bedroom detached house plus servant quarters

	Annual Rent	Years of Lease	Years Rent In Advance	Deflated Rent
1979	75,000	3	3	10,098,269
1980				
1981				
1982	80,000	4		7,525,709
1983				
1984				
1985				
1986				
1987	90,000	3		4,017,572
1988				

Property B - 4 bedroom detached house Adeyemo Alkeja, Victoria Island

	Annual Rent	Years of Lease	Years Rent In Advance	Deflated Rent
1979	38,000	3	3	5,116,456
1980				
1981				
1982				
1983	80,000	2	2	6,107,367
1984				
1985				
1986				
1987				
1988	150,000	2	2	4,291,149

Source: Victoria Island, Lagos rents. From the archive of Chief Richard Okafor's Estate Agents, Lagos. In May 2003 Naira, deflated using CBN in Appendix A.1.

7.2.4 Materials

The construction industry's tradable components were most prominently building materials, machinery, and spare parts for both. As with contracting capacity, the price of materials did not behave exactly as Dutch disease theory would have predicted. Building material costs rose much more quickly than world market prices. This was because of trade policy, limited port capacity and problems with domestic production starting with temporary shutdowns during the civil war, all of which limited both imports and domestic production. In effect, the goods which should have been 'tradable' were for some periods neither readily tradable nor domestically produced, which had a hugely inflationary impact on prices. Certain goods also faced specific supply bottlenecks, such as imported bitumen, which was run as a monopoly by its sole supplier the Nigerian Oil and Chemical Marketing Company (NOLCHEM). Bitumen's price/ton rose from N46 in 1973 to N120/ton in 1978, compared to N77/ton in Algeria in 1979.[49]

Trade policy for building materials was actively managed to balance the country's foreign currency shortage with the political goals of enabling government entities to carry out their building programmes and satisfying public demand for low cost building materials, with limited success. Trade policy had a huge impact on the price of materials, and duties were generally eased in the two years after the civil war. They were left stable in 1973[50] but cement and other building materials were made easier to import. This failed to lower prices significantly because a world shortage of cement and the strengthening currencies of some of Nigeria's most significant trading partners led to general price increases.[51]

In 1974, not only was Nigeria experiencing its first full year of a hugely expanded access to foreign currency from the start of the oil boom, but there was also again high worldwide inflation, which was imported into Nigeria.[52] In order to manage inflation, import duties were brought down generally and duties on building materials were reduced by 60%, and excise duties on cement were removed completely.[53] In 1975 the CBN

[49] *Report of the Ministerial Committee on the Causes of the Excessively High Cost of Government Contracts in Nigeria*, 24-25. Prices were rounded up to the nearest Naira.
[50] *Central Bank of Nigeria Annual Report and Statement of Accounts 1973,* 13.
[51] Ibid., 11.
[52] *Central Bank of Nigeria Annual Report and Statement of Accounts 1974,* 13.
[53] Ibid.

listed the major factors affecting prices inflation as oil-derived liquidity in the economy (including the impact of the Udoji wage award) and the generally high price of imports. The government dropped import duties from 50% to a maximum of 20% on those building materials experiencing shortages. As port congestion from the cement armada was already adding to the problem of cement supply bottlenecks, import duties on asbestos and cement were lifted, and cement prices were controlled.[54] In 1978, a year when port congestion eased, a number of items including cement, roofing sheets and other building materials were moved from priced control to resale price maintenance, where the manufacturer and distributors, instead of the government, were responsible for maintaining price levels, which was intended to tackle hoarding.[55]

The civilian President Shagari came to power in 1979, and in fulfilment of a campaign promise he took some measures to make cement more affordable. He resisted the demand for import duties on cement from local manufacturers.[56] Further applications to increase cement prices in 1979 were refused.[57] Exchange controls were relaxed in 1980 to reflect the improvement in the 1979 balance of payments position. The CBN reported that in order to ease federal and state government housing programmes, tariffs on building materials were eased. Building materials including louvre frames, insulated electric wire, plastic pipes, linoleum, ceramic sinks, water closets and others were moved from requiring specific import licenses to only needing general licenses.[58]

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[54] *Central Bank of Nigeria Annual Report and Statement of Accounts 1975,* 19.
[55] *Central Bank of Nigeria Annual Report and Statement of Accounts 1978,* 4.
[56] Department of Information, 'President Shehu Commissions Benue Cement Factory', Late Press Release No. 227, Executive Office of the President, 16/2/81.
[57] Peter Pugh and J.F. Ade Ajayi, *Cementing a Partnership: The Story of WAPCO 1960-90* (Cambridge, 1990), 105.
[58] *Central Bank of Nigeria Annual Report and Statement of Accounts 1980,* 6.

National shortage of foreign exchange led to the Economic Stabilisation Act of 1982 and subsequent related measures, the impact of which scholars including J.K. Onoh have examined in detail. The legislation resulted in a broad list of items requiring licenses before they could be imported. Processing of the 'form M', required from anyone wishing to import an item on the restricted list which then needed to be approved by the Central Bank, and the process of registering the form M, was made more difficult. Importantly for the construction industry, these included cement, asbestos cement pipes, louvre blades, assembled road tractors, nuts and bolts, wall tiles and many other crucial manufactured goods.[59] Many of these goods fell both under import licence and increased import tariffs. Cement import duties (with pressure from the cement industry association) went from 0 to 20%,[60] iron or steel for pipe manufacture went from no duty to 50%.[61] Compulsory cash deposits of 50% of the import value were required for building materials, 25% for spare parts, and 20% for motor vehicles.[62] The lack of spare parts in particular hurt industry as lack of continuous electricity supply meant that all industry had to rely on generators, which needed parts.

The charts below shows price changes in key construction materials from 1976 to 1984. Due to the uneven transportation network across Nigeria's large area, markets were imperfect and prices varied widely between materials and amongst sources. The broad trend is that 1975 to 1977 appear to have been the peak periods of material inflation, for

[59] J.K. Onoh, *The Nigerian Oil Economy* (New York, 1983), 99-100.
[60] Pugh and Ajayi, *Cementing a Partnership*, 114.
[61] J.K. Onoh, *The Nigerian Oil Economy* (New York, 1983), 101.
[62] Ibid., 103.

the key items of cement and roofing sheets. There was then a period of some stabilization until 1981 and 1982, when the austerity measures meant an almost complete halt on imports as foreign exchange transactions were frozen and the government imposed steep tariffs on imported building materials. The earlier peak period of materials inflation matches the peak period for construction capacity profitability, as the two sectors were linked due to the lack of tradability of the tradable sector. When port congestion eased after 1977, the two were delinked, which meant that in 1981 and 1982 material prices spiked, driving the overall rise in contract inflation that occurred with the austerity measures, though contracting profits remained stable.

Table 27: Building material price changes 1976-1984

Percentage Change in Construction Costs	**1976**	**1977**	**1978**	**1979**	**1980**	**1981**	**1982**	**1983**	**1984**	**Source**
Cement/bag	17%	24%	-8%	-8%						Newspaper
Cement (ordinary portland, local) 50kg bag			10%	9%	-15%	18%	50%	17%	5%	Aduloju
Corrugated iron sheets/each 1950mm x 750mm	20%	25%	0%	33%						Newspaper
Star brand galvanised iron sheets (20)			33%	2%	2%	10%	90%	15%	40%	Aduloju
Corrugated asb. sheets/each 1050mm x 2400mm	8%	14%	-6%	7%						Newspaper
Flat asb.ceiling boards/each 1200mm x 1200mm	10%	27%	-14%	0%						Newspaper
Asbestos ceiling sheet 1.2mx9m			11%	0%	7%	9%	14%	20%	4%	Aduloju
Asbestos roofing sheet 1.8mx1.05m			30%	9%	7%	69%	14%	10%	1%	Aduloju
Steel rods/tonne	9%	8%	0%	8%						Newspaper
Reinforcement bars 14mmx9m			-18%	-10%	63%	36%	42%	6%	11%	Aduloju
Reinforcement bars 20mmx9m			-4%	-3%	17%	18%	39%	12%	7%	Aduloju
Sand/m3	8%	8%	7%	0%						Newspaper
Sand, tipper load			20%	39%	12%	7%	7%	9%	14%	Aduloju
Timber/m3	11%	5%	-5%	10%						Newspaper
Timber, plank, 75mmx100mx300mm			-17%	12%	25%	29%	11%	50%	27%	Aduloju
Plywood, sheet, 2.4mmx1.22mmx12mm			25%	23%	19%	14%	14%	12%		Aduloju
Gravel/m3	25%	20%	-8%	0%						Newspaper
Granite chippings, tipper load			25%	20%	33%	7%	3%	2%	4%	Aduloju
Hollow bricks, 100, 230mmx230mmx450m			22%	9%	-8%	27%	21%	6%	11%	Aduloju
Emulsion paint/litre	0%	14%	0%	0%						Newspaper
Gloss paint/litre	0%	25%	0%	0%						Newspaper
Emulsion paint, Berger brand, 4 litres			13%	6%	28%	13%	8%	14%	13%	Aduloju
Gloss paint, Berger brand, 4 litres			17%	5%	32%	10%	13%	11%	0%	Aduloju
Standard plywoods flush doors/each 750mm x 195(	14%	13%	17%	5%						Newspaper
Solid flush door 44mx0.9mmx2.1m			-9%	31%	19%	12%	7%	4%	2%	Aduloju
Solid flush door 44mx0.762mmx2.05m			2%	10%	10%	19%	18%	0%	6%	Aduloju
Metal louvre frames for 8 blades/pair	8%	23%	-31%	9%						Newspaper
8-blade louvre carrier, pair, Naco 1.14m high			-3%	-3%	7%	13%	17%	5%	14%	Aduloju
Plain louvre blades, 6mmx150mmx750mm			10%	45%	13%	150%	33%	33%	-13%	Aduloju
Long glass lourve blade/each 750mm	20%	25%	-20%	25%						Newspaper
PVC Floor tiles/carton	20%	67%	-10%	0%						Newspaper
PVC Floor Tiles, square metres, 225mmx150mmx3mm			12%	7%	25%	7%	31%	7%	11%	Aduloju
Ceramic wall tile/crate 125mm x 150mm	11%	25%	-28%	0%						Newspaper
Mosaic tiles/sheet 19mm x 19mm	0%	25%	-25%	7%						Newspaper
Natural marble slabs/each 300mm x 300mm	0%	25%	-20%	0%						Newspaper
Sheet glass/m2	0%	25%	-25%	7%						Newspaper
Obscure ditto			11%	20%	33%	129%	45%	231%	-74%	Aduloju
White C suite (complete)			24%	19%	11%	6%	4%	4%	6%	Aduloju
White wash hand basin, 625mmx450mm			10%	27%	3%	11%	19%	16%	14%	Aduloju
Mortice lock, set			11%	25%	4%	8%	7%	23%	35%	Aduloju
Standard metal casement/each 1200mm x 1200mn	14%	38%	-36%	14%						Newspaper
Water/barrel	0%	50%	33%	25%						Newspaper
Labour										
Craftsman/day (tested)	9%	8%	8%	14%						Newspaper
Craftsman/day (untested)	0%	13%	11%	20%						Newspaper
Labourer/day	0%	17%	14%	25%						Newspaper
Daily Rate Ondo Bricklayer			17%	14%	0%	13%	11%	20%	0%	Aduloju
Cappa & D'Alberto Average Wage				16%	10%	9%	29%	-6%	-7%	Company data
12MMA Headline Inflation	21%	21%	13%	12%	10%	21%	7%	23%	41%	CBN

Sources:
Newspaper: 'Cost of materials as it affects property values', *Nigerian Statesman*, 26/3/80, 12. Average annual costs, December year end.
Aduloju: Aduloju, 'The Effect of the Rising Costs of Building Materials on Housing Programmes in Ondo State'.
Company data: Annual reports and stock exchange handbooks, see Appendix B.
12MMA headline inflation: Appendix A.1.

7.2.5 Cement

The drivers which pushed the price of cement over the world price of cement were generally similar to the drivers of building material prices more generally, including trade policy, port capacity and problems with domestic production and distribution, as outlined in the previous section. However, the price of cement, which was officially but not very effectively controlled by the government, is discussed here separately from construction materials more generally due to its importance in the construction supply chain.

The pattern of cement consumption from 1970-1985, as noted previously, was shaped by continuous problems with market coordination. Pent up construction demand from the civil war, the need for post war rebuilding and troop demobilisation, and increasing government oil revenues which were channelled into construction, all introduced new sources of demand for cement. However, initially supply was constrained by limited domestic production capacity and limited port capacity to receive imports. Government demand, which often got preference for allocations of locally produced cement before retail consumers, crowded out retail demand and contributed to prices increases.

Cement shortages were a problem throughout the decade of the 1970s. By December 1973 newspapers were complaining that '[t]he general outcry against rising prices in Nigeria continues unabated. Food is getting dearer with each new day, house rents continue to soar'. [63] The picture was generally one of retail building demand constrained by lack of supply and rising prices, and the most able of the cement manufacturers,

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[63] 'Shortage of Cement', Sketch View, *Daily Sketch*, 4/12/73, 3.

WAPCO, was adding capacity as quickly as possible.[64] By one account buildings were collapsing due to 'spreading the available cement too thin.'[65] In 1973 the shortage of cement was hampering the post-war rebuilding effort. According to one newspaper account, people in some areas of eastern Nigeria 'have been unable to rebuild their houses and continue to live in makeshift structures [partially due to the cement shortage]…[o]nly the really affluent now are building houses' and 'most ordinary people cannot afford' the price of cement. But the writer does not blame the government for the price because '[o]ne cannot give what is not available.'[66]

Distributors took advantage of the increase in demand over supply to raise market prices, which reached a real peak in about 1975/1976, shown in the charts below. This explains, at least in part, the reduced level of private sector involvement in the construction market until after price levels started to come down.

Government attempts to artificially control cement prices throughout the 1970s were ineffective at keeping down prices. Supply of imports increased after port capacity was expanded, but domestic production was stagnant at around 1.2m tonnes until 1979. 1979 and 1980 saw reduced demand due to the economic recession, with some recovery in 1981 before facing a decline associated with the country's economic crisis.

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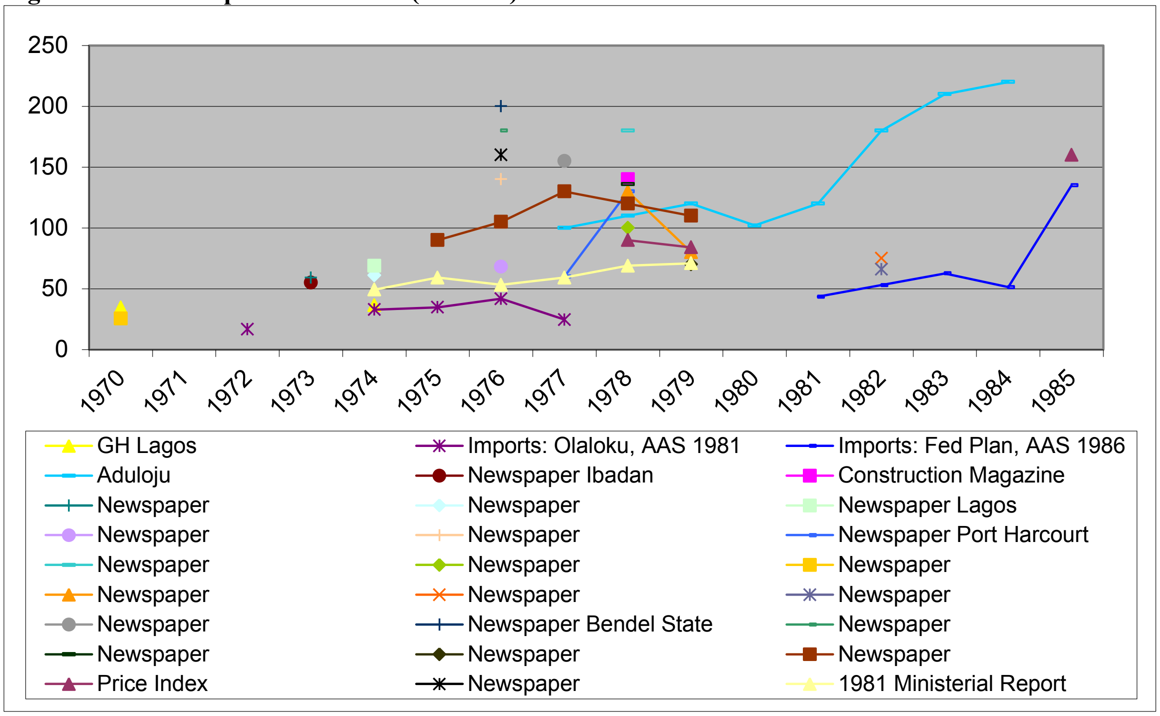
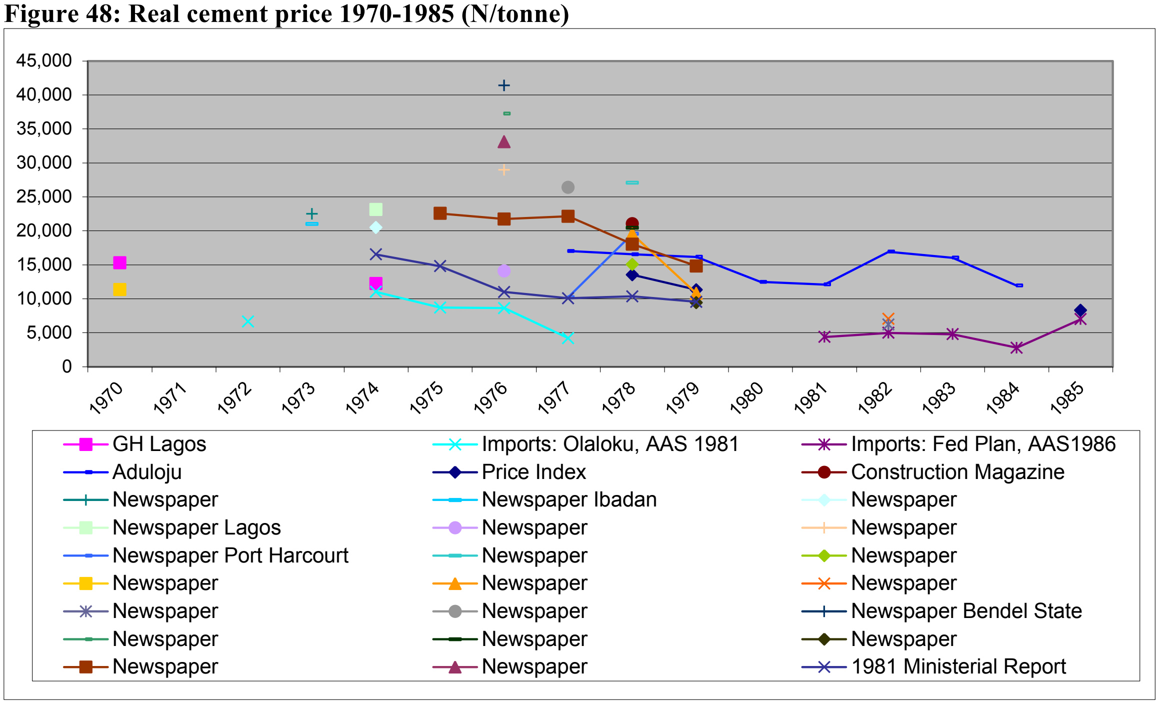
[64] Pugh and Ajayi, *Cementing a Partnership*, 65.
[65] 'Shortage of Cement', Sketch View, *Daily Sketch*, 4/12/73, 3.
[66] 'The Cement Crisis', Editorial, *Renaissance*, 12/9/73, 1.

Figure 47: Cement price 1970-1985 (N/tonne)



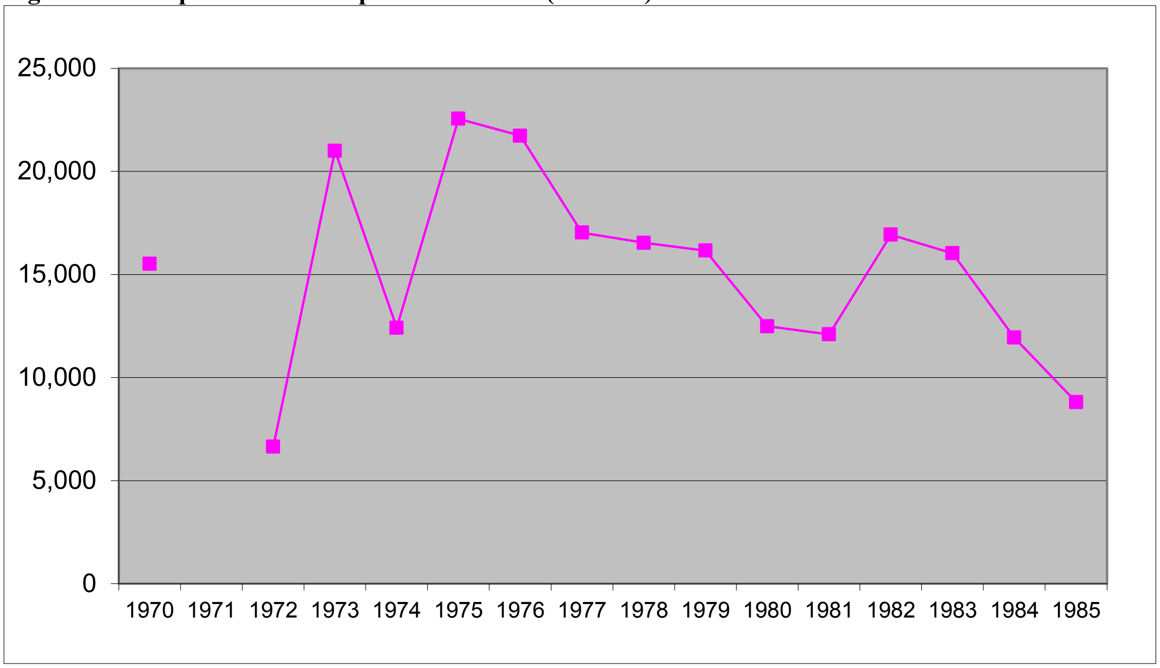
Source: See Appendix C for the source key, and Appendix C.9 for notes.

Figure 48: Real cement price 1970-1985 (N/tonne)



Source: See Appendix C for the source key, and Appendix C.9 for sources for nominal amounts. In May 2003 Naira, deflated by the CBN headline inflation 12MMA in Appendix A.1.

Figure 49: Sample real cement price 1970-1985 (N/tonne)



Source: See Appendix C.10 for sources. In May 2003 Naira, adjusted by CBN 12MMA CPI in Appendix A.1.

Pricing of cement

While the methods of cement price control varied, generally cement was an officially controlled commodity through the oil boom. The government set the ex-factory price of domestically produced cement, and the cement companies had to apply for price increases, for example to keep up with inflation, which were frequently denied. At points the ex-wharf price of imports was also controlled. [67] As market prices for much of the decade were frequently quoted as up to twice the controlled price, there was enormous opportunity for arbitrage between the official and market price, and being an 'official distributor' with access to ex-factory prices was a valuable office, and Nigercem went from having 70 distributors in 1970 to 170 distributors by 1973.[68] In January 1974

[67] 'Cement Prices Fixed', *Nigerian Herald*, 4/1/77, 1.
[68] 'The Cement Crisis', Editorial, *Renaissance*, 12/9/73, 1; Ukachi Ogu, 'Cement Crisis: Nigercem G.M. Speaks Out', *Renaissance*, 10/9/73, 1.

distributors were selling WAPCO cement at N56/ton after buying it at an ex-factory price of N26/ton.[69] In 1976 it was reported 'so many cement factories have sprung up in Enugu alone over the past one month where labourers are engaged night and day re-bagging Nigercem cement in paper weight foreign cement bags only to sell them at Ogbete at N5.40 per bag. The ballot method of selecting sellers has misfired.' [70] In 1976 the Federal Commissioner for Cooperatives and Supply said that the government were considering putting cement under "strict' price control', acknowledging both its scarcity and its high price. For 'many months' it had been selling widely at N7-N8 per bag vs. the 'original' price of N2.60 in Lagos.[71] In 1977 Imo State was reported to have fired 600 cement distributers, feeling that inflation for local products started with distributors.[72] When WAPCO was allowed an official price rise on cement in April 1978, it was its first for three years. [73] Imports, duty free until 1982, provided some competition when they were available.[74]

Official market prices also varied across the country, to take into account transportation costs. 1973 accounts note cement dealers buying at ex-factory prices rebased for a further away location but selling at the factory base price, and 'it is hardly a secret that nearly all accredited cement dealers sell their products at base. In doing so they pass on the transportation cost to customers'.[75] Imperfect cement markets were partly created by the general lack of good roads and easy transportation around the country, factors which

[69] Pugh and Ajayi, *Cementing a Partnership*, 72.
[70] Ejike Ubakanma, 'Nigercem: Ballot System a Failure?', *Daily Star*, 3/9/76.
[71] Ayinde Teniola, 'New Formula on Cement', *Nigerian Herald*, 3/11/76, 1.
[72] Editorial 'Another look at profiteers', *Nigerian Tide*, 9/3/77, 3.
[73] Pugh and Ajayi, *Cementing a Partnership*, 105.
[74] 'Ewekoro – The Success Story', *Daily Sketch*, 4/12/81, 6-8.
[75] 'Price of Cement', Editorial, *Renaissance*, 4/9/73, 3.

made distribution in general a huge business in Nigeria. While describing market conditions as 'very buoyant', in 1973 Nigercem noted a deteriorating transportation system and the subsequent 'inability of the Nigerian Railways to handle deliveries of cement to more distant markets and the poor condition of roads and bridges in the East Central State.'[76]

In 1974 in order to avoid selling to distributors who illegally marked up the price, and to gain more control over the distribution of its cement, WAPCO changed from an 'Authority to Collect' (ATC) system of unscheduled deliveries based on paid vouchers to one of direct delivery, which included transportation cost.[77] WAPCO used the rail network to try to extend its reach to the north of Nigeria.[78] In 1980, it introduced a Cement Voucher System in five ton batches to try and prevent fraudulent pick-ups.[79] Distribution problems did not improve with time. In 1984 a cement racketeering scheme was found at Nigercem, where thousands of bags a day were being taken from the factory without proper papers. A newspaper outlined the scandal:

> authorization notes issued by some officials of the last civilian administration were still being honoured at the factory. Most of the 'coupons' which were issued to party stalwarts and sympathisers are even given preferences above some outstanding coupons which were processed about two years ago. The sources further said that depending on the category of a coupon, "middlemen pay 50k for every bag of cement in the coupon before embarking on the other requirements stipulated in the procedure…[the middlemen] also collude with the sales department of the company…"When a lorry is loaded inside the factory such staff often leave their own contact addresses in town were their own quota would be deposited[.][80]

[76] I.A. Ene, 'The Chairman's Review Nigerian Cement Company Limited', *New Nigerian*, 31/10/73, 10.
[77] 'Ewekoro – The Success Story', *Daily Sketch*, 4/12/81, 6-8.
[78] Ibid.
[79] Ibid.
[80] 'Cement Scandal in Nigercem', *Daily Star*, 3/2/84, 8.

The peak of real cement prices around 1976, and the acute shortages of cement before that peak was reached, played a major role in the late entry of the private sector into the building market, which will be discussed later in this chapter.

Conclusion

During the oil boom, construction inflation experienced distinct phases, led at various points by labour, contracting profits and materials. In 1974, the Udoji wage award significantly increased the cost of building. Contracting costs remained high until demand fell around 1978. Building material prices reached their peak from 1975 to 1977, aided by the cement armada and changes in tariff policy, as well as the deterioration of government-owned cement capacity. The role of expensive ‘tradable’ construction materials in driving up prices is particularly noteworthy, since this is the opposite of what would normally be suspected with the onset of Dutch disease.

7.3 Construction and the wider economy

How did the price of construction affect the wider economy? This section considers two aspects of this question. First, it discusses the relationship between the public and private sectors. This chapter argues that this relationship should be recast as being essentially competitive in the crucial area of building, in which government crowding out is clearly evident. The second, and more controversial, issue concerns the possibility that the construction boom of the 1970s drew labour out of the agricultural sector, contributing to the latter sector’s decline. Evidence from a range of historical sources is presented to demonstrate the possible total size of the construction labour force during the boom and the presence of formerly agricultural labour in the construction sector.

The crowding out debate

The flattening out of total construction prices after 1977 is important because it explains the building and construction patterns shown in Chapter Five: public sector building dominated a building boom from the early 1970s until about 1977, after which the private sector entered the market and kept up the momentum of the building boom until about 1983. The most likely explanation for the delayed entry of the private sector into the construction market was that it would have been more sensitive to the relative construction price inflation and materials shortages which plagued the construction market up until about 1977. The public sector would have been less price sensitive to this inflation because the enormous increase in oil revenues in the 1970s flowed first through to government budgets, before it could make its way to other sectors of the economy. The idea of the public and private sector competing, and in particular competing for construction goods, has not been clearly articulated in the scholarly literature.

Almost all scholarship to date has noted that during the 'long' oil boom of 1974-1978 there was a general expansion of the public sector into industry. Anthony Kirk-Greene and Douglas Rimmer have described the various and changing motivations of Nigerian government expansion into industry as indigenization (local ownership), Nigerianization (local employment) and nationalization for strategic purposes.[81] Forrest, however, wrote that in general state expansion 'scarcely conflicted with strategies of private

[81] Anthony Kirk-Greene and Douglas Rimmer, *Nigeria since 1970* (London, 1981), 100-101.

accumulation, except in a few limited areas (intercity transport, bulk importation of essential commodities, the operations of the commodity boards)'. [82] Although state transportation companies started in the 1970s also competed directly with the private sector, he seems to see this as an exception. [83] In other words, according to Forrest, there was no or limited crowding out of the private sector. Forrest's observation that the state did not compete with the private sector was consistent with the work of Biersteker, who found that the private sector was more important than the state sector in all of the 19 industries he surveyed although 'several strategic industries like oil refining, petrochemicals, and iron and steel were either reserved for future state development or had only a few incorporated companies on stream by 1980.'[84]

Biersteker argued that 'despite the apparent success of the state in reserving the most productive areas of the economy for itself', these were areas that local businesses did not want anyway, being drawn to the easier profits of other sectors, including manufacturing consumer goods. [85] The exception to this conclusion has been the role of the government in buying up labour during the oil boom, which many scholars have noted contributed to the declining performance of Nigerian agriculture, and which will be discussed later in this chapter.[86]

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[82] Tom Forrest, *The Makers and Making of Nigerian Private Enterprise* (Ibadan, 1995), 41.
[83] Ibid., 155.
[84] Biersteker, *Multinationals, the State, and Control of the Nigerian Economy*, 251-252.
[85] Ibid., 281, 253.
[86] Paul Collier, 'Oil shocks and food security in Nigeria', *International Labour Review*, Vol. 127, No. 6 (1988), 773.

The construction price data, both in the relative price indices shown and in the descriptions of individual input prices in earlier sections of this chapter, indicates that in contrast to the existing view of the literature, the Nigerian government did crowd out the private sector during the oil boom, and on a large scale. Competition with the private sector in most cases did not occur directly – the public and private sectors were not always active in the same industries. Rather, the public sector unleashed its enormous demand for building, buying up much of the building materials, available land, contracting capacity and labour in the market, which the private sector needed to operate and grow. This drove up prices and created shortages which sometimes lasted for several years. When the government was building the retail sector couldn't afford to, but as soon as the government sector slowed down its building demand, the private sector moved in with great force, releasing pent up demand from the height of the oil boom.

Did construction pull labour from the countryside?

It is widely agreed that an appreciating Nigerian currency, a by-product of the oil boom, contributed to declining agricultural exports, a widely cited symptom of Dutch disease. Food imports increased dramatically with the oil boom, as Michael Watts and many others have shown, and scholars have generally described domestic food crop production also declining, due to rising urban wages which raised the rural cost of labour and pulled people out of farms into cities. [87] In particular, the urban pull is attributed in large part to an urban construction boom. As Watts put it 'the urban construction boom and the growth of the informal sector siphoned labour (particularly young men) from the rural

[87] Michael J. Watts, 'Agriculture and Oil-Based Accumulation: Stagnation or Transformation?' in Michael Watts, ed., *State, Oil and Agriculture in Nigeria* (Berkeley, 1987), 73-74.

economy…the labour shortage was reflected in high rural wage rates' which contributed to 'the conditions for a short-term profit squeeze in agriculture, especially after 1979.'[88]

Other scholars, including Forrest and Axel Klein, disagreed with this dominant view, and disputed the emphasis on large scale rural urban migration and the decline of domestic food production.[89] Forrest argues that as higher incomes from oil led to an increase in real wages, this would have increased the demand for food and resulted in higher food prices, which would have been a disincentive for people to stop domestic food production. [90] The size and cost of the labour component of Nigeria's construction contracts is therefore a crucial link in explaining patterns of Nigerian employment and wage levels during the oil boom.

Putting construction employment figures into a national context is challenging due to the lack of accurate total population statistics and data about the informal construction sector. The chart below estimates the maximum possible formal sector construction employment from 1976 to 1985. It uses the average sales in Naira per employee from the national government survey, the Lagos government survey, and two major construction firms, Julius Berger and Cappa and D'Alberto. It then takes the government construction gross fixed capital formation (GFCF) estimate and divides it by the average sales per employee from the average of the available series, to estimate total maximum employment. While the construction sales from the national survey are considerably lower than the

[88] Ibid., 74-75.
[89] Axel Klein, 'The Barracuda's Tale: Trawlers, the Informal Sector and a State of Classificatory Disorder off the Nigerian Coast', *Africa: Journal of the International African Institute*, Vol. 69, No.4 (1999).
[90] Tom Forrest, *Politics and Economic Development in Nigeria* (Oxford, 1993), 185.

construction GFCF estimate in the government statistical abstracts, this analysis uses the GCFC estimate in order to arrive at the largest possible number.

Table 28: Implied construction employees 1976-1985

	Total Possible Employees	Sales/Reciepts per Employee ('000 Naira)				
		Total Survey	Lagos Survey	Julius Berger	Cappa & D'Alberto	Average
1976	471,882	7	9			8
1979	434,774			14	8	11
1980	594,969	11	13	17	8	12
1981	364,827	14	18	17	10	15
1982	312,787	17	17	24	15	18
1983	290,196	17	17	19	13	16
1984	135,413	18	23	16	11	17
1985	176,441	16	16	16	12	15

Source: For surveys: *Annual Abstract of Statistics 1991*, 211-215; *Report of Building and Construction Survey 1976*, 6-7; *Report of Building and Construction Survey 1980*, 6. Julius Berger and Cappa and D'Alberto from annual reports and the Lagos Stock Exchange handbooks and factbooks, calanderized for a December year end where necessary, see Appendix B. For total possible employees: construction portion of gross fixed capital formation from the Digest of Statistics, June 1987, divided by the total survey sales ('000 naira)/employee. Survey sales include a nominal amount of non-building and construction sales.

Although data is not available for the years before 1976, the chart shows that construction employment peaked at nearly 600,000 in 1980. In the 1970s Nigeria probably had between 50 and 100 million people, making this number for construction employment seem quite small given the total Nigerian population. In the late 1970s Mabogunje estimated that Lagos had just under 3.5 million people, followed by Ibadan with over one million, and the northern and eastern cities of Kano, Kaduna, Benin and Aba which had about half a million people each.[91]

However, the sales per employee estimates in the above analysis are gathered from the formal sector. The informal sectors may have been more labour intensive and less

[91] A.L. Mabogunje, 'Issues in Nigerian Urbanization', in *Urbanization and Nigerian Economic Development: Proceedings of the 1977 Annual Conference of the Nigerian Economic Society* (Ibadan), 43.

mechanized, making the denominator of the equation smaller and thus result in much higher total employment numbers. In addition, some of the work in the construction sources included in the survey, Julius Berger and Cappa and D'Alberto would be subcontracted out, and thus not reflected in the sales/employee numbers. Also, not all employees even in the formal construction industry would have been formally retained by the construction companies themselves – day labourers and craftsmen could be taken on by the project.[92] Many involved in the construction industry would not show in any recorded way at all, if they were building small-scale homes or commercial residences. Construction workers themselves were supplied by other huge industries which feed, clothe and house workers, industries which rose and fell based on construction and which could have pulled employment out of the countryside.

Most cited estimates of employment in construction are far higher than the figures in the above analysis, but overall estimates vary hugely and none seem wholly reliable. One estimate gives construction employment at just over 1 million from 1960-1966, just over 2 million from 1971-74, and almost half a million in 1985.[93] If correct, this would imply that the above, formal-sector oriented analysis is about 1/4th of actual construction employment. One government report in 1981 noted that '[i]n recent years, the construction industry has been one of the biggest employers of labour'.[94]

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[92] This has been the case in other parts of Africa. Wells and Mlinga have demonstrated the role of the informal sector in supplying labour to the formal sector from their study of the informal construction sector in Tanzania. R.S. Mlinga and Jill Wells, 'Collaboration between formal and informal enterprises in the construction sector in Tanzania', *Habitat International*, Vol. 26, Iss. 2 (2002).

[93] Enwere Dike, *Economic Transformation in Nigeria; Growth, Accumulation and technology* (Zaria, 1991), 85.

[94] *Report of the Ministerial Committee on the Causes of the Excessively High Cost of Government Contracts in Nigeria*, 25.

It was almost certainly one of the largest sources of *wage* employment, though not *total* employment. Between 1965 and 1972 employment in manufacturing (industrial employment) increased from 66,466 to a still-modest 167,626.[95] In the same year another 1.5 million was found to be working in 'commerce, services, and the professions' (services would likely have included construction), and about 750,000 worked for government organizations.[96] According to the same source in total in the mid-1970s wage employment was 'probably no more than three million'.[97] The National Manpower Board at the Federal Ministry of National Planning estimated the total Nigerian labour force at slightly over 29 million in 1975, rising to over 36 million in 1985, of which building and construction was just 0.9% in 1975 rising to 1.2% in 1985.[98] Despite these many estimates suggesting the relative significance of construction, no conclusive picture emerges from construction data as to its total employment, as only the formal sector is reliably represented.

Attractions for agricultural labour

Rural-urban migration occurred in Nigeria during the oil boom – but to what extent was this due to the pull of the construction sector, and how great could this pull have been? Contemporary observers, including Mabogunje wrote extensively about the migration pattern he observed around him:

> any one who has frequented large spanses of our rural areas in the last two decades can[not] come away with any other impression than that of an increasingly impoverished, pauperised, bewildered and despairing rural peasantry…[this] trend in the rural areas is a direct consequence of the pattern

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[95] Mabogunje, 'Issues in Nigerian Urbanization', 42.
[96] Ibid., 44.
[97] Ibid.
[98] Federal Office of Statistics, *Economic and Social Statistics Bulletin (Special Series) January 1984* (Lagos).

> and consequence of the pattern and strategy of urbanization[.]

Mabogunje mentions three contributing factors, the first two 'push' factors and the third a 'pull' factor. First, as raw materials for industrialization were imported, there was no 'backward linkage' with the countryside. Even locally produced cotton and groundnut product substitutes were imported. Second, urban food preference shifted to imported wheat and rice. Third, the high and 'arbitrary' level of the urban minimum wage, with the result that

> farmers have had tremendous difficulty in finding labour for agricultural tasks…there is a massive out-movement from the rural areas especially of the young and virile. This has resulted in the growing agedness of the population in many parts of rural Nigeria with the resultant reduction in rate of cultivated acreage[.][99]

Jamal and Weeks show that rural-urban migration continued in Nigeria through the 1970s and 1980s despite real wages for unskilled workers by the early 1980s falling below 1974-1976 levels (while rural wages were stagnant). They argue that urban incomes increased, but not for 'the great majority of workers…There is little doubt that the "winners" from Nigeria's windfall of oil revenues were the professionals and formal sector entrepreneurs…Falling urban wages and declining or stagnant incomes in the informal sector resulted in an increase in urban poverty'.[100] Michael Watts and Paul Lubeck have also documented falling living standards by the late 1970s, citing occasionally violent industrial disputes and an International Labour Office (ILO) report noting 'a significant deterioration of living conditions among the rural and urban poor since the oil bonanza.' [101]

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[99] Mabogunje, 'Issues in Nigerian Urbanization', 45-47.
[100] Vali Jamal and John Weeks, 'The Vanishing Rural-Urban Gap in Sub-Saharan Africa', *International Labour Review*, Vol, 127, No. 3 (1988), 277-278.
[101] Michael Watts and Paul Lubeck, 'The Popular Classes and the Oil Boom: A Political Economy of Rural and Urban Poverty', in *The Political Economy of Nigeria*, William I. Zartman, ed., (New York, 1983), 106.

The evidence for construction wages in this chapter presents a slightly better picture than the one painted by Jamal and Weeks, in which only 'formal sector entrepreneurs' in cities became better off. For workers who could get a job in the formal construction sector, wages may have been attractive until 1981-1982. However, construction labour without access to regulated wages became much worse off in real terms.

Former farmers, drawn from the countryside, were most likely to end up in the informal sector. Berry in her fieldwork amongst cocoa growing villages in Western Nigeria in 1970-1971 and 1978-1979, was able to compare the labour situation at the beginning and end of the 1970s. She makes no mention of the attractions of the construction sector, which one would have expected if it had been a major driver of migration. She instead refers to 'the tertiary sector', including the civil service and 'small-scale commercial, transport, and artisanal concerns engaged in distributing and maintaining the flood of imported commodities purchased with oil revenues by the state, its employees, and its clients.'[102] This suggests the possibility that large scale industry and the formal construction sector were not the sectors which would have been most accessible to former farmers. Mabogunje, likewise, mentions the professions of 'petty traders but also road-side mechanics, carpenters, furniture-makers, shoe repairers, grain millers, pool agents and myriads of other small-scale, one-man enterprises with which our towns and

[102] Sara Berry, 'Oil and the Disappearing Peasantry: Accumulation, Differentiation, and Underdevelopment in Western Nigeria', in Michael Watts, ed., *State, Oil and Agriculture in Nigeria* (Berkeley, 1987), 202.

cities are littered' as drawing labour from the countryside, but does not mention construction.[103]

Naturally, a certain number of unskilled workers found work in construction, but these tended to be irregular contract jobs, not regular employment such as would be found in the large formal sector construction companies. A study of the Iyaro Employment Centre, Benin City, illustrates how the informal labour market worked and how it interacted with the informal construction sector. The significance of the centre grew in the early 1970s when postwar reconstruction was driving the construction boom. The centre matched up 'numerous petty contractors who could not afford to provide regular employment because of the irregularity of contracts' with 'a large number of young men around Iyaro, most of them displaying bricklayer's tools…it is estimated that around 1,000 young men use these centres every week'.[104] Significantly, none of these jobs were registered and therefore would not appear in any official data collection exercise.

A sample survey of 153 workers from the centre taken in May 1977 showed that 77% had at least a primary six level education. 68% were general labourers, 7% were brick layers, 7% were carpenters, and 6% were painters. Most had started but not finished apprenticeships.[105] The average wage was N4.51 per day in May 1977, a maximum of N1,647 per year, the same as a common labourer. They had worked 3.4 days in the last

[103] Mabogunje, 'Issues in Nigerian Urbanization' 44.
[104] A. Akerele, 'Facing up to Unemployment in Benin City: Job Seekers Make Themselves Sought', in *Urbanization and Nigerian Economic Development: Proceedings of the 1977 Annual Conference of the Nigerian Economic Society* (Ibadan), 114.
[105] Ibid., 115-117.

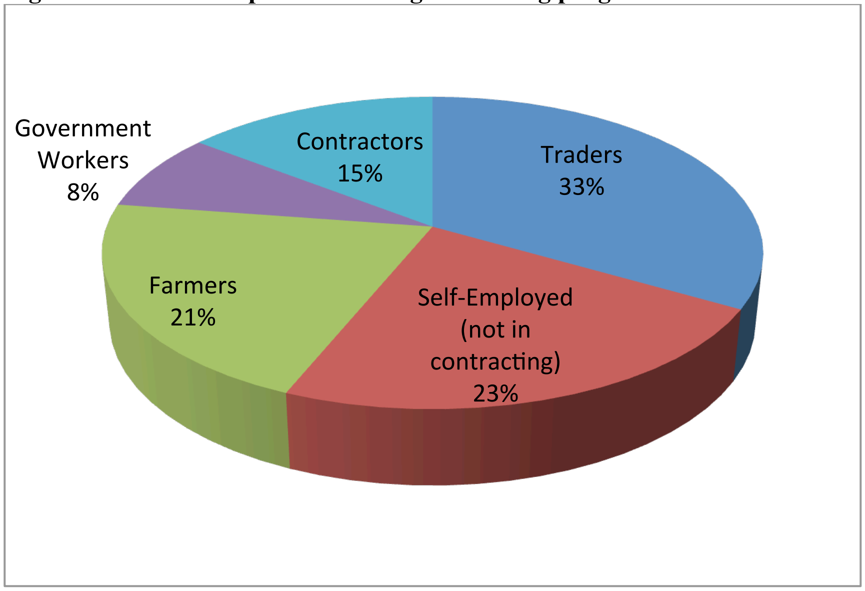
week and 13.3 days in the last month on average.[106] This meant that 'they are just making the minimum wage of N60 per month in the public service…wages claimed in their previous places of work came to about N78 per month'.[107]

Construction contracts did pull labour, but not always to do construction work. The contract system, frequently used for politically and socially motivated cash transfers in addition to or instead of legitimate construction, pulled people away from productive work to win contracts which were 'fast, easy money…as soon as they find one of 'their own' in positions of authority.'[108] One study of the construction industry found that 'even the rural butchers, builders, urban tailors, blacksmith, etc., started gradually to move to petty contracts.'[109]

The analysis of the contractors involved in the Shagari housing programme shown in the chart below demonstrates how contracts, many of them ghost contracts, were shared out, pulling people from productive fields including agriculture (only 21%), traders and others.

[106] Ibid., 118.
[107] Ibid.
[108] Abubakar, 'Manufacture and Construction', 101.
[109] Ibid., 101-102.

Figure 50: Prior occupations of Shagari housing programme contractors



Source: I.E.S. Amdii, *Analysis of Government Housing Policy in Nigeria* (Zaria, 1993), 124.
Note: Occupations of contractors before 1980. The sample size was 420.

The transition from rural to urban living itself normally took place in the emerging larger administrative towns and industrial centres of the interior of the country, not in the capital. A 1976 study showed that most migrants to Lagos came from other towns in Nigeria, not rural areas.[110] The political make-up of Nigeria ensured that money, contracts and jobs were spread out amongst the states. Mabogunje noted in 1977 that the creation of new states, engineered in part specifically for the purpose of 'ensuring the redistribution of industrial activities' were helping to generate investment outside of Lagos, and this was having an impact on population movements. He wrote that '[m]any of the capitals of states created in 1967 are now passing through the initial stage of

[110] J.O.C. Onyemelukwe, 'Urbanization in a Development Context: Patterns, Problems and Prospects in Nigeria', in *Urbanization and Nigerian Economic Development: Proceedings of the 1977 Annual Conference of the Nigerian Economic Society* (Ibadan), 26.

industrial development and their populations are in most cases already over a quarter of a million'.[111]

There is therefore some available evidence for construction pulling labour from agriculture, but only as one of many other urban occupations which had a similar or greater impact.

Conclusion

The evidence presented in this chapter demonstrates construction price trends throughout the oil boom period. The construction price index, as compared to CPI, shows that the overall unit cost of construction experienced the greatest relative inflation from about 1973 to 1976. When the price of construction is broken out into its component parts, the evidence shows that while there was some overlap between the price rises of all the inputs, especially in the early and mid-1970s, the shortage of construction materials in particular heavily impacted the inflationary trend, caused in part by port congestion limiting imports. Building material price growth moderated after 1977, and in particular the real price of cement peaked in 1976. The non-tradables components of construction had similar but not identical trends; on an absolute basis, contracting margins were highest (using a 1975-1985 dataset) from 1975 until 1977. Real wages did not see significant increases after the wage awards of the early 1970s.

The price data in this chapter offers strong support for the view that the delay in private sector investment during the oil boom was due to crowding out by the public sector,

[111] Mabogunje, 'Issues in Nigerian Urbanization', 43.

which had been driving up prices. The private sector was also inhibited by the public sector for building during the oil bust of the late 1980s and 1990s, when oil revenue fell, but for very different reasons. The building volume and price trends of the oil bust are the subjects of the following two chapters.

PART III: THE OIL BUST (1985-2000)

CHAPTER EIGHT: The Invisible Buildings of the Oil Bust

The oil bust

As has been shown in earlier chapters, during the oil boom of the 1970s and early 1980s the Nigerian government was engaged in a frenzy of spending – though not necessarily investing – activity. In addition to spending current oil revenue, the Nigerian government leveraged its future oil revenue in order to be able to spend even greater sums. Interestingly, some of the planned capital projects mentioned earlier in this thesis, known to be economically unviable, played a crucial role in Nigeria's acquisition of foreign debt as they were used to justify the loans. The borrowing had started in earnest by 1978 with a jumbo loan, and by 1979 19 large loans were made for projects including the Delta steel plant, rolling steel mills at Jos and the Sokoto cement plant.[1] However, oil revenue dropped just as debt needed to be serviced and repaid, plunging Nigeria into an oil 'bust' which lasted from the early 1980s until the end of the century.

The investing environment for 'big-ticket' projects including building and construction was determined to a large degree by the economic management of the oil bust, which by the early 1980s was in crisis. The pattern of the public sector spending oil revenue and borrowing to spend even more was only sustainable so long as the level of oil revenues was maintained. But as Bevan, Collier and Gunning have outlined, in 1981 Nigeria made two mistakes which unnecessarily reduced oil revenues several years before the global oil

[1] Efiong Essien, *Nigeria Under Structural Adjustment* (Ibadan, 1990), 65.

price slump in 1986. First, it priced its oil above market, and second, it did not honour spot contracts made in 1980, both of which decreased oil volumes sold.[2] By the time oil prices halved in 1986 to $10 (from $35 in 1981),[3] Nigeria had already been in a slump for several years, which was further compounded by the price drop. Nigeria therefore not only had to contend with the shock of reduced oil revenues from the early 1980s, but also the shock of switching from borrowing to servicing and repaying debt, which, as they pointed out, was 'of the same order of magnitude as the oil shock.'[4]

The government's vast spending commitments and the unsustainable structure of the economy compounded the debt crisis for both the public sector and the private sector. The Nigerian currency was overvalued; it subsidized imports, discouraged exports, and drained the balance of payments. The government did not have the political will to reduce the public budget enough to prevent further borrowing. It attempted to conserve foreign exchange by restricting (and delaying) import licenses for the industrial sector, which was starved of spare parts, equipment and inputs. In addition, many industries required imported raw materials at a price subsidized by the inflated currency or significant tariff protection to be viable.

In 1985 and 1986 the Nigerian government entered into negotiations with multilateral lenders, international institutions including the International Monetary Fund (IMF) and the World Bank, and the outcome of their negotiations was a structural adjustment

[2] David Bevan, Paul Collier and Jan Willem Gunning, *Nigeria: Policy Responses to Shocks, 1970-1990* (San Francisco, 1992), 15.
[3] http://www.wtrg.com/prices.htm
[4] Bevan, Collier and Gunning, *Nigeria: Policy Responses to Shocks*, 16.

programme (SAP), formally adopted in 1986 by the new military government of Ibrahim Babangida. Designed for full economic restructuring, SAP officially lasted until June 1988 but many of its reforms remained in place for some years later. The arrangement left a core government budget intact at the disposal of the military leadership and allowed debt to be rescheduled. In return, the government would end a number of public subsidies, devalue the Naira, and introduce a number of liberalizing reforms. The adoption of SAP was hugely controversial. The fiscal situation meant budgets would have been cut in any case, which would still have caused a high degree of hardship. However, there was widespread belief in Nigeria that the reforms were unnecessarily economically and socially painful in the short term.[5] Documentation of the hardships of the oil bust, often closely associated by scholars with the SAP reforms, has been a focus of academic literature of the oil bust Nigerian economy, and will be considered in this and later chapters of this thesis in light of its impact on building and construction.

The SAP reforms were designed to touch every sector of the economy. Devaluation made imports unaffordable, which eased the balance of payments situation and would ideally have boosted domestic production. Trade liberalization was intended to lower inflation and hurt any industry that was not internationally competitive.[6] Privatization of public assets and deregulation of the financial sector was to stimulate productivity and investment. Inflation was to be further kept down by balanced public sector budgets. Subsidy cuts were to further protect government revenue for debt service obligation.

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[5] Julius O. Ihonvbere, 'Economic Crisis, Structural Adjustment and Social Crisis in Nigeria', *World Development*, Vol. 21, No. 1 (1993), 141.
[6] Bevan, Collier and Gunning, *Nigeria: Policy Responses to Shocks*, 31.

The most lasting legacies of the reforms were the closely intertwined twin measures of currency devaluation and financial sector deregulation, which played a significant role in restructuring the relationship between the government and the private sector. Scholars have documented how together these reforms created an avenue for individuals in the public sector to transfer cash to their personal networks. Bevan, Collier and Gunning have explained that '[w]hereas during the oil boom the main mechanism of patronage had been public expenditure, during the slump this source declined and was replaced by rents from foreign exchange allocation', largely through the banking sector.[7] This major change in the banking sector is therefore briefly worth considering here.

Only banks could participate in the Dutch-auction Second Tier Foreign Exchange Market (SFEM) established in September 1986 to replace the old import license system. The SFEM produced the official exchange rate for all transactions except foreign debt service. Because of the limited amount of foreign currency available to the SFEM, the parallel (black) market rate was much higher than the official market rate, and so banks, with access to foreign exchange at the lower official rate, generated profits by selling to consumers at the higher market rate. When in July 1987 Nigeria significantly deregulated its banks and interest rates, there was unsurprisingly a raft of new banks, eager to participate in foreign exchange and trade finance transactions, and lending rates spiked.[8] The extraordinary profitability for banks of exchange rate arbitrage crowded out normal bank lending business, and created a high opportunity cost to invest in productive industry. The auction system improved access to imports for larger industrial companies,

[7] Bevan, Collier and Gunning, *Nigeria: Policy Responses to Shocks*, 22-23.
[8] Peter Lewis and Howard Stein, 'Shifting Fortunes: The Political Economy of Financial Liberalization in Nigeria', *World Development*, Vol. 25, No. 1 (1997), 7.

though small companies and individuals struggled, and this is reflected in the investment data considered in this and the following chapter.

Though the foreign exchange auction system and access mechanism changed over time, the Naira continued to depreciate through the oil bust period. The government was the seller of foreign exchange to the population, and so was the ultimate beneficiary of the devaluation. As Bevan, Collier and Gunning put it, 'the Babangida government was able to protect its own income, passing on the shock to the private sector. Devaluation was the taxation device used by the government to shift the shock.'[9]

Potential investors, including those in building and construction, not only had to take into account currency devaluation and higher interest rates, they also had to consider the volatile public fiscal policy of the period. In spite of the devaluation, contained fiscal spending and further substantial subsidy cuts were too politically painful to consistently implement, and government fiscal policy alternated between austerity (which lowered inflation) and wild spending (which caused inflation to rocket upwards). The 1988 budget featured the latter.[10] Interest rates were brought down and wages unfrozen.[11] The 1989 and 1990 budgets were more stringent. The government had a windfall from the First Gulf War in 1990 and 1991 of about $5 billion, a result of oil prices more than doubling during the crisis in late 1990,[12] and the government budget was reflationary again in

[9] Bevan, Collier and Gunning, *Nigeria: Policy Responses to Shocks*, 21.
[10] Tom Forrest, *Politics and Economic Development in Nigeria* (Oxford, 1993), 217.
[11] Thomas Biersteker and Peter M. Lewis, 'The Rise and Fall of Structural Adjustment', in Larry Diamond, Anthony Kirk-Greene, and Oyeleye Oyediran, eds., *Transition Without End* (London, 1997), 313.
[12] Ibid., 320.

1991. From 1992 to 1996 Nigeria experienced high inflation, reaching 50%, 80%, and at times 100% annually according to independent observers. [13]

The Nigerian economy was also not immune from political volatility during the oil bust. It froze completely in 1993 for several months as a political impasse caused by protests against fuel subsidy cuts ended with a coup by the highest ranking minister in Babangida's government, Sani Abacha. This partial change in leadership led to a partial policy reversal, with some import controls reintroduced. [14] The Abacha government made some attempts to revitalize the economy, including removing restrictions on foreign investment in 1995, and the initiating the Petroleum Trust Fund (PTF) to channel oil revenues to those areas most urgently in need of investment. Abacha died while in office in 1998, and the regime was led by a caretaker government until elections were held.

Building during the oil bust

It would be reasonable to expect that after the oil boom ended, and government budgets shrunk, that the construction industry in Nigeria would have returned to a form of normalcy. After all, the surge in demand that resulted in over-priced contracts and the market-distorting ghost supply and demand described in earlier chapters would have been unaffordable. Recent scholarly literature has paid scarce attention to construction investment during the oil bust, mostly assuming it to be insignificant, as government projects were postponed and cancelled and the private sector struggled to adjust to the plunge in government expenditure.

[13] Manufacturers Association of Nigeria, *MAN Half-Yearly Economic Reviews* (Lagos, various half-years).
[14] Biersteker and Lewis, 'The Rise and Fall of Structural Adjustment', 326.

In fact, government involvement in the construction industry, proportionally even more significant during the oil bust than the oil boom, took a turn which ultimately was even more destructive for the Nigerian economy than what took place during earlier decades. Aside from the predictable dramatic drop in construction activity at the end of the oil boom, there were two striking features of public construction during the oil bust. First, politicians shifted capital spending off-budget, making their buildings projects 'invisible' to public accounts. Second, with their building choices safely hidden, the projects they chose disproportionally benefitted themselves to the almost complete neglect of projects which benefitted the wider public, including public infrastructure and utilities. This in turn starved the private sector of the crucial public goods it needed for stability, much less growth. Although overall building volumes were lower during the oil bust than during the oil boom, its construction patterns are equally if not more significant to explaining long-term growth.

This chapter introduces a relatively underappreciated source of investment data for the oil bust period. The Manufacturers Association of Nigeria (MAN), a dominant Nigerian industrial association produced reports twice yearly from 1987 which were designed to provide an independent source of economic data based on member surveys, as well as an analysis of the current state of the Nigerian economy based on public and other sources of economic data. Scholars writing during the late 1980s and early 1990s frequently cited the MAN reports, noting that they challenged official data about inflation, employment and production in the industrial sector, in particular providing empirical evidence in various years that industry was stagnating, not moving towards recovery. The reports embarrassed the government.[15] However, in addition to capacity utilization, inflation, production and employment, the MAN reports also included an investment survey. The surveys were given to a random sample of normally around 200-500 out of MAN's total membership, which was reported to be 1,500 in 1986 and 1,200 in 1993.[16] This survey, extending from 1987 to 2000, is the best continuous time series dataset on Nigerian industrial investment patterns available and is used extensively in this chapter.

8.1 The conventional narrative

The historical literature for the 1985-2000 period is bifurcated by the two political regimes in power. The Babangida government, in power from 1985 to 1993, is well covered by scholars debating the impact of its economic reforms and their implementation, and a large number of works were published on this topic in 1993, including Larry Diamond and Anthony Kirk-Greene's edited volume *Transition Without End*, Adebayo Olukoshi's edited work *The Politics of Structural Adjustment* and Forrest's *Politics and Economic Development in Nigeria*. However, these works were published only a few years after the reforms. The Nigerian economy during the period of the Abacha regime, from 1993 to 1998, is less extensively covered, though Peter Lewis,

[15] Adebayo O. Olukoshi, 'Associational Life', in Larry Diamond, Anthony Kirk-Greene and Oyeleye Oyediran, eds., *Transition Without End* (London, 1997), 389.
[16] Lewis and Stein, 'Shifting Fortunes', 17.

Eghosa Osaghae and others have contributed considerably to the understanding of its political economy.[17]

Forrest calls the economic reforms under Babangida the 'most important economic reforms in Nigeria since independence and the most comprehensive in Africa.'[18] He concedes that the reforms were not properly enacted, and therefore had a mixed impact on industry, but notes that there was 'considerable new investment' in industries which mostly relied on local raw materials, such as textiles, and hardship for others, such as vehicle assembly, which depended in imports. He points out that sourcing of imported raw materials had been a problem for a number of years before SAP, and many large industries had already invested in local agro-industry such as flour millers and brewers. Specifically, he notes that 'the Nigerian Bottling Company and Seven-Up extended their market shares in soft drinks through acquisition and new investment. In some industries like furniture and shoes, the decline in demand and the devaluation made large-scale, capital intensive producers less able to compete with small artisan production.' [19] Forrest notes a fall in living standards during the programme but also that 'steep falls in real living standards…had been experienced well before the introduction of the programme'.[20]

[17] Peter Lewis, 'From Prebendalism to Predation: The Political Economy of Decline in Nigeria', *Journal of Modern African Studies*, Vol. 34, No. 1 (1996); Eghosa E. Osaghae, *Crippled Giant: Nigeria Since Independence* (Bloomington, 1998).
[18] Tom Forrest, *Politics and Economic Development in Nigeria* (Oxford, 1993), 207.
[19] Ibid., 219-220.
[20] Ibid., 215.

Bevan, Collier and Gunning also emphasize the economic success of SAP, noting that 'in economic terms the coup [which brought Babangida into power] was initially the most successful regime change in Nigeria's history.'[21] They write that more specifically, 'whereas management of the [1973-1981 oil] boom was disastrous, management of the slump was reasonably satisfactory. Within the whole period from 1981 to 1990, however, all the growth occurred after 1987. Indeed, since 1987, the economy has enjoyed its most rapid sustained growth.'[22]

Writing in 1992, Bevan, Collier and Gunning laid out the investment story that emerged from the official statistics, which included an initial fall followed by a clear recovery in 1990. It was public sector investment that contracted most during structural adjustment, when 'from 1987 to 1989, it effectively halved from its 1986 level, while the private component fell to only three quarters. The recovery in 1990 was shared by both sectors, with private investment surpassing its 1986 level.'[23] This investment recovery was seen in the construction sector, as demonstrated by construction contribution to GDP.[24] Within the private sector, the impact was mixed but overall positive. Some import substituting firms, reliant on imported inputs, could not be profitable with trade liberalization, while others did fine. They note that 'there was no sharp break in manufacturing performance overall, and the government could console itself with some evidence of expansion.'[25]

[21] David Bevan, Paul Collier, and Jan Willem Gunning, *The Political Economy of Poverty, Equity, and Growth: Nigeria and Indonesia* (New York, 1999), 97.
[22] Bevan, Collier and Gunning, *Nigeria: Policy Responses to Shocks*, 39.
[23] Ibid., 34.
[24] Ibid., 37.
[25] Bevan, Collier, and Gunning, *Nigeria and Indonesia*, 98.

Within society, however, they acknowledge that the reforms did not affect everyone in the same way. The reforms did hurt the formerly middle class as '[t]he devaluation changed relative prices rather than the price level: the post devaluation inflation rate was one of the lowest in Nigeria's history. The most marked increase in prices was for previously controlled consumer luxuries such as cars and airline tickets.' [26] They also notice a general trend of ruralisation, as urban areas suffered relative to the countryside,[27] and the north suffered relative to the south.[28] They add that the impoverishment of the formerly urban middle classes occurred to protect public sector spending.[29]

In a similar vein Adedoyin Soyibo pointed out that during the Babangida regime, real GDP grew on average 5.3% – higher than any other regime in the boom or bust period – as compared to 2.2% under Buhari, -2.2% under Shagari and 2.2% under Mohammed/Obasanjo. [30] But Soyibo points out that this hides the instability caused by devaluation and hyperinflation from fiscal deficit spending. [31]

Lewis and Stein, writing in 1997, point out that in the longer run, financial liberalization caused a decline in savings and investment. They calculate real gross domestic investment (GDI) as a percentage of gross domestic product (GDP), adjusted using the CPI from the IMF, at 19.4% in 1986 falling to 13.7% in the following 2 years, rising

[26] Ibid., 98.
[27] Bevan, Collier and Gunning, *Nigeria: Policy Responses to Shocks*, 38.
[28] Bevan, Collier and Gunning, *Nigeria and Indonesia*, 99.
[29] Bevan, Collier and Gunning, *Nigeria: Policy Responses to Shocks*, 21.
[30] Adedoyin Soyibo, 'The Economy', in Oyeleye Oyediran and Adigun Agbaje, eds., *Nigeria: Politics of Transition and Governance 1986-1996* (Dakar, 1999), 167.
[31] Ibid., 166-167.

slightly to 14-16% from 1989 to 1992, but not reaching its 1986 (mostly pre-reform) high. [32]

Kate Meagher has written extensively about the devastating impact of SAP and the decades which followed on the informal sector and on small firms in particular. She documents '[c]ollapsing real wages and unprecedented unemployment' and 'rampant smuggling' which 'flooded local markets with cheap Asian imports and second hand goods'.[33] Meagher has also detailed the proliferation of taxes which particularly affected vulnerable small businesses noting that

> Nigeria's widespread deregulation of markets has been accompanied by an *increase* in the regulations faced by small enterprise...Since 1989 a number of new taxes, including VAT and Environmental Sanitation Tax, have been imposed at varying levels of government, to which even the smallest firms are now officially subject. These are in addition to the various operating licenses and signboard taxes conventionally paid by small and mirco-businesses to the local government, which have also been massively and repeatedly raised since the early 1990s.[34]

Other scholars have emphasized the negative legacy of the reforms in society and on inequality. Soyibo echoes the prevalent view, particularly in Nigeria, that in an atmosphere of high inflation, 'only wage, the price of labour, remained depressed… With the reduction in funding of hospitals and schools as well as the decline in municipal services like provision of potable water…Individual survival became paramount'.[35]

Most recently, Appleton, McKay and Alayande in the most up to date analysis of the subject have argued that while by 1985 there were high absolute levels of poverty in

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[32] Lewis and Stein, 'Shifting Fortunes', 16.
[33] Kate Meagher, *Identity Economics: Social Networks and the Informal Economy in Nigeria* (Suffolk, 2010), 57.
[34] Meagher, *Identity Economics*, 57-58.
[35] Soyibo, 'The Economy', 169.

Nigeria, a post-1985 rise in inequality has been overemphasized by the literature. Their 2008 review of the historical data indicates that '[a]lthough there was a precipitous fall in living standards during the first half of the 1980s, thereafter consumption has been so volatile that it is hard to discern a trend and the pattern might be best described as one of oscillation.' [36]

The later works also emphasized that under Babangida the avenues of patronage shifted from obtaining government construction and other contracts, to obtaining banking licenses and other financial sector access. Lewis and Stein asserted that '[i]n Nigeria, the evolution of financial services created a vortex, pulling capital and manpower from almost every sector'[37] in the same way that scholars have alleged that construction did during the oil boom. They also documented the presence of retired military on the boards of new banks, who assisted in getting approvals. Lewis suggested that Babangida was not simply continuing previous patterns of patronage in another form, but that he actually transitioned Nigeria from 'prebendelism' during the oil boom to 'predation', which criminalized society and fully flowered under Abacha, as

> [s]tate economic tutelage moved from a pattern of diffuse clientelism under comparatively stable (though weak) institutional auspices, to more arbitrary and debilitating control by a single ruler. Moreover, the military elite took steps to strengthen its hold on state power, employing a mixture of coercion and material inducement. [38]

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[36] Simon Appleton, Andew McKay and Babatunde Adewumni Alayande, 'Poverty in Nigeria' in Paul Collier, Chukwuma Soludo, and Catherin Patillo, eds., *Economic Policy Options for a Prosperous Nigeria* (New York, 2008), 332, 335-336.
[37] Lewis and Stein, 'Shifting Fortunes', 16.
[38] Lewis, 'From Prebendalism to Predation', 80.

Due to the personal nature of 'predation' Richard Joseph described the emerging society as 'pharaonic'.[39] Raufu Mustapha emphasized the continuity of the Babangida and Abacha regimes, as well as the significant new problems introduced by the latter.[40]

Lewis too described the progression of the Nigerian economy under Abacha as unrelentingly negative. He dates this from the transitional crisis in June 1993, which seized up the economy. Abacha's controls meant that '[w]hile state officials profited from privileged access to foreign exchange, productive activities were virtually starved of hard currency, and export incentives were eliminated. Capacity utilisation in the manufacturing sector reached a nadir of 28 per cent'.[41] He notes that 'the downward spiral was scarcely amenable to correction. A combination of untenable policies, massive diversions of state resources, and continued political upheavals wracked the foundations of the economy, rendering recovery extremely unlikely.'[42] Although he asserts that under Babangida Nigeria's 'economic and political trajectories converged and grew increasingly contradictory', the implication is that over time economics followed politics – increasing dysfunctional leadership led to an increasingly wrecked economy. [43]

There is consensus in the literature that increasingly blatant illegal seizures of state funds by state officials increased under Babangida and then further under Abacha. Lewis and Biersteker noted that 'senior officials institutionalized the diversion of oil earnings to

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[39] Richard Joseph, 'Nigeria: Inside the Dismal Tunnel', *Current History*, Vol. 95, No. 601 (1996), 195.
[40] Abdul Raufu Mustapha, 'The Nigerian Transition: Third Time Lucky or More of the Same?', *Review of African Political Economy*, Vol. 26, No. 80 (1999), 278.
[41] Lewis, 'From Prebendalism to Predation', 96.
[42] Ibid., 97.
[43] Ibid., 103.

nonbudgeted uses. Enormous receipts were never even recorded in the national accounts. The World Bank estimated that the central bank underreported petroleum revenues by at least $2.1 billion in 1990'. Another study in 1994 of the CBN found $12.2 billion 'diverted to off-budget accounts since 1988 – an amount equivalent to a fifth of recorded oil revenues for the period.'[44]

Eghosa Osaghae, amonst others, emphasised the investment of resources in 'the proliferation of extra-departmental agencies' during the period of SAP, which included the National Directorate of Employment (NDE) and Directorate of Foods, Roads and Rural Infrastructure (DFRRI). These mostly served as 'channels of corporatism, generating superfluous patronage, legitimation-seeking, rent-seeking and bureaucratic corruption'.[45]

In summary, two main conclusions emerge from the literature. First, financial services replaced construction as the main avenue for patronage. Second, overall investment, while still lower than during the oil boom, saw a clear but temporary recovery in the early 1990s, but was depressed through most of the period by a 'predatory' political and economic environment punctuated by extreme uncertainty and high inflation. Both of these conclusions point to the increasing irrelevance of the construction industry in the Nigerian economy – no longer the primary avenue for private accumulation and no longer attracting much public or private investment. Most of the existing literature, however, has not been able to draw on detailed and first hand investment data.

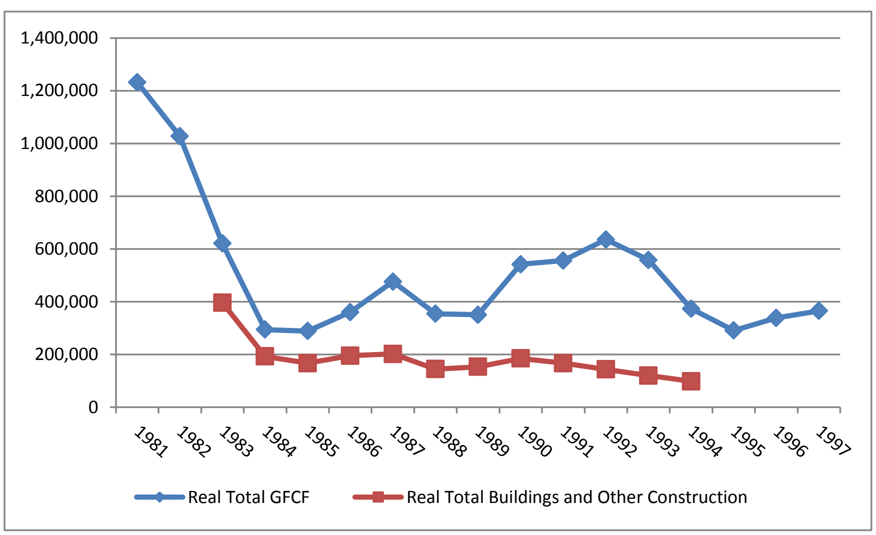
[44] Thomas Biersteker and Peter M. Lewis, 'The Rise and Fall of Structural Adjustment', in Larry Diamond, Anthony Kirk-Greene, and Oyeleye Oyediran, eds., *Transition Without End* (London, 1997), 320, 321.
[45] Osaghae, *Crippled Giant*, 200-201.

8.2 How much of a construction bust?

Gross fixed capital formation

Real gross fixed capital formation (GFCF) from the Nigerian national accounts, as shown in the chart below, demonstrates the dramatic fall of real investment from 1981 to its low in 1984/1985, a drop of 76% in three years. The subsequent overall stagnant trend of the 1990s was interrupted by a comparatively small recovery from 1990 to 1993, but at its peak this was still 48% down on 1981 real investment. As was noted in Chapter Four, during the oil boom period GFCF was inflated due to the construction sector being used as an avenue for patronage, but as oil revenues reduced government budgets, and opportunities for patronage moved to the financial and other sectors, it is reasonable to assume that the ghost industry declined and GFCF data had become more reflective of actual investment.

Figure 51: Real gross fixed capital formation (Naira MM)



Sources:
1983-1994: United Nations, *National Accounts Statistics: Main Aggregates and Detailed Tables, 1994 Part II* (New York, 1997), 1274.
1981-1982, 1995-1997: *Central Bank of Nigeria Statistical Bulletin*, Vol. 18 (Abuja, December 2007), 131.
All in May 2003 Naira, deflated by 12MMA CBN CPI, see Appendix A.1.

The portion of GFCF in buildings and other construction in the above chart indicates that while real investment in building and other construction fell almost continuously from at least 1983, the overall GFCF trend followed a different trend, spiking after the 1986 devaluation and seeing a much more robust recovery in the early 1990s. Building and other construction as a percentage of total GFCF fell steadily from 66% in 1984 to 41% by 1988 and 21% in 1993. By implication, equipment and machinery likely rose as a proportion of total investment. This is explained by the relative price impact of the currency devaluation on machinery and structures. The price of machines, which were likely to be all or mostly imported, rose disproportionately to the price of building, which had more local content. Therefore the rising portion of equipment in GFCF implies greater values of expenditure, but not necessarily volumes, of investment.

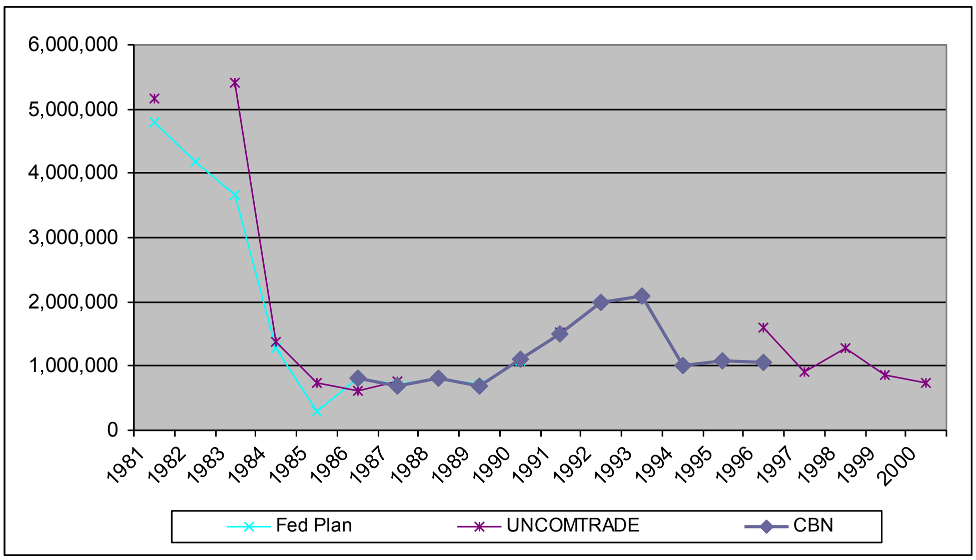
What did this slump in real investment in construction mean for the Nigerian economy? And how was it reflected in building material consumption trends?

Building materials consumption

Cement is a much better indicator of total building during the oil bust than it is during the oil boom, since all sources indicate that cement-heavy public sector infrastructure investment in this period was a significantly smaller proportion of consumption than it was during the boom. Sources for cement imports during the period include UN

Comtrade, which is missing data for a number of years, the CBN, and a Federal Ministry of Industries report, which mostly mirrors the CBN data. The general picture is of a dramatic fall from over 5m tons of imports in 1981 to under 1m tons in 1985. Imports were stagnant during the early years of structural adjustment from 1986 to 1989, which was followed by a small boom from 1990 to 1993.

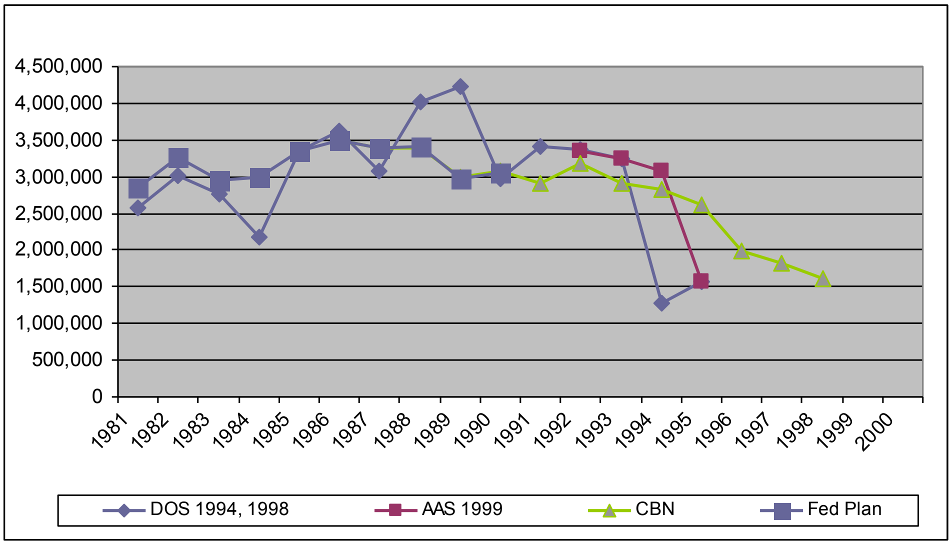
Figure 52: Cement imports 1981-2000 (tonnes)



Source: See Appendix C for the source key, and Appendix C.11 for notes.

In contrast to imports, domestic cement production seemed to benefit from the oil bust. Production data reflects a small boom in 1988 and 1989, presumably due to the comparatively higher cost of imported cement in the immediate period after the devaluation. From 1990 cement production volumes stagnated and then fell significantly from about 1994.

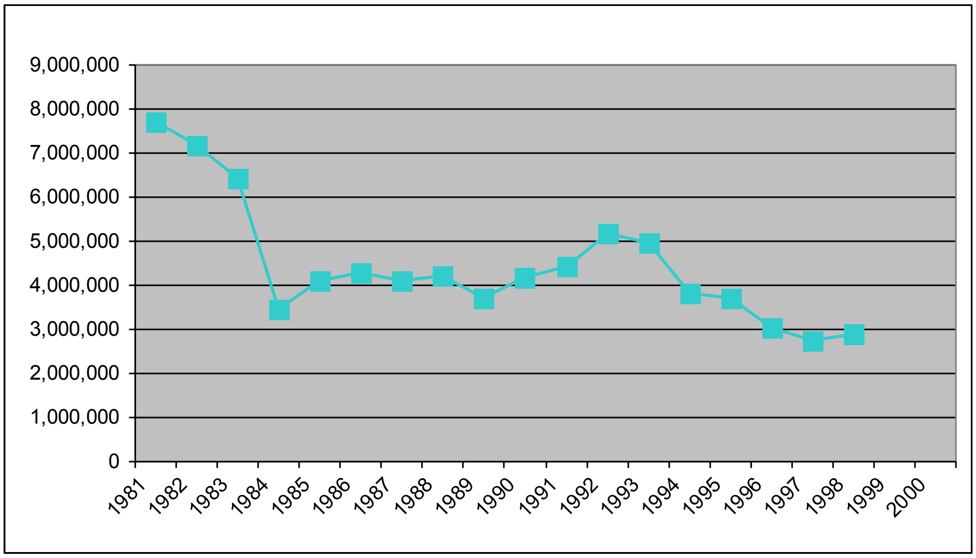
Figure 53: Cement production 1981-2000 (tonnes)



Source: See Appendix C for the source key, and Appendix C.12 for notes.

The overall picture of cement consumption, shown in the chart below, is one of a dramatic drop – consumption fell by roughly half in three years from 1981 to 1984. The drop was followed by stagnation, with a brief mini boom from 1991-1993 followed by continuous decline to less than 3m tons of consumption by 1987, with the rise in imports outweighing the decline in local production. Notably, the mini building boom of the 1990s which is evident in cement data is not reflected in a rise in real investment in the GFCF data.

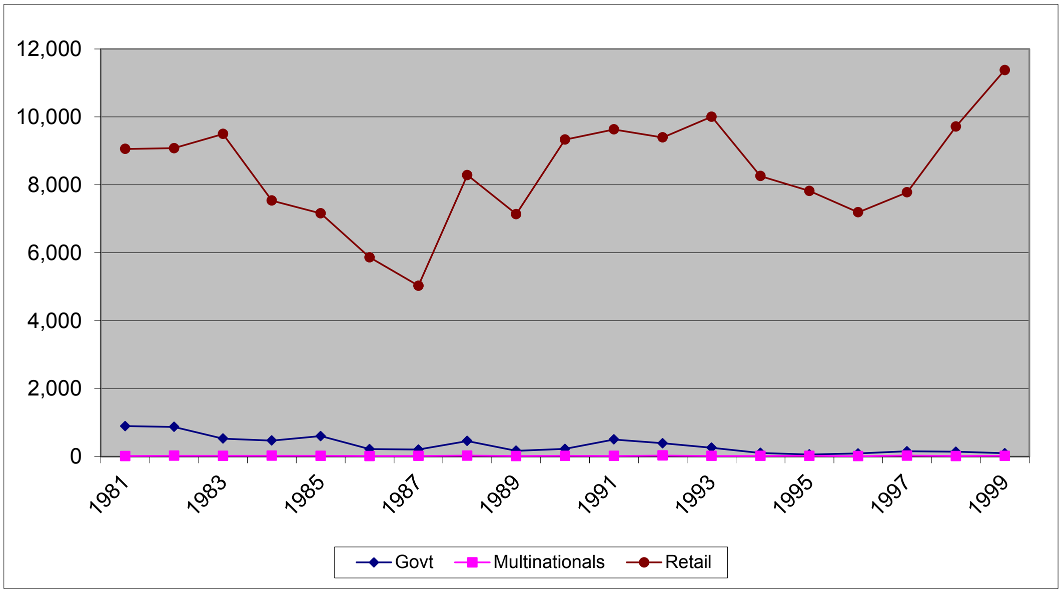
Figure 54: Cement consumption 1981-2000 (tonnes)



Source: See Appendix C for the source key, and Appendix C.13 for notes.

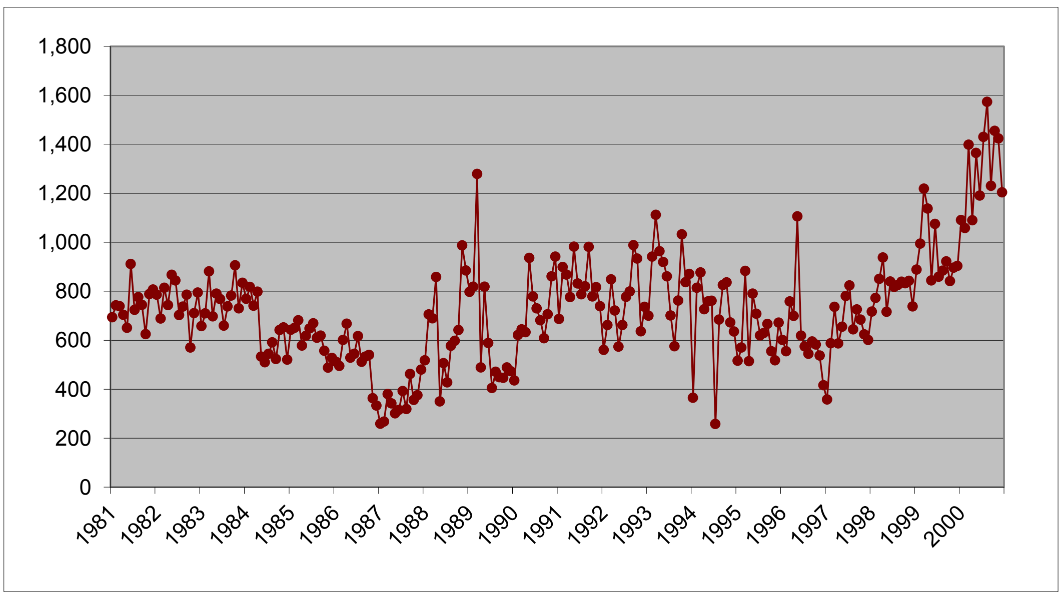
Nigerite fibre cement roofing sales, typically a bell-weather for private sector housing, show a similar trend to cement consumption and is far more in line with cement data during the oil bust than during the oil boom, another indication of the smaller proportion of cement being used for infrastructure projects instead of buildings. As was argued earlier, the private sector building boom lasted longer into the 1980s than the public sector boom, which is seen in retail roofing sales, which did not drop until 1984. Similarly, roofing sheet sales dropped 48% from 1983 to a low in 1987. Like cement sales, there was a boom in sheet sales from 1990-1993, followed by stagnation from 1994-1997, when levels fell back to those of the late 1980s. The roofing sheet data comes from a single Lagos-area manufacturer, and so some of its sales growth will likely reflect firm-specific business expansion, but the sales trends would reflect to a certain extent the wider roofing market.

Figure 55: Nigerite annual fibre cement sales 1981-1999 (m² n'000)



Source: Company data.

Figure 56: Nigerite monthly fibre cement sales 1981-2000 (m² n'000)



Source: Company data.
Note: Includes roofing and ceiling sheets.

Overall, building materials demonstrated a 'bust' trend which was similar to GFCF, an indication of the improved accuracy of real GFCF as a measure of construction, though they reflect a mini investment boom in the early 1990s which is not evident in GFCF real investment data, indicating that either this investment went unrecorded or the mini-boom in volumes was not matched by a rise in real investment. However, GFCF and building material data add very little insight into what was being built and by whom. In the 'bust', what *was* attracting investment? The next section discusses evidence from the industrial sector, the retail sector and construction contractor records.

8.3 What was built during the slump?

The industrial sector

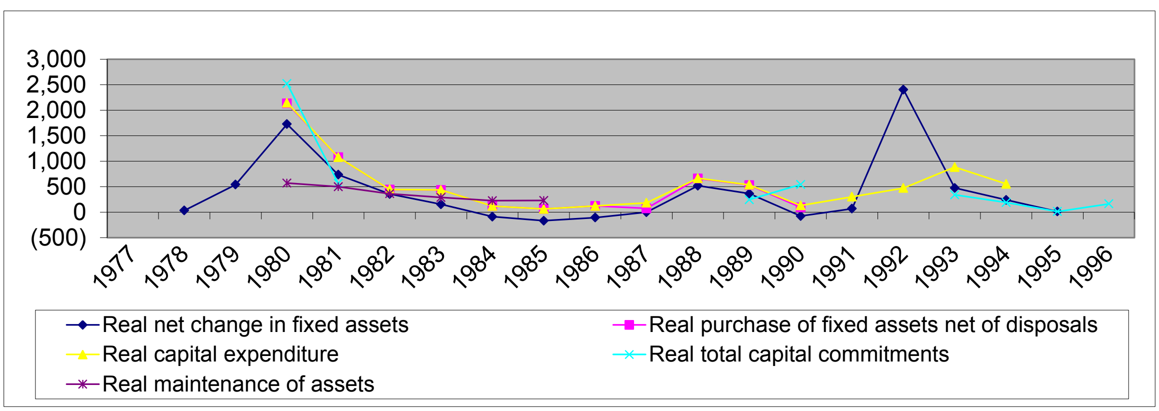
Was there industrial investment during the oil slump, and if so, in which industries? While Forrest and Bevan, Collier and Gunning have noted that there were certain industry 'winners' and 'losers' in industry during the SAP reforms, most other commentators have made the point that foreign investment was falling or sluggish, and average manufacturing capacity utilisation (collected both by the CBN and MAN) remained very low throughout the bust period – generally quoted at 30-40%.[46] With so much unused capacity, any investment at all would come as a surprise. However, capacity utilization statistics are a misleading indicator for this period. Much manufacturing capacity was dependent on the tariffs and subsidized imports that characterized the oil boom period, which was unviable after the devaluation. This is not a

[46] Osaghae, *Crippled Giant*, 203, 281

good benchmark of true capacity in the new environment against which incremental change in utilization going forward could be measured. The MAN reports noted at the time the lack of consensus and confusion about the meaning of capacity utilization amongst its survey respondents.[47]

The most detailed sources of individual company industrial investment are company annual reports, which are often indicative of wider trends. Investment data from the annual reports for two large industrial firms in Nigeria, Nestle Nigeria and Flour Mills of Nigeria, in the charts below show their real annual investment during both the oil boom and bust period. There is a clear collapse of investment from 1982 for Nestle and 1983 for Flour Mills. Both companies investment jumped in the early 1990s reaching levels that were last seen in the early 1980s.

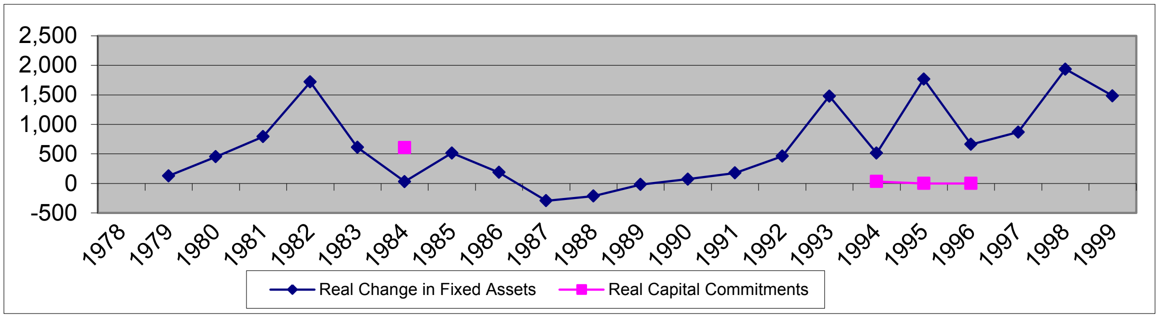
Figure 57: Nestle real capital spending (Naira MM)



Source: See Appendix B.2. In May 2003 Naira, deflated by the CBN 12MMA CPI in Appendix A.1.

[47] Manufacturers Association of Nigeria, *MAN Half-Yearly Economic Review* (Lagos, January-June 1990), 2.

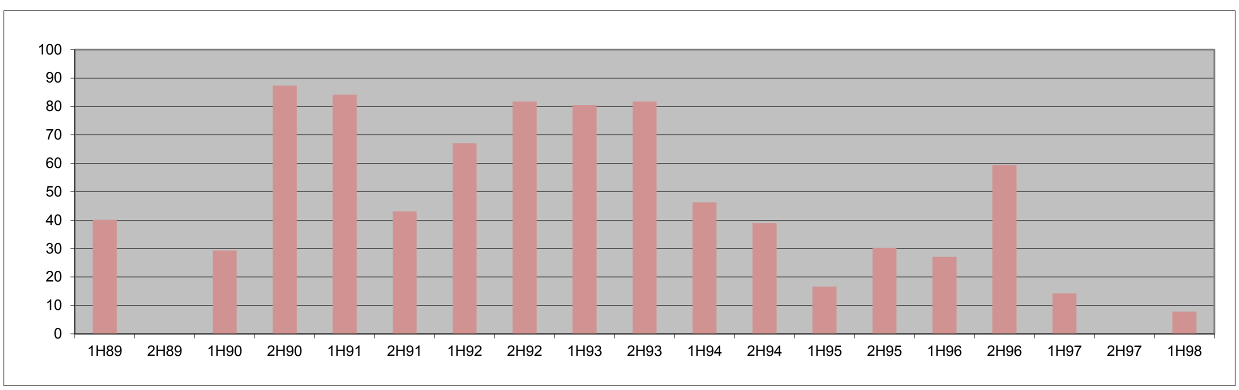
Figure 58: Flour Mills real capital spending (Naira MM)



Source: See Appendix B.3. In May 2003 Naira, deflated by CBN 12MMA CPI in Appendix A.1.

Was the investment boom in the early 1990s a wider trend across industry? The MAN investment survey is only available in detail from 1989, but an early 1990s surge is similarly evident. The chart below shows the total real capital investment per respondent as reported by the MAN investment survey. The chart suggests that relative to the late 1980s, there was a significant surge in manufacturing investment from 1990 through the end of 1993.

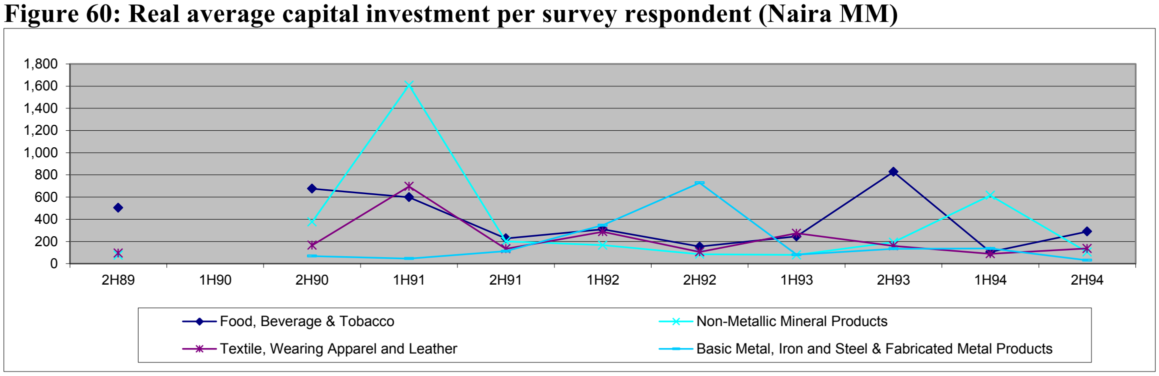
Figure 59: Real average capital investment per respondent 1989-1998 (Naira MM)



Source: *MAN Half-Yearly Economic Review*, various issues. Detailed notes in Appendix B.4. In May 2003 Naira, deflated by the CBN 12MMA CPI, see Appendix A.1.
Note: Number of survey respondents not available in 2H89 and 2H97

The member survey results were organized into ten industry groups: food, beverage and tobacco, wood and wood products including furniture, textiles, wearing apparel and leather, chemicals and pharmaceuticals, plastic, rubber and foam, basic metal, iron, steel, and fabricated metal products, motor vehicle and miscellaneous assembly, electrical and electronics, and pulp, paper, printing and publishing.[48] The chart below shows investment levels in the areas which received the most investment from 1989 to 1994: textiles, food, and non-metallic mineral products. The devaluation would have helped any manufacturing industry which competed with imports, which had become much more expensive.

Figure 60: Real average capital investment per survey respondent (Naira MM)



Source: *MAN Half-Yearly Economic Review*, various issues. Detailed notes in Appendix B.4. In May 2003 Naira, deflated by the CBN 12MMA CPI, see Appendix A.1.

However, the industrial investment surge of the early 1990s was not necessarily concentrated in building. MAN survey responses indicate that investment was directed towards replacement, modification and modernization of existing production, not development of new product lines which might have required more building. The idea

[48] The whole series is available since reports were initiated in 1H87 except for except for the 2H97 report, and much of the missing data from 2H97 is given in reports of later periods. In the appendix, the data shown comes from the same year's report, except where noted.

that most of the industrial private sector was focused on investment in equipment and not buildings is suggested across a range of historical records. While the few industries which expanded during SAP, including textiles, could be expected to have built, many others did not need to. The company history of Nigeria's largest cement manufacturer, West African Portland Cement (WAPCO) notes that at the beginning of SAP, the foreign exchange auction system allowed them better though more expensive access to foreign exchange. However, the devaluation moved the cost of the redevelopment of their Ewekoro works from N100m to N1 billion, and so the expansion plan was modified to expand existing plants instead of a complete redevelopment, aiming just to maintain production instead of expanding it.[49] There is a strong implication that a refitting would not require much new building, but would instead focus on new and/or refitted machinery.

The exceptions to the investment surge in the early 1990s are found in the CBN annual reports, which gave annual updates as to the state of the public industrial sector during this period. They report that publically owned industry, including the steel plants, were mostly starved of working capital and funds needed for repairs, maintenance and completion of capital projects started during the boom. In addition, many were slated for privatization as part of the SAP reforms, which must have inhibited further investment. [50]

Retail real incomes

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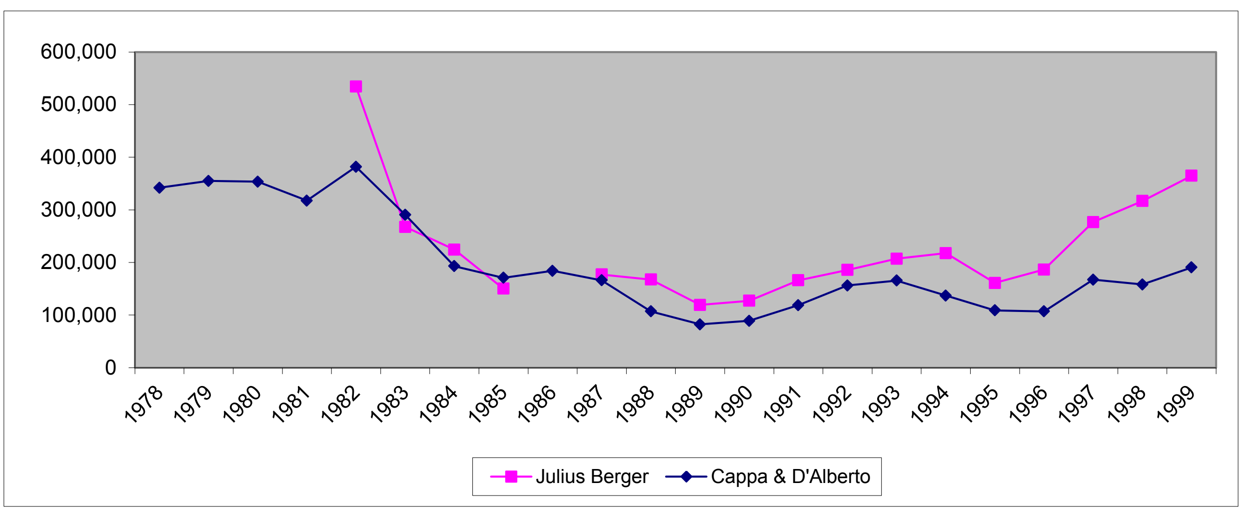
[49] Peter Pugh and J.F. Ade Ajayi, *Cementing a Partnership: The Story of WAPCO 1960-90* (Cambridge, 1990), 121.
[50] Soyibo, 'The Economy', 170-171.

How did the retail sector react to the oil bust, and is there any evidence of significant residential and small-scale commercial building? As has already been stated, roofing sales data generally reflects this sector, and experienced a mini-boom from 1990-1993, despite the widespread view of the older literature that real incomes were continuously falling during the SAP and post SAP period. But how was it that the retail sector was able to build, in what appears to have been such a depressed economic environment? Construction company average wage levels in the chart below show that while (at least in the construction sector) real incomes did fall sharply after the oil boom period, and again in the immediate aftermath of the 1986 devaluation, there was an improvement from 1990 to 1993. Therefore the 1990-1993 building boom, during which the government was reflating the economy and enjoying the First Gulf War windfall, does seem to fit with a minor growth in real incomes which may have enabled more retail sector building.

Figure 61: Real average annual construction salaries 1978-1999

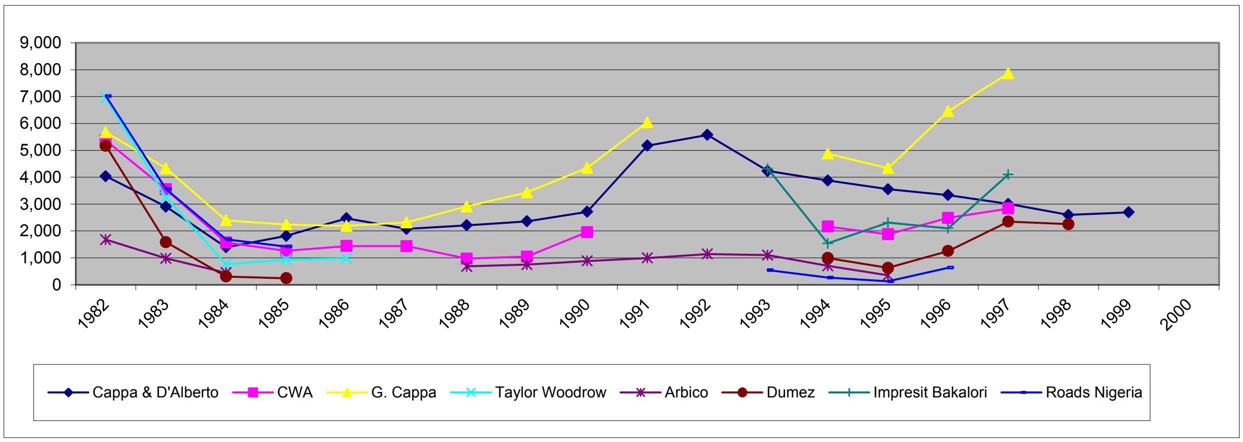


Source: Company data and stock exchange handbooks, see Appendix B, in May 2003 Naira adjusted by CPI in Appendix A.1.

Contractor data

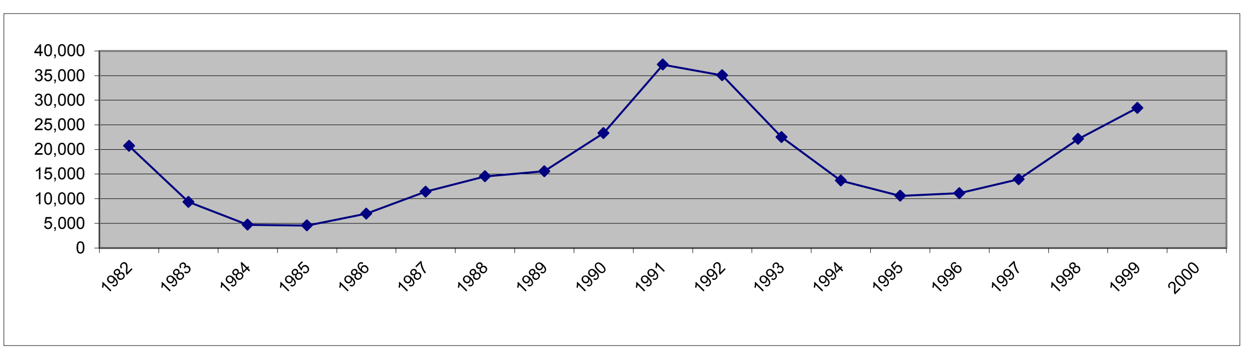
Construction company data, which includes contract sales, employment and job lists are valuable sources of evidence because they not only show the level of building, but also contain qualitative descriptions of the source of building demand. Contractor sales, adjusted by officially recorded general inflation, show real sales which reflect the same trend as building material consumption – spectacular decline from 1982-1984, and overall low levels of sales thereafter, interrupted by a boom from 1991 to 1993.

Figure 62: Real sales of listed construction companies (Naira MM)



Source: Company data and *The Nigerian Stock Exchange Handbook Volume 2 1984*, *The Nigerian Stock Exchange Handbook Volume III 1987/88*, *The Nigerian Stock Exchange Factbook 1993*, *The Nigerian Stock Exchange Factbook 1998* [year unclear]. See Appendix B. In May 2003 Naira, deflated using the CBN 12MMA CPI in Appendix A.1.
Note: Excludes Julius Berger.

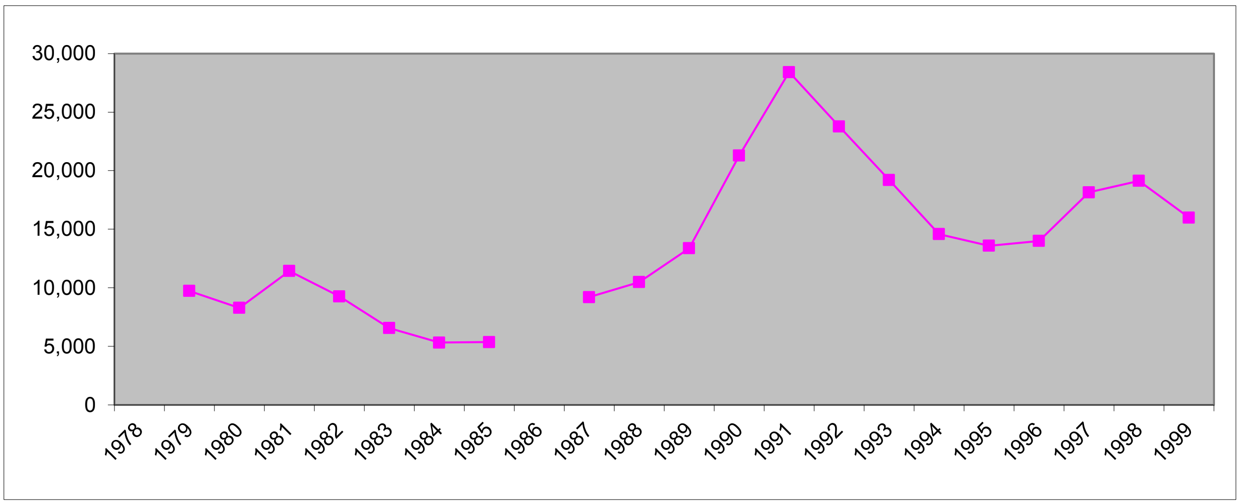
Figure 63: Julius Berger real sales (Naira MM)



Source: Company annual reports and stock exchange handbooks, see Appendix B. In May 2003 Naira, deflated using the CBN 12MMA CPI in Appendix A.1.

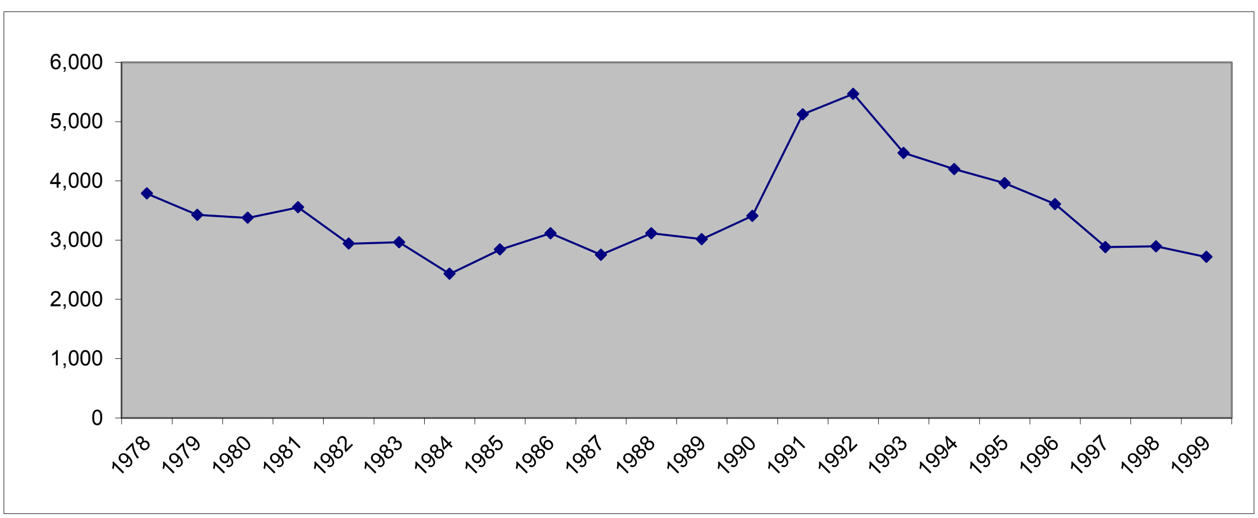
The trend was accompanied by an unsurprising rise in construction employee levels, reflected in the charts below.

Figure 64: Julius Berger employees 1978-1999



Source: Company annual reports and stock exchange handbooks, see Appendix B.

Figure 65: Cappa and D'Alberto employees 1978-1999



Source: Company annual reports, see Appendix B.

Unlike building materials, construction company annual reports and job lists, although not exhaustive, contain details of major projects. Evidence from the job lists of the construction firms Cappa and D'Alberto and Julius Berger indicates that construction was driven by four sources of demand. First, there were some minor private industrial sector refittings and extensions, mostly for textiles. This finding is not a surprise, as the MAN investment data demonstrated that textiles were one of the initial winners of the SAP period, and were one of the industries investing and even expanding. In fact, the most noticeable change in the Cappa and D'Alberto job list from boom period is the smaller number of factories – several textile plants are the only representatives of the manufacturing sector, with one each in 1986, 1990 and 1997 – and the complete lack of infrastructure work. Several schools are recorded as built not by the government, but by churches.

Second, Cappa and D'Alberto built a number of luxury flats. This is also not a surprise given the extensive literature demonstrating the significant numbers that benefitted from new avenues of patronage from the financial and other sectors. In 1991 and 1996 the Cappa and D'Alberto annual reports note that they were themselves speculatively building luxury flats in exclusive areas of Lagos with expectations of very high profits.

Third, international oil companies were investing in facilities and offices, in both Lagos and in the oil producing capital of Port Harcourt. This accounts for some of the building demand which is not clearly evident in reports from the Lagos-focused construction firms, but which is most like captured in building material and official statistical data.

Fourth, and by far the most significant driver of building in the oil bust period for the largest construction companies, mostly in the 1990 to 1993 period but also afterwards, was the building of the new Federal Capital Territory (FCT) of Abuja and administrative buildings for newly created states. The federal government officially moved from Lagos to Abuja in December 1991.

In the below job lists, industrial plants are shown in green, luxury flats are shown in yellow, oil company related work is shown in blue, and Abuja work is shown in pink. What is left white is in a residual category.

Table 29: Cappa and D'Alberto job list 1986-1993

Client	Projects Awarded (from Annual Report)	Location	Expectation for following year/Comments
1986			
Wemabod	Wemabod Office Block	Ikeja	Satisfactory
	Lagos State Shopping Centre	Ikeja	Few projects available in the construction market
Lagos State	Secretariat	Ikeja	The on-going economic crisis which is still biting very hard within the building industry
	NCR Warehouse	Isolo	
Nigeria Breweries	Block of flats	Ikoyi	
Afprint	Spinning Mill	Isolo	
	Methodist Church Olowogbowo		
Lagos Archdiocese	Primary school	Festac Town	
I I R. A. 0. Investment Property Co	Project	Lagos	
1987			
	Eko Sauna and Health Care Centre	Victoria Island	Very difficult. Some of these projects cannot take off in the ven/ near future
Nigerian/Arab Bank	New headquarters	Central Lagos	The building industry is at present very depressed as new projects are not readily contemplated and financed
			We are striving very hard to control overheads which are escalating due to circumstances outside our control.
1988			
Unipetrol	Office complex and staff quarters	Victoria Island	Confident
Embassy of the USSR	Office complex and housing	Victoria Island	Been able to secure several large projects.
Nigerian Institute of Insurance	Office block	Victoria Island	Aggressive tendering policy pursued
Mobil Oil	Office block	Maroko	
	New Laqos House	Ikeja	
	Restoration of Cocoa House	Ibadan	
Smaller projects:			
	St. Agnes Church	Ikeja	
M. El-Kali I Properties Limited	Office		
Educational Co-operation Society	Project	Ibadan	
Nigerian/Arab Bank	Hoping to restart HQ		
Federal Radio Corp of Nigeria	Hoping to resume work on the complex	Abuja	
1989	No data		
1990			
American International School	Sports Complex		Downward trend
LS.D.P.C, N.N.P.C.	Two Blocks of Luxury Flats		Most of the projects we are working on are nearing completion
NNPC	Office Complex	Ikoyi	Hopeful that works on the projects that have been suspended due to lack of funds will resume
0. L. A. Sisters	Provincial Headquarters		
	Maryland St. Dominic Church	Yaba	
	Phase II of St. Agnes Church	Maryland	
Afprint Nig	Factory extention		
1991			
Ministry of Information	Headquarters	Abuja	Likely to continue to grow
	Work resumed on Cocoa House	Ibadan	Low value of the naira, which is having a very negative effect on the prices-of materials and [imported] spare parts
Mobil Oil	Residential complex	Lekki	
Ministry of Defence	50 houses at the Officers Village (subcont. from J. Berger)	Abuja	
African Bank International	Headquarters	Victoria Island	
Archdiocese of Lagos	Prestigious Airport Church		
Archdiocese of Lagos	School	Mafoluku	
Paradise Holidays Nig. Ltd	Tourist and fishing resort	Victoria Island	
C&D speculative investment	Construction and financing of two luxury blocks of flats	Ikoyi	
1992			
Nigerian In'tl Merchant Bank	Office building	Lagos	Can maintain sales but costs increasing
	Eko Wonderland Amusement Park	Ikeja	Most of this increase in turnover represents an actual increase in work done, and is not due to inflation
	A.I.D.C. Diagnostic centre		The year under review has proved to be a very successful one
Ghana High Commission	Duplex	Abuja	The movement of the Federal Capital to Abuja has created exciting new prospects for our industry
	Block of luxury flats	Victoria Island	The full impact of the side effects of the de-regulation of the exchange rate of the Naira are yet to be fully absorbed
	Block of luxury flats	Ikoyi	[growth] can readily be ascertained by comparing the number of workers and projects undertaken in 1991 and 1992
	Flats at Bristol Road	Apapa	Cost of plant and machinery, not to mention their maintenance, has soared, as has the cost of other overheads
Abiola Holdings Ltd	House	Abeokuta	
Several smaller projects			
	Dominican Novitiate	Ibadan	
	St. Leo's Primary School	Ikeja	
1993	no data		

Source: Company annual reports, see Appendix B
Note: March 31 year end.

Table 30: Cappa and D'Alberto job list 1994-1998

Client	Projects Awarded (from Annual Report)	Location	Expectation for following year/Comments
1994			
Lagos State Water Corporation	Headquarters		All else equal, Should be able to maintain sales
Afribank	Head Office	Lagos	strikes and riots which paralyzed all activities for several weeks during the second half of 1993
Shell	Refurbishment of Shell Flats at First Avenue	Ikoyi	continued difficult business climate in which the construction industry is battling
Sheil Trustees Limited	36 flats at Second Avenue	Ikoyi	events are happening so fast and so unpredictably that I would not pretend to make any predictions
Nigerian Institute for Pharmaceutical Research		Abuja	
Coca Cola Limited	Offices and flats	Lagos	
1995			
NITEL	Headquarters	Abuja	yet another difficult one for the business community, partly due to the complete
Ministry of Defence	Headquarters at the Independence Building	Lagos	stoppage of activities for nearly two months because of circumstances known to all of us
Mobil Oil Pit	additional works		
	Loyola Jesuit College	Abuja	
1996			
C&D speculative investment	Fully financed another real estate development	Ikoyi	year under review has been a satisfactory one.
Cappa & D'Alberto	Necessary infrastructure	Port Harcourt	The currency has remained stable and we have not suffered any major upsets
	Completion of the Presidential Complex	Abuja	Pursuing a very aggressive tendering policy...managed to secure at this crucial time a number of major projects
Elf Petroleum	Office block	Port Harcourt	some of these major projects will not be fully on stream for some time, ...needs more projects..to be at full capacity
DubriOil Ltd	Head office	Victoria Island	With our new, permenant yard at Abuja, we are also well placed to play an even larger role in [building Abuja]
Coca-Cola/Rosdaie consortium	Development	Lagos	withholding tax on contracts...we would like to see back at a manageable 2.5%
Mormon Church	Meeting House and office	Ikeja	policy change which tends to make things difficult is the new directive [subtracting] VAT on government contracts...
			[before it reaches the contractor] ...erode liquidity thus creating additional strain to the industry
			in Port Harcourt where we are investing substantially...to enable us be prepared for the huge projects
1997			
Several medium-scale projects			Cautious optimism
Nichemtex	Club house, printing and dyeing plant, cotton stores	Ikorodu	hope that the Lagos State Govemment, one or our major shareholders, will be
Bristow Helicopters	New Airport Terminal		able to source the funds to complete the Lagos Island Maternity Hospital and Lagos House
	Block of luxury flats	Victoria Island	With the exception of the oil sector and related activities, the state of the economy generally is not very promising
Loyola College	Additional hostel facilities	Abuja?	Industries are operating well below capacity, local funds for investment are scarce and investors
Elf Petroleum (Nig.) Ltd.	Staff clinic	Port Harcourt	from overseas do not yet appear to be taking full advantage of the available opportunities
main projects:			withholding tax on contracts which we as an industry would like to see back at a manageable 2 ½%
NITEL	Headquarters	Abuja	the total tax credit due to withholding tax deductions as at 31st March 1997 is a staggering N59m
	Presidential Complex	Abuja	which depletes the working capital of the company
Ministry of Defence	Refurbishment of the Ministry of Defence building	Lagos	
1998			
Bolkalm Ltd	Persiana Towers, a residential development	Victoria Island	Should be able to maintain profitability
City Securities Ltd,	Atlantic Royal Garden, also a residential development	Victoria Island	need by your company to conserve cash and limit the use of banking facilities
British High Commission	Visa Office	Victoria Island	[Govemment has not been able to restart] Lagos Island Maternity Hospital and Lagos House
Nestle	Factory	Agbara	Generally the economic climate has not changed much since last year.
Maersk Nig	New Head Office	Victoria Island	the lingering fuel crisis has taken its toll during the first quarter of this year
Mormon Church	Meeting House	Yaba	
Shell	Residential Development	Ikoyi	

Source: Company annual reports, see Appendix B.
Note: March 31 year end.

The building of Abuja is best seen through the job lists of Julius Berger. In the early 1980s the building of the new capital was attracting many construction firms hoping to win contracts, and the master plan had set an occupancy target of 1986. Dumez was building the domestic airport and Airport Road, and Strabag was building Ring Road 1.[51] Julius Berger's first contract in Abuja was to build a temporary bailey bridge over the Wupa River in 1980,[52] and this quickly led to much more infrastructure work. The Julius

[51] Julius Berger Nigeria PLC, *Abuja the City 30 Years* (2006), 27.
[52] Julius Berger Nigeria PLC, *Abuja Projects 30 Years* (2006), 11.

Berger contract for the infrastructure in 8km of the north-west district from 1980-1982 was worth DM384m ($211m at the 1980 DM/$ rate).[53] It was awarded another large project in 1983 to build roads, bridges and retaining walls in the Abuja Central Area Phase I. According to Julius Berger publications, falling oil prices in 1983 led to its gaining a distinct advantage over other contractors in bidding for Abuja contracts. Due to the 1983 budget cutbacks,

> hardly had Phase I begun than the budgetary goalposts on which the planning had initially been based were moved, dramatically. As a result, the innumerable consultancies on the ground could no longer be paid for the plans they had prepared, or for forthcoming projects…they rightly refused to release the plans and blueprints, while at the same time preparing to pull out…many an engineering company also simply elected to stay in Lagos, rather than take upon itself the onerous overland journey to Abuja.[54]

Partly because Julius Berger stayed in Abuja, it was rewarded with more contracts. Their subsequent long involvement with the original city master plan gave them a unique engineering database and a competitive advantage. They reported that '[g]iven the fluctuation in advisors, before long the company found itself in the strange position of having information that was in part quite unique and thus itself had the status of at times unofficial planning consultant to the FCDA [Federal Capital Development Authority].'[55] In 1988 it was awarded the follow on project of Phase II, which was more than twice the size of Phase I.[56] In the 1980s and early 1990s Julius Berger transitioned itself towards being a builder and not just an infrastructure contractor, and Abuja work subsequently dominated its contracts.

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[53] Dieter Blum, *Construction in Nigeria* (Wiesbaden, 1981), 221. Exchange rate from Lawrence H. Officer, "Exchange Rates Between the United States Dollar and Forty-one Currencies,", MeasuringWorth, 2009. URL: http://www.measuringworth.org/exchangeglobal/
[54] Julius Berger Nigeria PLC, *Abuja The City*, 28.
[55] Ibid., 49-50.
[56] Dieter Blum, *Julius Berger in Nigeria* (Wiesbaden, 1990), 226.

Almost all the building of Abuja was done during the oil bust period, and much of it by Julius Berger. In early 1986, the city only had 'a few roads and residential districts, but no noticeable office buildings', but the government set the deadline of the ECOWAS conference in June/July 1986 to be in Abuja, which accelerated new building.[57] By the end of the 1980s, 11,000 of Julius Berger's 20,000 employees were working on Abuja. According to a company publication, every month, they brought 1,000 tons of steel and 10,000-12,000 tons of cement to the capital. They kept on hand inventory which included 8 weeks worth of cement, 2,000 tons of bitumen and three million litres of diesel. They used three company twin engine Cessna planes. [58] When the Abacha regime took over from Babangida, the work on Abuja, mostly again by Julius Berger, slowed down but still continued, as did the work on the oil producing regions. Julius Berger real sales in the charts above, correspond almost directly with investment in Abuja. Oil company and energy related work is shown in blue, and Abuja work is shown in pink.

[57] Julius Berger Nigeria PLC, *Abuja The City*, 55.
[58] Blum, *Julius Berger in Nigeria*, 57.

Table 31: Julius Berger job list 1987-2000

Date	Project	Client
1987	Prototype design for federal ministry building, Abuja	
1987-90	Itakpe-Ajaokuta Rail Line	Fed Min of Mines
1987-1991/94	IBB International Golf Course, Abuja	
1987-2001	Utilities, Abuja	
1988	Zungeru Bypass Road with Kaduna River Bridge	
1988	Central Area Abuja additional roads	
1988-89	Tuga Bridge, Niger River	Fed Min Works and Housing
1989-1992	Army Barracks, Abuja	
1989-91	Gusau Water Supply Scheme	Sokoto State Water Board, Sokoto
1990-1995	Federal Ministries Complex, Abuja	
1990-91, 2006-07	Katsina Airport and Infrastructure	Min of Works Katsina
1990	Minna Flood Control System	
1990/1991	International Conference Center, Abuja	Fast track construction
1990-1999	Aluminium Smelter, Ikot Abasi	Ferrostaal AG
1990-92	Challawa Gorge Dam	
1991-93	Imo River Bridge	Fed Min Works and Housing
1991-93, ongoing	Ajaokuta-Warri Rail Line	Fed Min of Mines
1993-97	Nnamdi Azikwe International Airport, Abuja	
1996-1999	Residential area, LNG project, Bonny Island	NNPC
1996-2000	Bonny LNG Plant	Civil and infrastructure works
1996-99	Bonny LNG-Jetty	
1997/98	National Hospital, Abuja	Family Support Trust client
1997-1999	Railway Village, Agbor	
1997-2000	Osubi Airport, Warri	Shell
1998-2001	Police Force HQ, Abuja	
1999-2000	Central Bank of Nigeria HQ, Abuja	
1999	Outfall Pipeline, Bonny Island	
1999-2000	Land reclaimation - Yenagoa Primary Roads, Bayelsa	
2000-2002	Shehu Musa Yar'Adua Center, Abuja	Foundation
2000-2003	Ogeyi Place Hotel, Port Harcourt	Property Company
2000-2001	Yola Airport	

Source: Company website, annual reports, other company publications. See Appendix B.

Numerous historical sources, in addition to the Cappa and D'Alberto and Julius Berger job lists, attest to the relatively large amount of public sector construction work available to contractors compared to private work, as well as to the significance of Abuja. CWA concentrated on getting public sector building contracts during the oil bust due to the lack of work in the private sector.[59] CWA's contracts ended up being dominated by oil company buildings, buildings for the newly formed states, bank buildings, and work in

[59] Peter Farrington, 'Costain (West Africa) Plc. A History of the Company 1948-2005, A Personal Narrative', unpublished (2005), 7.

Abuja.[60] But why wasn't the building of Abuja and administrative buildings for the new states reflected in a significant rise in real construction GFCF in the 1990s, even though it dominated both the job lists and caused a significant rise in real sales for Nigeria's builders?

In fact, there has been considerable scholarship to date which establishes that much of the new capital in Abuja was funded by so called 'discretionary accounts', or off budget pools of capital. Lewis wrote that

> [a] large proportion of revenues were diverted to so-called 'dedication' accounts, earmarked for special projects. An official report during the early months of the Abacha régime estimated that around $12,200 million had been side tracked to off-budget accounts from 1988 through 1993 – the equivalent to about 20 per cent of total revenues for that period. Within two years, extra-budgetary spending equalled 17 per cent of GDP, or nearly two-thirds of total expenditures. The monies were designated for an array of commitments, including the new capital at Abuja, the steel and aluminium projects, and the joint peacekeeping mission in Liberia. Once diverted, the funds were entirely unmonitored.[61]

Lewis and Howard Stein noted that 'the unexpected largesse [from the oil windfall of the 1990 First Gulf War] was employed to provide perks for the military, to revive several large capital projects, and to fund the transition program.'[62] The scale of the Abuja-related contracts of several of the largest contractors indicates that the Abuja investment may have – in real terms – approached the level of their oil boom period contracts. Comparing construction data and officially recorded real investment, it is highly likely much of the construction at the new capital and other large capital projects during the 1990s went generally unrecorded, via discretionary accounts.

[60] Ibid.
[61] Lewis, 'From Prebendalism to Predation', 92.
[62] Lewis and Stein, 'Shifting Fortunes', 12.

The existence of the off-budget accounts is public and well established. As early as 1989, CBN annual reports note in their federal capital expenditure accounts a 'special projects' line item of N488m, more than twice as large as the capital expenditure on health in the same year. 'Special and Trust Funds' are used as a balancing item in federal government financing for 1987 onwards.[63] In the 1993 CBN annual report, unallocated 'extra budgetary expenditure' is listed as an item of recurrent expenditure of over N18 billion in 1992 and over N50 billion in 1993 (out of total recurrent expenditure of N132 billion). [64] The MAN first half year report for 1994 noted that funds were continuing to go into so-called 'dedicated accounts' despite the fact they had been banned and referenced the panel of inquiry into the reorganization of the CBN describing the huge scale of the dedicated accounts.[65] It has not been well recognized that if the dedicated accounts were used to fund government investment, such as the new capital in Abuja, then this would not be visible in real investment data in national accounts. This indicates that while investment during the oil boom was overstated, during the oil bust investment was very likely understated. But how should this 'invisible' investment be interpreted, and how likely was it to create future economic growth?

8.4 The shift away from public goods

The broad trend in public sector building during the oil bust was generally, for lack of more precise terminology, away from *public goods*, which were accessible to the public

[63] Central Bank of Nigeria, *Central Bank of Nigeria Annual Report and Statement of Accounts 1989,* 86, 89.
[64] *Central Bank of Nigeria Annual Report and Statement of Accounts 1993*, 62.
[65] *MAN Half-Yearly Economic Review (Jan-June 1994)*, 4.

at large and which made up many of the infrastructure projects of the oil boom, towards *club goods*, which were 'excludable' and could only benefit a narrower base of people. The benefits of building Abuja, with its excellent level of infrastructure and design, were primarily limited to the political class, making it more of a club good than a public good. The building work in Abuja also had the benefit of being limited to a small and relatively less densely populated region compared to Lagos; flashy projects at a time of austerity and widespread suffering would have been politically costly.

The building of administrative buildings in new states is another example of the trend towards club goods. Under Babangida, regional governments multiplied, which was another way of giving patronage. The number of states, 19 since 1976, increased to 21 with the addition of Katsina and Akwa Ibom in 1987, and 30 in 1991.[66] Local governments increased by 285 between 1985 and 1991 to total 589 (excluding Abuja).[67] While the building of the structures needed for these regional governments is not seen in the job lists of Julius Berger, which was focused on Abuja, or Cappa and D'Alberto, whose work was concentrated in the commercial capital of Lagos with some work in Abuja, the amount of building required by the new states was not insignificant. Lagos architect Gillian Hopwood noted in February 1992 a 'massive increase in demand for cement (new States, projects awarded by the Military in their last year of office etc)' driving up the price of cement.[68] Osaghae has also written that 'establishing new state structures was costly – the federal government advanced N30 million each to the states,

[66] Oyeleye Oyediran and Adigun Agbaje, 'Introduction', in Oyeleye Oyediran and Adigun Agbaje, eds., *Nigeria: Politics of Transition and Governance 1986-1996* (Dakar, Senegal, 1999), 17.
[67] Ibid.
[68] Gillian Hopwood, unpublished paper, GH Archive.

and undertook to provide administrative buildings and other physical infrastructure.'[69] However, while the new states created demand for building because new administrative buildings had to be built to house the additional bureaucracy, they simultaneously limited state capital spending. This was because the new, smaller government units were dependent on financing from the federal government and had budgets too small to independently fund much capital spending. [70] This discouraged any investment beyond the government buildings and secretariats commissioned for newly established local and state political structures.

Just as telling as what was built are the projects which were omitted from public sector construction efforts. At the same time as public building was limited mostly to Abuja and administrative buildings in new states, essential infrastructure and other public goods were being neglected. As the chart below showing federal government investment in the National Electrical Power Authority (NEPA) demonstrates, during the oil bust, in stark contrast to the oil boom, there was no investment in new electrical capacity generation after 1990 and in most years there were nominal decreases in the NEPA budget. Tallapragada and Adebusuyi have added to this dire picture by noting that during the 1990s existing plants were not maintained, and at most about half of the total installed capacity of 5,996 MW was being produced, as eventually only 19 of 79 generating units were working. [71] This may also explain the rise in equipment investment by the private sector during the oil bust – much of this may have been investment in private generators.

[69] Osaghae, *Crippled Giant*, 229.
[70] Soyibo, 'The Economy', 164.
[71] Prasad V.S.N. Tallapragada and B.S. Adebusuyi, in 'Nigeria's Power Sector: Opportunities and Challenges' in Paul Collier, Chukwuma Soludo, and Catherine Patillo, eds., *Economic Policy Options for a Prosperous Nigeria* (New York, 2008), 302-303.

Smaller businesses which could not afford their own generation capacity were disproportionately hurt.

Table 32: Federal government power budgetary allocations and capacity 1973-2000

	Fed Budget Allocation to Electric Power				
	Naira MM	% Budget Growth	Peak Capacity (MW)	Capacity Growth	Location of New Capacity
1973	1		398		
1974	25	1720%	398	-	
1975	115	354%	518	30%	Delta
1976	160	39%	854	65%	
1977	207	29%	854	-	
1978	509	146%	2044	139%	Kainji, Sapele, Delta, Afam
1979	540	6%	2044	-	
1980	370	(331%)	2044	-	
1981	222	(340%)	2344	15%	Sapele
1982	112	(349%)	2656	13%	Afam
1983	112	(31%)	2656	-	
1984	168	50%	2656	-	
1985	110	(334%)	3096	17%	Egbin
1986	18	(384%)	4076	32%	Egbin, Jebba
1987	282	1498%	4516	11%	Egbin
1988	144	(349%)	4516	-	
1989	15	(390%)	4666	3%	Shiroro
1990	15	1%	5716	23%	Shiroro, Delta
1991	27	78%	5716	-	
1992	24	(311%)	5716	-	
1993	152	541%	5716	-	
1994	142	(36%)	5716	-	
1995	1,426	901%	5716	-	
1996	1,179	(317%)	5716	-	
1997	1,000	(315%)	5716	-	
1998	2,700	170%	5716	-	
1999	2,481	(38%)	5716	-	
2000	2,296	(37%)	5716	-	

Source: Olukoju, Ayodeji. ‘Never Expect Power Always’: Electricity Consumers’ Response to Monopoly, Corruption and Inefficient Services in Nigeria, *African Affairs*, Vol. 103 (2004), 64-65.

Perhaps the most important aspect of the shift away from public goods towards club goods by the Nigerian government was its effect on the private sector. In Nigeria, the provision of public goods including roads, electricity and water was a vital link between the public and private sector. These infrastructure works were neglected during the oil bust, which was a direct cause of the economic stagnation Nigeria experienced during the 1990s. The wider private sector found itself without the public goods and utilities necessary for productive economic activity.

The MAN half-yearly economic reports are some of the most vivid accounts available which document the deterioration of public works and utilities, as well as the link between public works and private investment. The reports paint a picture of a depressed economy pulled down not only by low oil prices, poor demand from SAP policies and other macroeconomic problems, but also by rising operating costs caused by the relative neglect of public goods and services.

MAN's commentary about the state of Nigerian infrastructure started off relatively mild in the late 1980s, before escalating in tone as the situation got progressively more desperate in the 1990s. In the second half of 1988 it commented on some improvement in electricity services after the completion of the Escravos –Lagos gas pipeline which delivered to the Egbin power station, but noted in the same year that road transport deteriorated because of the cost of spare parts for road maintenance.[72] The 1989 budget had a Special Projects Fund of N488m, mostly for utilities, but to MAN's disappointment no details on targets were provided and utilities ended up instead seeming to deteriorate in the first half of 1989 and in 1990.[73] By 1991, MAN noted that 'the pattern of government spending has resulted in severe cuts in physical and social capital

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[72] *MAN Half-Yearly Economic Review (July-December 1988)*, 8-9.
[73] *MAN Half-Yearly Economic Review (January-June1989)*, 8-9.

expenditure with serious implications for prospective growth and stability'. The situation was so bad in the social sector that even MAN – an organisation of industrialists – was calling for more productive spending on areas such as education and health.[74]

By 1993, the reports noted that 'the operating environment…was so unfavourable that industrial activities suffered the most serious handicap in eight years…factory operations were hobbled by a combination of political uncertainties, disruptions in the supply of utility services – particularly petroleum products, and poor macro-economic management'.[75] In 1995, the deterioration of the road network and utility price monopolies was contributing to inflation. MAN argued that that 'the hold on capital spending needs to be lifted'.[76] In the second half of 1995 a fiscal surplus was achieved, but 'at the cost of serious deterioration of infrastructure, especially the national road network.'[77]

In 1996 MAN observed that infrastructure repair, capital projects, and port reform had all been delayed.[78] About 115 MAN members shut down their businesses in 1996. Poor utilities were the biggest constraint on business, and the reports stated 'it is difficult to over-emphasize the need for increased spending on infrastructure', including power, communication, electricity, and roads.[79]

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[74] *MAN Half-Yearly Economic Review (January-June1991)*, 21.
[75] *MAN Half-Yearly Economic Review (July-December 1993)*, 4.
[76] *MAN Half-Yearly Economic Review (January-June1995)*, 5, 7.
[77] *MAN Half-Yearly Economic Review (July-December 1995)*, i.
[78] *MAN Half-Yearly Economic Review (January-June1996)*, i.
[79] *MAN Half-Yearly Economic Review (July-December 1996)*, 4, 5.

In 1997 there was a petrol shortage in Lagos until mid-May and in other parts of the country until at least September, because oil refineries were not operating due to lack of investment. Fuel shortages resulted, in some cases, in a 200% rise in transportation costs.[80] Power costs too went up dramatically – in some areas manufacturing firms had to generate 80% of the energy they used each day. Telecom services were 'poor despite huge investments in the past'. From the beginning of the year part of an industrial area in Imo State had had to rely entirely on its own electricity. The root of the problem, in their view, was inadequate maintenance and repair.[81] In the first half of 1998, MAN conducted factory visits of members and found that 30% of the 2,000 MAN members were 'put into total inactivity' in the first half of 1998, and 40% were operating part time, because of shortage of petrol and electricity. [82] In the second half of the year the economy declined due to the 'unprecedented energy crisis [that] laid the economy prostrate' as a result of the 'virtually collapsed social and economic infrastructure'. [83]

Explaining the shift away from public goods

How can this switch away from public goods be explained? The focus of public building on Abuja and on new states was part of a wider movement in Nigeria's political economy. While patronage networks had an important role in the economy before the oil boom, as Chapter Two argued, the oil boom firmly established the character of the Nigerian state as essentially distributive, whereby state resources were funnelled into personal and regional patronage networks to build and sustain the support of those in

[80] *MAN Half-Yearly Economic Review (January-June1997)*, 3.
[81] Ibid., 5.
[82] *MAN Half-Yearly Economic Review (January-June1998)*, 1.
[83] *MAN Half-Yearly Economic Review (July-December 1998)*, i, 7.

power. During the oil boom, with the help of ghost construction contracts and 'White Elephant' state industrial companies, this distribution network was able to funnel resources to a wide variety of people all over the country. In the new period of austerity of the oil bust, resources were more limited and the distributive base had to narrow. The shift from public goods and wide public patronage therefore narrowed to club goods and individual goods which only benefitted those most essential supporters of those in power. This shift began with the devaluation of the currency in reaction to the foreign debt crisis. By devaluing the currency instead of cutting wasteful government spending, money for debt servicing would partly come from what had previously been a widely available public good – an overvalued currency. It was replaced by government spending which benefitted a much smaller group of people.

The use of off-budget accounts further focused spending on a more select group of people. Adedoyin Soyibo saw the creation of new states as part of the same broad political strategy, as Babangida's 'balkanisation of the country through the creation of more states and local governments was one measure for engineering instability in the polity. This approach…weakened the financial base of these tiers of government.'[84] As the wider distributive base of the oil boom patronage networks, including the states, were starved of the funds they previously received, they began to use their authority to prey on the private sector with new taxes in order to shore up their own funding, which explains the 'predatory' nature of the layers of local, state and other statutory government bodies that Lewis and Meagher described. The shift in investment spending by the public sector puts Lewis' 'predation' thesis in context. Predation by all levels of society, not just

[84] Soyibo, 'The Economy', 175.

government, was a logical response to the parallel shift away from the provision of public goods.

The MAN reports document government predation through increasing levels of taxation from a variety of bodies, and relate it to the rising cost environment which inhibited private investment. A 1994 report pointed out that'[t]here are of course cases of unconscionable regulatory policies that have a negative effect on capital formation and industrial operations through the imposition of unproductive costs'.[85] In 1995 the reports note a 35% discount on customs duty – but at the same time there were many new levies and taxes from local and state governments, summarizing the situation as 'out of control in some states with companies being sealed up for non-payment of one levy or the other'. Seemingly illegitimate taxes were a particular problem at the ports, where there was '[t]he presence of more than thirty uniformed agencies at the ports, each demanding gratification from importers through black-mail'.[86]

In the second half of 1996, MAN listed some of the factors which were contributing to higher costs and therefore higher prices. At the federal level, these included: corporate income tax, education tax (2% of profit), excise taxes, VAT, 7% port surcharge, 5% sugar levy, 2% National Automotive Council Levy, comprehensive import supervision fee (1% of import value), export inspection fee (1% of export value), and administrative charges at the ports by container. At the state level they included: tenement rates, property tax, business premises registration fee, environmental sanitation levy, effluent

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[85] *MAN Half-Yearly Economic Review (July-December 1994)*, 2.
[86] *MAN Half-Yearly Economic Review (January-June1995)*, 6.

discharge fee, pollution abatement fee, development levy. [87] The same trend of predation was spreading to the private sector; there was an increase in crime and armed robbery in the first half of 1996.[88] The federal government itself was trying to stop the predation but could not. For example, in April 1997 the federal government issued a document spelling out the taxes which could legally be collected by all government bodies, but this was disregarded by state and local governments.[89]

Government agencies had become so predatory that by the early 1990s, even when politicians wanted to invest in public goods and improve national infrastructure, they simply could not do so. The Petroleum (Special) Trust Fund (PTF) was established in 1994 under Abacha as a direct response to the problem of shrinking provision of public goods. Officially, it was to channel funds directly from oil revenues to infrastructure works, principally roads, bypassing normal government procedures. Unofficially, this was an acknowledgement that if this money was channelled through federal ministries, the money would fall into the disparate patronage networks supported by individual ministries and not reach the intended targets – in other words, because of increasing predation. The targets for PTF spending were to be roads and transportation more widely, education, health, food supply, and other selected projects. According to one account: 'PTF is not to build new projects, it is to complete abandoned ones and rehabilitate social infrastructures which are deteriorating out of neglect.'[90] The CBN recorded N35 billion transferred to the PTF in 1995, though this was lower than the N61 billion allocated in

[87] *MAN Half-Yearly Economic Review (July-December 1996)*, 2, 3.
[88] *MAN Half-Yearly Economic Review (January-June1996)*, 2.
[89] *MAN Half-Yearly Economic Review (January-June1997)*, 2.
[90] 'A Sustainable Maintenance Culture in Nigeria', *FOCI In the New Millennium* (Lagos, 1999), 256.

the 1995 budget.[91] The money was disbursed by the PTF board, headed by former head of state Muhammadu Buhari, 'for provision of social and infrastructural facilities nationwide'.[92] The programme continued through the Abacha regime and according to interviews and MAN reports had a positive effect on infrastructure when and where it was active.[93] In 1997, in an indication of how off-budget funds like PTF were replacing budgetary capital allocations, the CBN reported that 'the delayed release of allocations for capital projects in the 1997 Federal Budget tended to off-set huge expenditures of the Petroleum (Special) Trust Fund'.[94] In that year, the PTF was responsible for the refurbishment of highways connecting major cities including Abuja to Lokoja, Jos to Keffi, Ile-Ife to Ondo and Calabar to Ogoja.[95]

Luis Serven and Andres Solimano have drawn attention to studies of SAP in Latin America in the 1980s, and have pointed out that 'fiscal adjustment often takes the form of reduced public investment, some of whose components (especially infrastructure investments such as roads or communications) tend to be complementary with private investment. As a result, private investment would also fall.'[96] In Nigeria, not only did public infrastructure fall due to the broader fall in public spending, but infrastructure and other public goods were likely disproportionally hurt compared to other areas of public spending, with devastating impact on the wider economy.

[91] *Central Bank of Nigeria Annual Report and Statement of Accounts 1995*, 58.
[92] Ibid.
[93] *MAN Half-Yearly Economic Review (January-June1997)*, 1.
[94] *Central Bank of Nigeria Annual Report and Statement of Accounts 1997*, 130.
[95] Ibid., 121.
[96] Luis Serven and Andres Solimano, 'Debt Crisis, Adjustment Policies and Capital Formation in Developing Countries: Where Do We Stand?', *World Development*, Vol. 21, No. 1 (1993), 130.

CHAPTER NINE: The Bust Price of Construction

Previous chapters have argued that the lack of demand management and the failure of attempts at supply management unnecessarily drove up the unit cost of construction. This assertion can by tested by investigating how the price of construction changed when construction volumes plunged during the oil bust. It finds that the unit cost of construction was lower when demand dropped, but prices might have been even lower had it not been for policy-related factors pushing prices upward. In particular, deteriorating infrastructure caused by the shift in government priorities away from public goods described in the previous chapter hampered local industries supplying the construction sector, and deregulated interest rates drove up financing costs.

9.1 The bust price of construction

During the oil bust the price of construction was affected by policy changes related to Structural Adjustment (SAP), which the government attempted to implement in the 1980s in order to tackle its foreign debt crisis. The most prominent of these measures was the currency devaluation in 1986. Scholarly literature covering prices during this period is primarily concerned with the impact of SAP, and generally indicates that the Naira devaluation in 1986 pushed up the cost of capital projects, especially for those projects which were in progress at the time and those with fixed payments in foreign currencies.[1]

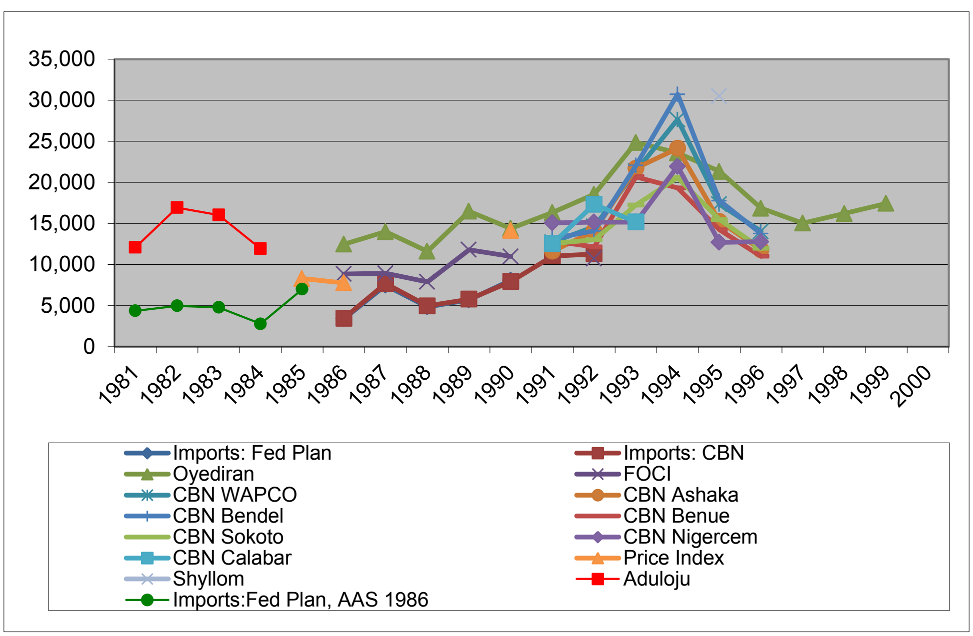
[1] Efiong Essien, *Nigeria Under Structural Adjustment* (Ibadan, 1990), 124.

However, the picture for construction demand is more complicated than simply a reaction to the devaluation. The biggest drop in construction demand as measured by cement consumption was between 1981 and 1984, prior to the devaluation. The world oil price crashed in 1986 and the credit markets tightened, which led to the Nigerian fiscal situation deteriorating. In addition, the previous chapter indicated that there was a modest pick-up in demand from about 1990 to 1994, and then stagnation for the rest of the decade. How these demand changes impacted price, as well as the SAP reforms of devaluation and financial sector deregulation, is worth considering.

Cement

The real price of cement, shown in the chart below, fell about 30% from 1982 to 1984. It then increased moderately until 1992, peaked in 1993 and 1994 before stabilizing until the end of the decade.

Figure 66: Real cement price 1981-2000 (N/tonne)



Source: See Appendix C for the source key, and Appendix C.14 for notes. In May 2003 Naira, deflated by the CBN 12MMA CPI, see Appendix A.1.

There was therefore some negative real cement price reaction from the big fall in construction demand, but not as much as might have been expected. There was a much stronger price reaction to the rising demand from the building mini-boom of 1990-1994. Hopwood has described how the government attempted to constrain spiralling cement prices in 1992 by publicizing a possible lifting of the 10% duty on imported cement, which if it had happened would have pushed prices down. They did this to scare middlemen into offloading their stocks, and the charade apparently had some downward impact on prices.[2]

The reason for the strong positive reaction of cement prices to the mini construction boom of the early 1990s, other than cement hoarding as mentioned above, was that price was not just reacting to the rise in demand, it was also reacting to a fall in supply. From 1990 domestic production of cement fell, while imports rose to make up for the shortfall until 1994 when demand fell. However, domestic production of cement fell for very specific reasons. It was limited by the two major difficulties faced by the rest of the private industrial sector: power outages and lack of imported inputs, including spare parts. These two difficulties were linked, as the more unstable the power supply, the more domestic production of spare parts and other essential commodities was hampered and so had to be imported. These limitations made the cement sector, and therefore the entire construction industry, progressively more reliant on imports over time, so that what were moderate import bottlenecks in the 1980s became a real problem in the 1990s.

[2] Gillian Hopwood, unpublished paper, GH Archive.

The neglect of public infrastructure described in the last chapter played a direct part in limiting domestic cement production. The 1991 WAPCO annual report notes that their 'total production peaked in the eighties at 1,500,000 tonnes but currently stands at about 1,100,000 tonnes due mainly to [the] ageing problem of [the] Ewekoro Works.'[3] The largest cement manufacturer, WAPCO, complained they 'have had to absorb 77% and 96% increases in the price of fuel and power respectively. Fuel and power together account for about 41% of WAPCO's manufacturing operation costs.'[4] A 1995 construction magazine notes that '[m]any industries responsible for producing building material have been under serious problem of under-utilisation of installed capacity as a result of many factors which include non-availability of raw materials, irregular supply of electric power, water and other utilities.'[5] These constraints on domestic production played a direct role in price increases.

The problem of deteriorating infrastructure was compounded by the rising costs of needed imports. Import duty on cement was 10%, and the WAPCO chairman complained that '[i]n WAPCO, we estimate foreign exchange related inputs account for up to 20% of our costs [this could be a reference to cement-specific raw materials such as gypsum, or the cost of necessary spare parts for machinery]. The high level of up to 40% duty charged by government on the inputs we import is a big component of this cost.'[6] According to the WAPCO 1998 annual report, there was a 'glaring tariff imbalance

[3] West African Portland Cement PLC, *Annual Report 1991*, 3.
[4] Chairman's Statement, West African Portland Cement PLC, *Annual Report 1998,* 8.
[5] E.B. Osoba, 'Technological Implications of the 1995 Annual Budget', *Construction in Nigeria*, Vol. 11, No. 1 (1995).
[6] Chairman's Statement, West African Portland Cement PLC, *Annual Report 1998*, 8.

which has contributed to the decline of local production by 35% during the last ten years, whilst imports increased by 150% over the same period.'[7] The SFEM at first had a positive impact on WAPCO's access to spare parts, contributing to clinker production in 1988 that was 'the highest level in the history of the Company.' But the improved access to foreign exchange did not last, and their 25-year old machinery could not be replaced.[8]

The problem of reliance on at least some imported inputs was not just limited to cement. Olukayode Sunday Oyediran compiled data about the dependence of construction materials generally on imports, citing one study from 1992 which estimates that only 42% of construction materials were locally produced. [9] He finds devaluation of the Naira correlated closely increasing construction prices, but as measured by market currency rates rather than official market currency rates.[10] Steel flat sheets were 'virtually not produced locally' at all.[11] More than 70% of the inputs for production of paint were imported, and according to a 1992 industry paper, '[s]carcity of foreign exchange, the declining value of the Naira coupled with the increasing cost of capital, force prices of inputs up.'[12]

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[7] Ibid., 7.
[8] Chairman's Statement, West African Portland Cement PLC*, Annual Report 1988*, 15-16.
[9] Olukayode Sunday Oyediran, 'Effects of Macro-economic Variables on Construction Costs in Nigeria: An Econometric Model', Ph.D. thesis, Department of Building, University of Lagos (2002), 72.
[10] Ibid., 234.
[11] E.B. Osoba, 'Address by the President of the Federation of Building and Civil Engineering Contractors in Nigeria (FOBACEC) at the one day seminar on Construction and the National Economy held on 29th April 1992', in *FOCI In the New Millennium* (Lagos, 1999), 382-383.
[12] J.O. Makoju, 'Meeting the Cement and Paint Needs of Construction in Nigeria: The Problems and Prospects', paper presented, 29th April, 1992, in *FOCI In the New Millennium* (Lagos, Nigeria, 1999), 186-187.

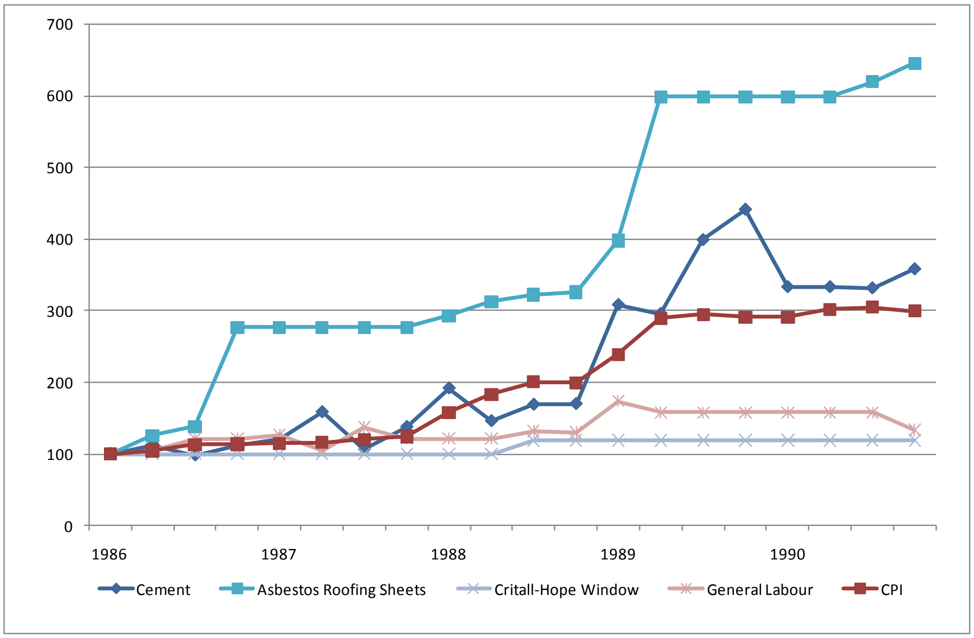
In summary, imports mattered, and thus the price of imports mattered, but they mattered more over time as spare parts ran out and the value of the Naira continued to slide. This finding is less straightforward than might be expected if one were to consider scholarship on structural adjustment in developing countries devaluation which simply concludes that SAP raised the real cost of capital goods relative to domestic goods.[13] This perhaps reflected the limited extent to which structural adjustment was implemented in Nigeria, and the full extent of the dependence of the overall economy on imports, for both capital goods and so-called domestic goods, which diminished the relative price difference between the two categories.

Labour

Oyediran's study includes a collection of quarterly historical prices from 1986 to 2000 for construction materials, labour, and general price levels for the entire period. His cement data is consistent with other sources of cement prices shown in the earlier chart. What stands out most from his study, other than the very high inflation of asbestos roofing sheets throughout the period, is that labour costs, especially after 1988, fell behind overall price levels until 1997. Oyediran cited his general understanding that Nigerian building costs over his period were 40% labour and 60% materials, [14] but agreed that increases in labour costs were much lower than increases in materials costs. His data, indexed to 1986, is broken out into two periods in the charts below.

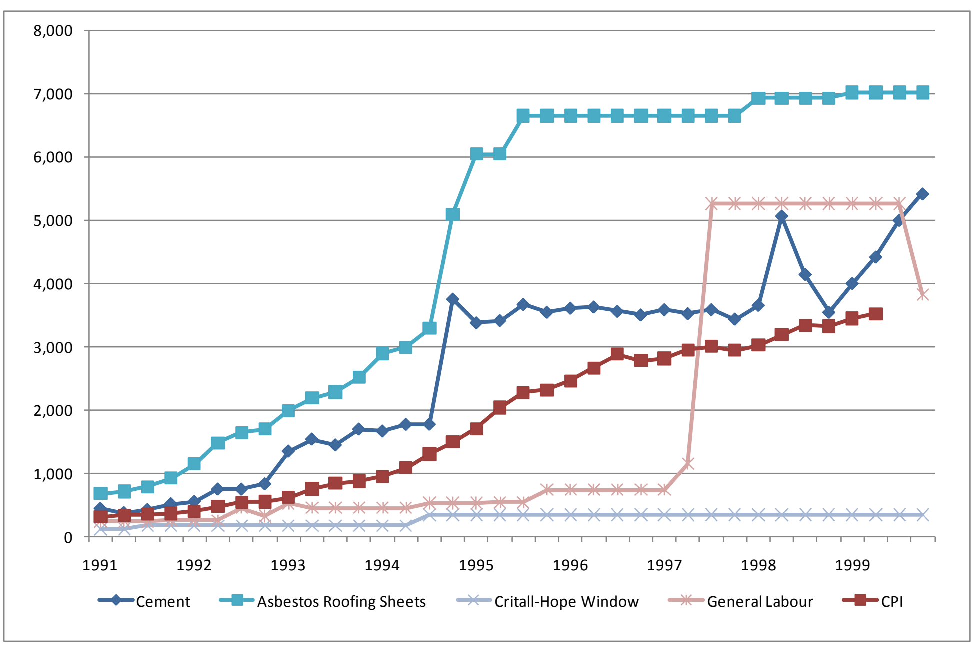
[13] Luis Serven and Andres Solimano, 'Debt Crisis, Adjustment Policies and Capital Formation in Developing Countries', *World Development*, Vol. 21, No. 1 (1993), 130.
[14] Oyediran, 'Effects of Macro-economic Variables on Construction Costs in Nigeria', 82.

Figure 67: Prices of building inputs, 1986-1990



Source: Oyediran,. 'Effects of Macro-economic Variables on Construction Costs in Nigeria: An Econometric Model', Appendix.
Note: Prices indexed to 1986.

Figure 68: Prices of building inputs, 1991-2000



Source: See previous chart.

The SAP period was dominated by industrial unrest. While real wage levels did not match up to oil boom levels, they eventually rose modestly against rapidly rising general price levels. A construction industry magazine described its severe impact on wages in the building industry, when a multi-year construction labour wage freeze prevented wage discussions for junior and senior staff, whose agreements should have been updated in 1983 and 1984.[15] Wages were not officially unfrozen until January 1988, and new agreements were signed after negotiations between the Nigerian Union of Construction and Civil Engineering Workers, the Construction and Civil Engineering Senior Staff Association and the National Joint Industrial Council for the Building and Civil Engineering Industry in Nigeria (NJIC) in 1988 and 1989 without too much turmoil.[16] However, just after the agreements were signed and in the aftermath of anti-SAP riots the government provided a relief package to federal employees, putting pressure on state governments and the private sector to do the same. The agreements were updated at the end of 1989 with 'a lump sum SAP Relief Allowance'. [17] In the 1991 budget the monthly minimum wage was increased to N250. [18] This put further pressure on collective wage agreements.[19] There was further national industrial unrest when non-federal government employees went on strike in 1992 demanding the same 45% wage gain granted to federal employees, and the strike lasted until February 1993.[20]

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[15] 'Defreezing Wages and Relieving SAP', *Construction in Nigeria*, Vol. 7, No. 1 (1990), 46.
[16] Ibid.
[17] Ibid.
[18] Adebayo O. Olukoshi, 'Associational Life', in Larry Diamond, Anthony Kirk-Greene and Oyeleye Oyediran, eds., *Transition Without End* (London, 1997), 390.
[19] '1990/91 Report of the Council of the Federation of Building and Civil Engineering Contractors in Nigeria (FOBACEC) to the 35th Annual General Meeting on Thursday 27th June, 1991', *Construction in Nigeria*, Vol. 8, No. 2 (1991), 29.
[20] Olukoshi, 'Associational Life', 390.

Contractor costs

During the oil bust, the contractor market was one area that did not experience shortages. A glut of contractors from the oil boom period meant that initially there were up to 15 bids for the few contracts available.[21] There is considerable evidence that a number of contractors left the industry because of the reduced level of demand. This was particularly the case when contractors also had overseas businesses.[22] Expatriate contractors earnings were worth less in depreciated Naira in their home currencies. [23] Richard Costain Ltd., UK decided to sell almost three quarters of its 38% holding of CWA due to perceived poor demand and a negative business outlook. It decided to focus on building instead of the more capital intensive civil engineering, and started divesting its land. [24] Though the overall prices of projects may have risen disproportionally, this was caused by materials and not contractor profits, as is clear from the charts below. Contractor profits were far lower than the highs of 20% profit margins seen in the late 1970s. Hopwood wrote that '[f]rom about 1985 recession set in, construction work was reduced, competition for the available work intensified with the result that fee cutting became the norm, 'public relations' entered the equation and the professional became one of the 'new poor'.' [25]

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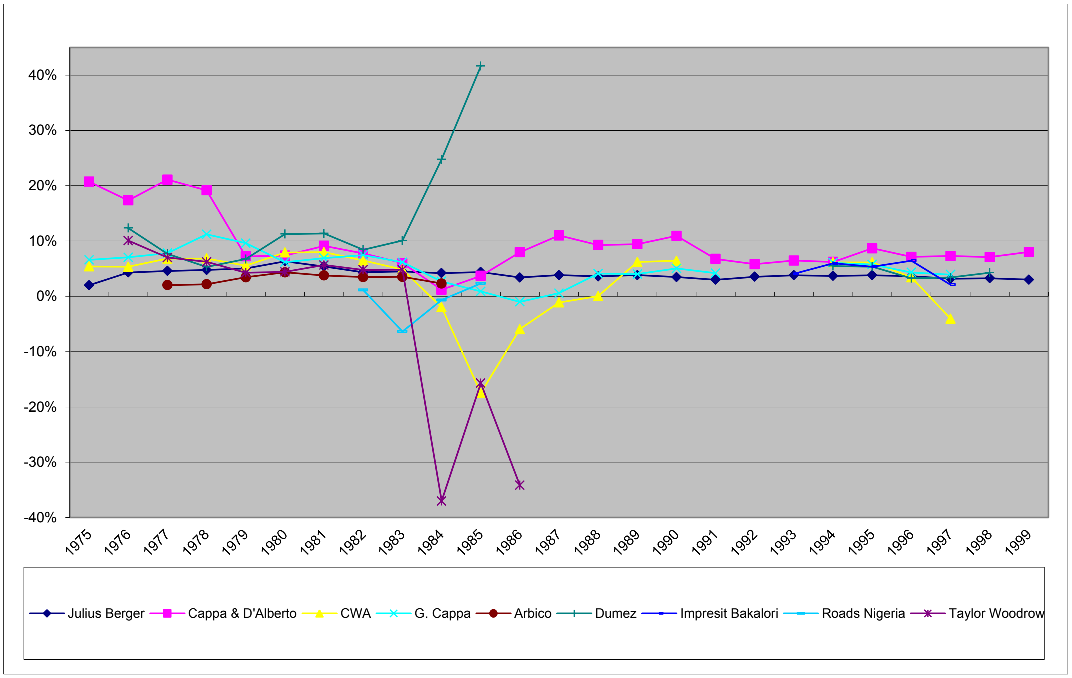
[21] Peter Farrington, 'Costain (West Africa) Plc. A History of the Company 1948-2005, A Personal Narrative', unpublished (2005), 7.
[22] John Godwin and Gillian Hopwood, 'Construction Potential in Nigeria: 2000', *West Africa Committee Journal* (2000), 2.
[23] E.O. Olowo-Okere, 'Address by the President of the Federation of Building and Civil Engineering Contractors in Nigeria (FOBACEC) to the Business Luncheon at The Eko Holiday Inn, Lagos, 22nd October, 1986', in *FOCI in the New Millennium* (Lagos, 1999), 356.
[24] Farrington, 'Costain (West Africa) Plc. A History of the Company', 7.
[25] Gillian Hopwood, 'The Peanut Syndrome or how the work of the Professionals in the building industry has been devalued', Private Paper (December 2001).

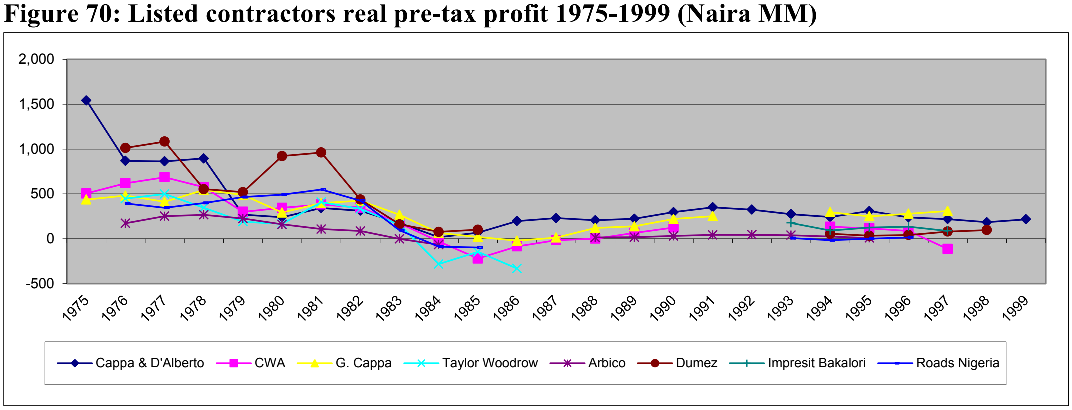
The charts below show that the trough of contractor profits, both in terms of real pre-tax profit and profit margin, was from about 1984-1986. The pickup from 1986 could be partly the impact of the accelerated work on Abuja. SAP and the devaluation did not seem to have a negative impact on contractors, and according to interviews, it was easier for contractors to access needed foreign exchange once the Second Tier Foreign Exchange Market (SFEM) was set up in 1986.

Figure 69: Listed contractors pre-tax profit margin 1975-1999



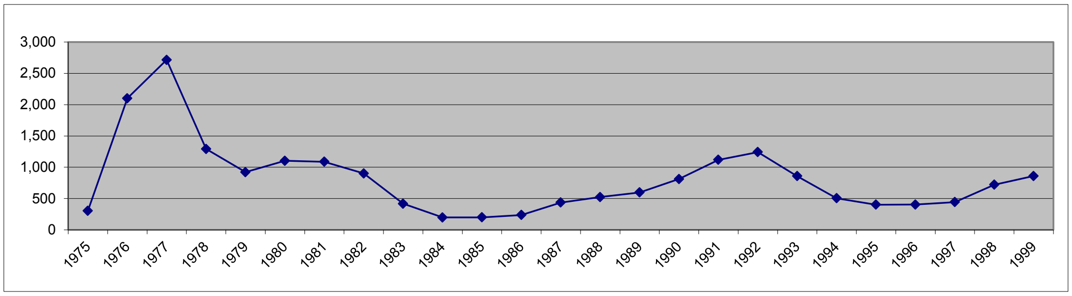
Source: See Appendix B.

Figure 70: Listed contractors real pre-tax profit 1975-1999 (Naira MM)



Source: See Appendix B. In May 2003 Naira, deflated by CBN 12MMA CPI in Appendix A.1.
Note: Excludes Julius Berger.

Figure 71: Julius Berger real pre-tax profit 1975-1999 (Naira MM)



Source: See Appendix B. In May 2003 Naira, deflated by CBN 12MMA CPI in Appendix A.1.

In addition to declining construction volumes, during the oil bust contractors faced a number of constraints which further drove out current participants and discouraged new ones. Contractors not getting paid for both oil boom projects as well as new ones caused an industry crisis. The government actually deliberately staggered payments to contractors, even when it could afford to pay, as a method of controlling inflation. In the words of the 1997 CBN annual report, 'the non-payment of most public sector contractors further curtailed demand-side activities capable of exerting additional inflationary pressures.' [26] Many contractors were forced to balance relationships with the government – their biggest client – with the need to get work. Non-payment of contractor debts by the government and government related entities were 'running into billions' of Naira by October 1986 according to the president of FOBACEC.[27] Government entities owed over 60% of the industry bad debts, but according to an industry association source '[m]any of them are not interested in paying interest on monies that have been

[26] Central Bank of Nigeria, *Central Bank of Nigeria Annual Report and Statement of Accounts 1997*, 130.
[27] Olowo-Okere, 'Address by the President', 353-357.

outstanding for many years…Some make it a condition that contractors should accept new contracts…before they can consider paying then the old debt in trickles.'[28] The need to price in the risk of potential non-payment or delayed payment increased the price of contracts and caused liquidity problems, which was compounded by the high cost of credit.

In addition to deliberately withholding payments, in 1985 the government mandated a withholding tax – 'deduction at source' – of 2.5% for construction companies 'as a deposit against tax', an example of further government predation.[29] Industry sources complained that the practical administration of this tax was highly problematic, as

> [it was] purported to be a deposit against tax liability. In practice, this money cannot be recovered where a company does not make any profit. Secondly, the operation of this fiscal measure is liable to result in double or multiple taxation for the main contractor and/or subcontractor in the process of obtaining tax clearance certificate for the company.[30]

By 1995, this withholding tax had been increased to 5%.[31]

Financing costs

Serven and Solimano presented evidence that structural adjustment in developing countries tended to increase real interest rates, which in turn reduced investment. [32] This was true for Nigeria. Deregulation of the financial sector increased interest rates and exacerbated existing problems with lack of financing for the private sector and acted as a bottleneck in every area of construction supply. Even the central bank annual reports

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[28] E.O. Olowo-Okere, 'Pre-Budget Memorandum Submitted by FOCI to the Presidential Advisory Committee on 12th November 1987', in *FOCI in the New Millennium* (Lagos, 1999), 344.
[29] Olowo-Okere, 'Address by the President', 354.
[30] Olowo-Okere, 'Pre-Budget Memorandum', 346.
[31] Osoba, 'Technological Implications'.
[32] Serven and Solimano, 'Debt Crisis, Adjustment Policies and Capital Formation in Developing Countries', 130.

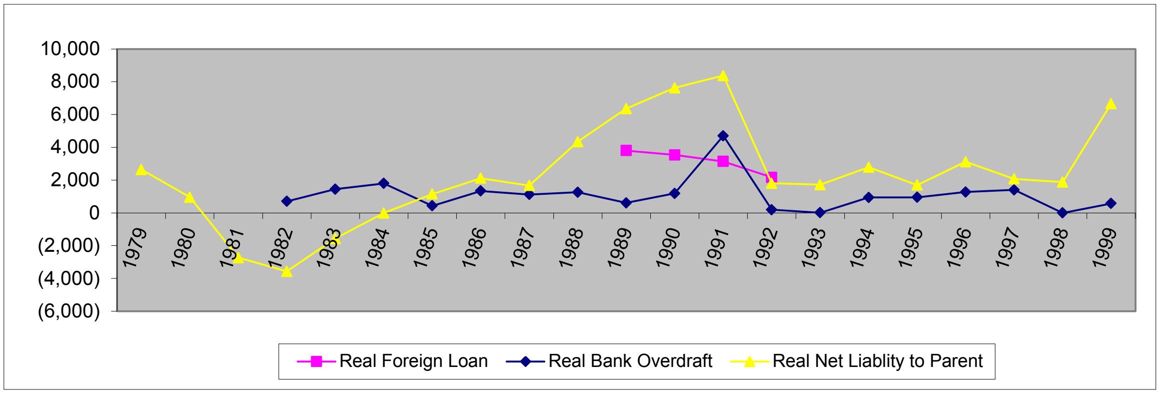
conceded that the actual lending rate regularly exceeded the reported rate. Due to the unregulated explosion of the financial industry during SAP by 1995 the system was in a ‘state of collapse’.[33] As the government did not pay its bills promptly construction firms were forced to borrow at up to 35% interest rates for working capital.[34] Cappa and D’Alberto noted in their March 31 1994 annual report that it was one of the very few construction companies that had not asked its shareholders for more equity in a rights issue.[35] CWA did a rights offering in 1995/96, at N1.20/share, but the share price eventually fell to a low of 50 kobo per share.[36] According to one industry source,

> [t]he problem of Naira debt has been worsened by the deregulation of the interest rate, as it has increased /the liability of contractors to the banks. It has made the process of taking loans to carry out projects more expensive where a contractor is lucky enough to be accommodated by the banks. It has also made cost budgeting more difficult during tendering.[37]

The chart below shows the debt levels of contractor Julius Berger, who was fortunate to have access to parent company financing during the oil bust, which was not needed during the boom. Julius Berger debt to pre-tax profit ratio reached 6.4 times in 1989, before slowly improving to 1.7 times in 1992, when the oil windfall eased the payment crisis.

[33] Lewis and Stein, ‘Shifting Fortunes’, 15.
[34] Farrington, ‘Costain (West Africa) Plc. A History of the Company’, 7.
[35] Cappa and D’Alberto Limited, *Annual Report and Accounts 1994*.
[36] Farrington, ‘Costain (West Africa) Plc. A History of the Company’, 8.
[37] Olowo-Okere, ‘Pre-Budget Memorandum’, 344.

Figure 72: Julius Berger borrowing 1979-1999



Source: Company data, see Appendix B.

SAP, including its financial sector deregulation and the devaluation, also made the tendering process more complicated and less predictable. This was because contracts were in Naira but imports were in foreign currencies. Eventually the industry moved towards 'the present trend of quoting for contracts in two parts i.e. Naira content and foreign currency content.' [38]

Industry sources confirm that trend, noting that '(SFEM) brought along its own tales of woe in that contractors stopped work on all the on-going projects due to the sudden increased in prices.'[39] The disagreements and uncertainties over costs changes did not end with the initial devaluation. The difficulties in getting needed imports and the general environment of uncertainty led to further conflict, and the CBN annual report of 1997 was still mentioning budgeted works delayed for such reasons as 'delay in the release of

[38] Olowo-Okere, 'Pre-Budget Memorandum', 346.
[39] *FOCI in the New Millennium* (Lagos, 1999), 316.

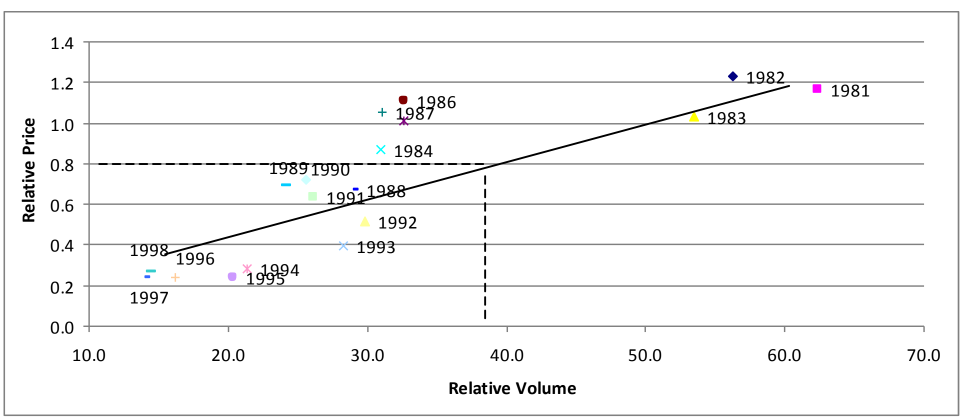
budgetary allocations for capital projects, scarcity of bitumen and abandonment of work by contractors over non-agreement on construction cost variation.'[40]

This chapter has shown that while the unit cost of construction was much lower during the oil bust than during the oil boom, the difference in prices between the boom and bust would have been even greater had infrastructure availability and financing costs not raised bust-era costs.

9.2 Boom and bust construction supply curve

How did the cost of construction during the oil and construction bust compare to the boom? The supply curve below shows the relative price and volume of construction from 1981, the peak year of cement consumption, through the rest of bust period.

Figure 73: Construction supply curve 1981-1998



Source: Relative volume defined by cement consumption (see Appendix C.15) as a proportion of non-oil GDP excluding construction, in 1990 constant basic prices (see Appendix A.5). Relative price is the construction price index shown in Chapter Seven (using the GDP sector deflator from 1986 to 1998) as a proportion of CPI 12MMA (see Appendix A.1), indexed to 1970.

[40] *Central Bank of Nigeria Annual Report and Statement of Accounts 1997*, 121.

The ‘boom and bust’ construction supply curve shown here uses the same measures as the oil boom supply curve shown in Chapter Seven. The y axis showing relative price uses the GDP construction sector deflator as the construction price index from 1986 to 1998, as it was the only available source for the bust period. The construction sector price index is shown relative to overall CPI, shown in Appendix A.1. CPI is used despite the inclusion of building costs within CPI, due to the lack of a disaggregated price basket. The x axis shows relative volume, here defined as volumes of cement consumption relative to non-oil GDP (excluding construction).

The chart shows that the supply curve was relatively steep, and that Nigeria paid far more for its construction by concentrating its building volume at the most expensive end of the curve. This chart shows that construction purchased at the peak of cement consumption in 1981 was 4.8 times more expensive than at the trough of the construction bust in 1997. The steepness of the supply curve makes a strong case for moderation of construction demand to maximize building resources, not just in Nigeria but in any economy which is dependent for investment on volatile commodity prices.

A counterfactual can be used to compare the price Nigeria paid for its boom and bust pattern of construction with the price they would have paid had they managed to moderate their construction demand. 1981 and 1997 can be used as representatives of the swing in volume from boom to bust, with the average volume of those two points used as representative of a moderate level of demand, shown as the dashed line on the above chart. Using the supply curve above, the total price paid for the volume of construction during those two boom and bust years was more than 60% higher than would have been required for the same total volume of construction purchased at a constant moderate level of demand. Instead of managing demand, which would have maximized resources for building, the Nigerian government instead tried to manage supply. Chapter Six, and this supply curve, shows this to have been an unmitigated failure.

CHAPTER TEN: Why Nigeria Failed to Build for Growth

At the end of the millennium Nigeria lacked the fixed capital which would have been necessary for it to have optimized economic growth in the preceding decades, in spite of the oil boom which could have enabled substantial investment. Recent literature has correctly observed that Nigeria had a limited absorption capacity for construction, that an unmanaged construction boom during the 1970s drove up prices, and that the slump might have been the best time for it to invest. However, scholars have until now been limited to linking these observations to national accounts data and government budgets, which they knew could not be fully trusted. This led them to strongly suspect that despite the generally high returns on investment in Africa, much of the money 'invested' in Nigeria was not really invested.[1]

This thesis overcomes some of these data problems by using a construction and investment dataset based on both national accounts and on private company and industry archives. This concluding chapter draws together the analyses of construction supply, demand and price in the previous chapters in order to offer a single overarching narrative to explain why Nigeria failed to benefit from the riches of its oil boom. Since the persistent and large scale diversion of public funds into patronage networks – what is often called 'corruption' – played a crucial part in this narrative, this chapter then

[1] Paul Collier, *The Plundered Planet: Why We Must – and How We Can – Manage Nature for Global Prosperity* (New York, 2010), 128-129, 132, 147, 149.

describes what this thesis can contribute to scholarly understanding about ‘corruption’ both in Nigeria and in resource-rich countries more broadly.

Why Nigeria failed to benefit from its oil boom

The narrative of the Nigerian economy post-independence described in this thesis is that during the oil boom, public resources were diverted, on an enormous scale, into ‘ghost construction’, the cash payments to patronage networks described in Chapter Four which did not result in physical building. During the oil bust which followed the oil boom, scarce public resources were diverted away from construction of public goods into the ‘invisible buildings’ described in Chapter Eight, unofficial investment in construction which primarily benefitted recipients of government patronage, but not the public at large.

While the existence of ghost construction has long been anecdotally noted by scholars, this thesis has presented evidence to quantify its extraordinary scale. For much of the oil boom approximately two thirds of the amount recorded as having been spent on construction in Nigerian national accounts was not applied to its officially intended purpose. Instead, government construction contracts were funnelled into ghost construction – fig leaves used to hide rewards to political and patronage networks. That this ghost construction was in many years over 60% of funds recorded as spent, instead of say 10% or 30%, is hugely significant for three reasons.

First, ghost construction was the diversion of resources away from what should have been some of Nigeria most productive investments – including utilities, schools, roads and health centres – and was one of *the* central reasons why Nigeria was not able to benefit more from its oil boom. After taking into account the proportion of supposed 'investment' which was funnelled into ghost construction, Nigerian regimes during the oil boom should not be given credit, as they often have been, for their seemingly high rates of public investment.

Second, ghost construction has strong implications for the use of historical national accounts in both scholarly and non-scholarly economic analyses of the Nigerian oil boom. Nigeria's national accounts significantly misrepresent construction investment in both degree and direction over time. Consequently, a crucial variable necessary in order to understand the causes and mechanisms of Nigeria's failure to produce the infrastructure, housing, social services buildings and industrial development necessary for economic growth has been missing from the public and the scholarly narrative. This shroud over construction activity transcended regimes and oil price levels. National accounts should therefore not be used to calculate an investment rate for Nigeria, a judgement which possibly extends to other countries which experienced a resource boom or which display indications that significant ghost construction may have taken place. The portrayal of investment in national accounts is an unpredictable reflection of actual investment, and scholars ought to test investment statistics against multiple public and private sector sources of construction data and consider historical context in order to draw confident conclusions.

Third, it hid the productivity of what was legitimately invested. In spite of the fact that oil wealth aggregated in the Nigerian state, granting it a natural role in making large scale investment, public sector investment often had a negative impact on growth. Public industrial investment during the oil boom in particular resulted in the famously unproductive steel plants at Ajaokuta, as did government controlled cement plants. Building these facilities consumed limited construction capacity during the boom, and forced prices up for the entire economy. However, one of the most significant findings which has emerged from this thesis is that when the Nigerian state during the 1970s oil boom invested in one particular area of construction – namely, public infrastructure including transportation and power – it had a much greater economic impact than has previously been realised by economists and historians. This is because to attain the same level of productivity, this thesis has shown that on aggregate, public infrastructure cost far less than national accounts have indicated. The return on construction of infrastructure in particular was far higher than previously realised and appears to have been the single most crucial area of public investment in fixed capital.

It is true that the construction sector during the oil boom could not have immediately absorbed all planned construction demand had the ghost industry never existed: supply constraints and crowding out were significant problems in the sector even after the ghost industry reduced the volume of building actually attempted. Until the oil bust, there was no serious attempt to manage public sector demand for construction over time so it matched available supply of inputs. Unnecessary pressures were thus placed on the construction industry, reducing the volume of public and private investment possible. It crowded out private investment and had important implications for later employment and industrial diversification possibilities. One might speculate as to whether under the prevailing circumstances and constraints more could not have been constructed during the oil boom itself. However, instead of being leaked out to ghost construction, funds could have been conserved for these productive future projects, and demand drawn out over time to avoid driving up prices.

The existence of the ghost industry should not be seen as a boon for Nigeria in any way, in spite of the fact that the public sector frequently misspent its funds, and the ghost industry channelled resources to the potentially productive private sector. This is because the projects which were planned but never built were precisely the type of growth-enhancing public construction goods most efficiently produced by the state. Although, as Chapter Five notes, a certain amount of the ghost industry likely found its way into private building of both residential buildings and factories, it is highly likely that, though evidence is not presented here, a significant portion of the receipts from the ghost industry were spent on imported consumption goods or were siphoned abroad. Ghost payments enhanced individual wealth formation but suppressed public productive investment.

What occurred during the oil bust is arguably just as important in explaining Nigeria's economic trajectory as the ghost construction of the oil boom. During a time of fiscal austerity the Nigerian government felt the need to conceal its construction agenda, which had deprioritized public goods, from scrutiny. The essential role that the oil-boom era investment in public goods played in the productivity of the Nigerian private industry was most apparent when it was effectively halted during the oil bust, during which the government continued construction on a much reduced scale, off-budget and on non-public goods. It is not an exaggeration to say that the almost complete lack of investment in public utilities during the oil bust crippled the productivity of entire economy, thereby overshadowing in its impact myriad other macroeconomic policy problems.

This narrative does not absolve government planning errors from their part in Nigeria's growth failure, and indeed these errors amplified the effect of the ghost industry in reducing possible investment during the oil boom. For example, Nigerian state planning was the primary source of the inelasticity in construction supply. As the discussion in Chapter Seven about the evidence for Dutch Disease showed, while some degree of supply constraint would have occurred naturally due to the sudden increase in demand during the 1970s, the supply of construction capacity was unnecessarily limited, and prices driven up, by a hostile state operating environment for construction firms. Indigenization decrees limited foreign investment in the sector, politicized the award of construction contracts, and prevented work from going to the lowest bidder. Poor foreign exchange management prevented access to needed imports of spare parts, and even during the oil boom, the unstable power supply and deteriorating road maintenance slowed construction work. The government 'cement armada' scandal caused port congestion which contributed to shortages in the supply of construction materials and other goods lasting several years during the oil boom. This was a hugely significant factor in the rising construction prices, which peaked during the armada episode.

How construction is necessary to break out of the 'corruption' cycle

Oil boom-era Nigeria offers one of post-colonial Africa's most extreme examples of the wide-scale diversion of public resources into patronage networks; what scholars often call 'corruption'. The 'corruption' in Nigeria is of a particular kind. Nigeria, through its oil and gas deposits, is natural-resource rich, and this wealth accrues directly to the state. As the state is not dependent for its revenue on taxing its citizens, which might require some degree of cooperation, it is naturally less likely to be responsive to the necessity of providing citizens with public goods and services. Instead, the state is in a 'corruption' cycle, which has been extensively described by specialists in Nigerian politics, including Richard Joseph and others: those who control state jobs and resources use those resources for the benefit of their patronage networks instead of the wider public. This cripples the functionality of the state, which in turn makes both those with and without access to state resources more dependent on their patronage networks to provide them with essential public goods and services.[2]

As the evidence presented here about ghost construction and other construction trends during the Nigerian oil boom and bust demonstrates, construction is at the centre of this cycle. The magnitude of ghost construction described in this thesis has confirmed what other scholars have frequently suspected: that much of the illegal diversion of public funds in Nigeria took place through the construction sector. This was partly because

[2] Richard A. Joseph, *Democracy and Prebendal Politics in Nigeria* (Cambridge, 1987).

construction contracts are large and often convenient mechanisms to transfer money out of the government. Construction, when built by the legitimate industry, can also be a major form of patronage. This study of Nigerian construction therefore provides insight into the scholarly understanding of into the causes and mechanisms of 'corruption' in Nigeria, which as one of Africa's largest economies is clearly a worthwhile subject of study on its own, and as a major oil producer may well have characteristics in common with a broad range of other resource-rich economies. This conclusion uses three observations about construction in this thesis to suggest that construction is often not only a central part of the 'corruption' cycle problem, it can also be an underestimated but essential part of any solution.

The first observation that this study of construction can provide about 'corruption' in Nigeria is that a huge range of people participated in it. The scale of this widespread illegality, and the range of industries in which it took place, required the participation of people all along the socioeconomic spectrum. At the top end of the spectrum this included anyone who might have been involved in the contract awarding process, such as politicians, civil servants, representatives on tenders boards, and recipients of contracts. At the middle to lower end of the spectrum it in many cases included those involved in managing and working at publically owned companies, such as the steel and cement plants described in detail in Chapter Six. What the diversion of public resources in the cases of all of these individuals had in common was that it was illegal, was generally done in secret (though not always, as this thesis has noted on a number of occasions), and was done in spite of the obvious poverty and deprivation of the majority of citizens.

The second relevant observation from this study is that while those who were involved in 'corruption' all had illegal activity in common, their individual economic 'bargains' with the state, and in particular the public goods that they received from the state, were often very different. 'Public goods' are defined in this chapter, as they are in Chapter Eight of this thesis: goods built or provided by the government, at no cost or an affordable price or, to the public at large. They include facilities such as roads, schools, health centres, clean water and electricity. Construction goods were the major mechanism (along with subsidies on certain goods, such as fuel) through which the government historically distributed public goods. The distribution of these goods was very uneven, and changed over time. A politician or bureaucrat illegally diverting funds might, for example, live in a state-subsidized house in the gleaming and well organized Nigerian capital of Abuja. Abuja is a testament to Nigerian planning and construction capabilities and of the country's ability to create and maintain productive structures on a large and impressive scale, and has a city centre designed by the Pritzker-award winning Japanese architect Kenzo Tange. Conversely, a worker at state-owned cement factory illegally diverting state resources might have little access to state-subsidized housing, schools, roads or electricity. In addition, what access he had to these goods might have dwindled over time, since Chapter Eight showed that during the oil bust, the public sector reduced its investment in public infrastructure.

These two observations together suggest that the term 'corruption' is not useful in trying to understand the causes, and consequences, of the behaviour of those engaged in this type of illegal activity. The term ‘corruption’ unites everyone who takes part in illegal acts with a common label, one carrying considerable moral opprobrium. It is a label which considers only the expectation of citizens to behave in accordance with state and legal regulations, while ignoring any perceived obligations on the part of the state and its legal system to citizens. Since this study shows that Nigerians were receiving very different amounts of public goods, they might reasonably feel, and perhaps have, different degrees of obligation towards the government and its legal system.

The idea that the Nigerian government might lack legitimacy with a significant portion of its citizens has been explored by scholars. Peter Ekeh and Varda Eker described similar versions of a conflict between ethical and legal frameworks in Nigeria which acted to justify and motivate the diversion of public funds.[3] Their work suggests that because of its historical legacy, the Nigerian state and its legal system did not automatically enjoy widespread legitimacy and cooperation. Instead, the state may have had to earn this cooperation through the provision of public goods. This was especially true as the state’s oil wealth was well known and the subject of competition between geographic and party-based interest groups, which led to rising expectations of wealth-sharing amongst the population. As one of the primary avenues by which the government provided public goods, construction was central to this provision either taking or not taking place.

[3] Peter P. Ekeh, ‘Colonialism and the Two Publics in Africa: A Theoretical Statement’, *Comparative Studies in Society and History*, Vol. 17, No. 1 (1975), 92, 102-103, 108; Varda Eker, ‘On the Origins of Corruption: Irregular Incentives in Nigeria’, *The Journal of Modern African Studies*, Vol. 19, No. 1 (1981), 175-176.

The unfortunate many not receiving any significant public goods may either not recognize the legitimacy of the state and legal system at all, or they may recognize its legitimacy but not be able to function or be economically productive without participating in illegal activity, and thus feel forced into participating in what they see as a necessary evil. The violent campaigns currently being fought in the Niger Delta region, for example, are often explained by their participants as an effort to expand their access to public goods, including construction goods. Their actions imply a belief that violence is justified against a government which does not hold up its side of an economic 'bargain'.

This is not an argument that Nigerian society was universally tolerant of 'corruption'. There are many Nigerians, lawyers, journalists, community leaders, intellectuals and a host of others who have dedicated their lives to the pursuit of building a state in which public resources are used for the benefit of the public. These individuals may not have benefitted from public goods, but they chose to fight to change the state through its own legal system, instead of subverting the system in order to access resources to which they feel entitled. But the widespread 'corruption' in Nigeria, amongst all social classes and ethnic groups, indicates that there was a multitude who were not willing or able to wait for internal reform, and thus helped to perpetuate the status quo. The complexity of the feelings that Nigerians have about the their government, in combination with their various economic circumstances, suggests that the extent to which construction did or did not take place, and who benefitted from it, should form a central part of the discussion about the nature of 'corruption' not only in Nigeria, but also in other resource rich economies. Those who received very little or nothing in the way of essential goods and services from the government should surely be considered differently by scholars than a politician who is a recipient of the state's lavish construction largess.

In the same way that the term 'corruption' can be misleading to those wishing to understand historical trends in Nigerian economic development, this chapter has already noted that the way the term 'public investment' has been used can been similarly misleading. The prospect of turning public funds into construction provided major impetus, as well as opportunity, for the diversion of public funds. Government workers were strongly tempted to appropriate public resources while they were still in their most liquid and anonymous form and before they were transformed by construction into permanent public goods, after which the chance of appropriation would be lost. While the process of construction was a final opportunity to personalize 'public' government income, actual finished construction would not enrich government officials and was hence avoided by both politicians and civil servants. Even when 'public investment' did include finished construction, built by the legitimate construction industry, in many cases this finished construction included huge 'White Elephant' projects, such as the steel mills described in Chapter Six. What has been called 'public investment', therefore, is likely not a good representation of public construction goods, or public goods overall. This study therefore supports the findings of other scholars who have stressed that when evaluating countries with poor institutions, it is important to consider not only 'public investment' statistics, but also the quality of public goods provided.[4]

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[4] Eduardo Cavallo and Christian Daude, 'Public Investment in Developing Countries: A Blessing or a Curse?', *Journal of Comparative Economics*, Vol. 39 (2011), 78; Lant Pritchett, 'Mind Your P's and Q's:

There is even reason to suspect, as Philip Keefer and Stephen Knack have suggested, that in countries with poor governance there may be an inverse relationship between 'public investment' and actual public investment, as government officials promote construction projects because of the ease with which public resources can be diverted away from construction into the patronage networks of those in power.[5] However, it also finds that in Nigeria while public investment was favoured, partly for this reason, during the oil boom, it was not favoured during the oil bust, when there was a shift in preferences. This was not because of any improvement in governance institutions, but because historical circumstances made public investment no longer an ideal avenue for rent seeking. In addition, in these altered circumstances, private, or 'club' fixed capital investment with public funds itself became an attractive form of 'rent', as legitimate public investment was increasingly unavailable for rent-seekers as well as the general public.

How can countries break out of the cycle of patronage? In the conclusion to his classic work on post-colonial Nigerian politics, Joseph noted that all modern democracies were once trapped in such cycles, and identified the provision of public goods as a crucial step towards empowering the private sector, and in particular the private sector which was not connected to patronage systems that benefitted from state resources. In his view,

> reformers emerged who succeeded in getting legislation passed which replaced some of the monopoly exercised by party machines with the application of universalistic criteria in the appointment of civil servants and in the allocation of public goods. Yet such successes facilitated

The Cost of Public Investment is *Not* the Value of Public Capital', *World Bank Policy Research Working Paper*, No. 1660 (1996).

[5] Philip Keefer and Stephen Knack, 'Boondoggles, Rent-Seeking, and Political Checks and Balances: Public Investment under Unaccountable Governments', *The Review of Economics and Statistics*, Vol. 89, Iss. 3 (2007), 570.

> the expansion of the private sectors of the economy, which reduced the relative importance of the patronage systems.[6]

In other words, the construction sector, as the mechanism for providing public goods which can empower the unconnected, is a critical step out of the cycle. When public goods are built, and are widely available to the population, they empower not only those with access to state resources, but also those with no such access. The latter group are thus enabled to build the economic and political capital to demand yet more universal public goods. Chapter Eight of this thesis showed that when the Nigerian state drastically reduced the provision of public construction goods during the oil bust, this process occurred in reverse, and the private sector became even more reliant on patronage networks. This leads to the question of how a government conquered by prebendal politics can take the initial step of providing the increase in the construction of universally-available public goods required to break the cycle. Do governments, as Joseph indicated, require 'reformers…who succeeded in getting legislation passed'?

The third observation from this study which is important for this discussion about 'corruption' is that Nigerian history suggests that reformers are not necessarily needed for government funds to be allocated to construction. In fact, most heads of state, whether they reached their position through an election or a military coup, were occasionally seized with the sincere desire to build at least some public goods. Once heads of state garnered the political will for this construction, their efforts were occasionally successful when they took steps to circumvent government ministries and make direct use of the legitimate private construction sector. Their efforts often failed when they tried to

[6] Richard A. Joseph, *Democracy and Prebendal Politics in Nigeria* (Cambridge, 1987), 191.

allocate funds through government agencies and excluded parts of the legitimate construction industry from contracts in order to favour either indigenous or political patrons. For example, President Abacha's Petroleum Trust Fund (PTF) of the mid-1990s, described in Chapter Eight, was specifically designed to circumvent government ministries in its efforts to funnel funds from oil exports directly to construct public infrastructure, and met with some success. In contrast, the national house-building programme of President Shagari in the early 1980s, mentioned in Chapter Four, fell victim to the ghost industry in spite of some clear efforts from the President's office.[7] Part of the reason that it mostly failed was that large segments of the 'legitimate' construction industry were generally excluded from these government housing contracts. Those contracts were reserved for either 'indigenous' construction companies or for the ghost industry.

The private construction sector was necessary for heads of state to successfully build public goods because they needed an organization to carry out the construction which did not require a great degree of government interaction. Projects had to be implemented with as little contact as possible with weak and porous state institutions which had generally deteriorated over time. Ironically, as ghost construction became more significant, the legitimate private construction sector became more important, because they gave the government the ability to execute a project with minimal interaction with other government bodies. Nigeria was fortunate in its capacity for implementation of construction projects because it had, prior to the oil boom, a well-developed, competitive and technically competent construction industry which could plan and build projects once

[7] I.E.S. Amdii, *Analysis of Government Housing Policy in Nigeria* (Zaria, 1993), 105, 108.

granted contracts and financing. Although the large scale privatization, and politicization, of public sector construction contracts in the 1950s created the essential framework for the ghost construction industry, the legitimate industry played an invaluable role in providing an alternative to the ghost industry and in 'getting things done' with minimal state influence.

This thesis showed that the Nigerian construction industry increased the efficiency of construction during the oil boom and bust. It responded rationally to the construction market, expanding and contracting according to demand and was reasonably well organized, producing work of great technical sophistication. During the oil boom the construction industry was attracting considerable attention from international firms wanting to enter the market, and boasted a strong base of existing firms which were reinvesting in capacity. There was no major 'problem' with the construction sector, such as lack of entrepreneurship or investment evident which hindered Nigeria from being able to optimize transformation of its oil revenues into bricks and mortar and tunnels and flyovers.

Of course, for a government to purchase public goods from a legitimate construction firm, careful timing of the purchases was also important in order to maximize the spending power of the investment. While this thesis has lent support to the argument that certain types of investment – such as public infrastructure – could have significantly contributed to economic productivity, it has also provided evidence to support the view that a carefully managed approach to investment in fixed capital would have had substantial beneficial effects, given the multiplying effect that an unrestrained building boom has on the unit price of construction. This theme was explored in detail in Chapters Seven and Ten of this thesis. The two suggestions are not incompatible: growth would have been optimized if certain large transformative investments had been made quickly and simultaneously, while other investments were made slowly over time. When large investment was made in areas which decongested construction bottlenecks, such as the new port of Tin Can Island during the 1970s, it shifted and flattened the construction supply curve, making more construction possible more quickly and at a lower price. The idea of fast-tracking certain investments in order to optimize overall economic growth correlates with Nigeria's historical experience: the 'big push' of the Nigerian railway, which scholars agree had a transformative effect on raising incomes, was built at the cost of investment in other areas. It was built over more than a decade, but benefits were reaped quickly as each line segment was completed.

Aside from the construction sector, the private sector more widely has had mixed success in providing affordable goods and services which the Nigerian economy needed in order to grow and break out of its patronage cycle. Historically in Nigeria, private sector investments were productive, but frequently faced a difficult operating and investment environment. Private sector investments in fixed capital erected in the 1950s and 1960s were very valuable during the oil boom as construction prices rose and new capacity became much more expensive to build. This situation was reversed by the inevitable removal of tariff protections and the depreciation of the overvalued currency on which manufacturing capacity utilization in the private sector unhealthily depended. It was the lack of construction of public infrastructure which most contributed towards the declining productivity of private industrial investment, and increased the cost of essential utilities and made it cheaper to import goods rather than produce them domestically. This turned the focus of the private sector away from fixed capital investment and towards importation and distribution, which appears to have helped stifled economic growth. The fact that the Nigerian cement magnate Aliko Dangote initially made a fortune by importing cement, rather than producing it domestically, is an example of the impact of this market distortion. Recently the private sector has been able to provide certain public infrastructure goods which have normally been considered the sole remit of government. This has occurred when the private sector has been able to adopt an economic model which generates profit and mitigates the market risk normally present when making a large, up-front investment in a hostile business environment like Nigeria. An example of this, though it developed after the period under examination in this thesis, is the largely privately-owned Nigerian mobile telecom sector.

The findings of this thesis suggest that the provision of public goods, which are often *communal goods*, is a crucial hurdle between Nigeria and its economic transformation, and that overcoming it may not be as difficult as other scholars have suggested. This may also hold true for other resource-rich countries with similarly poorly functioning governments. One striking thing about this conclusion is its stark contrast to the theory about economic growth which has garnered the most attention and historical research in recent decades: the idea that the establishment of private property rights is what has caused economic take-off in history.[8] Although it was outside of the scope of this thesis, the idea that the successful creation and maintenance of communal goods may have played as important or more important of a role in the history of economic growth as the establishment of individual property rights in certain historical contexts is an intriguing and potentially fruitful area for future research.

As the Nigerian government continues to draw on hydrocarbon exports for its income, how those resulting revenues are aggregated and invested in the domestic economy will be manifested first in the construction sector. Any economic diversification will require building – and building with scale – but this in turn will require rectifying the decades-old construction market distortions and dilemmas which have limited Nigeria's enormous potential. If these hurdles can be overcome, Nigeria can readily build a better future.

[8] For an example, see: Douglass C. North and Barry Weingast, 'Constitutions and Commitment: The Evolution of Institutions Governing Public Choice in Seventeenth Century England', *The Journal of Economic History*, Vol. 49, Iss. 4 (1989).

APPENDICES

APPENDIX A: Nigerian Macroeconomic Data

A.1a: CPI 12MMA inflation 1961-2000

1961	6.1%	**1971**	1.6%	**1981**	21.4%	**1991**	12.7%
1962	5.0%	**1972**	9.4%	**1982**	7.2%	**1992**	44.8%
1963	29.7%	**1973**	4.6%	**1983**	23.2%	**1993**	57.2%
1964	0.3%	**1974**	13.5%	**1984**	40.7%	**1994**	57.0%
1965	0.9%	**1975**	33.9%	**1985**	4.7%	**1995**	72.8%
1966	2.5%	**1976**	21.1%	**1986**	5.4%	**1996**	29.3%
1967	2.0%	**1977**	21.5%	**1987**	10.2%	**1997**	10.7%
1968	2.4%	**1978**	13.3%	**1988**	56.0%	**1998**	7.9%
1969	1.8%	**1979**	11.6%	**1989**	50.5%	**1999**	6.6%
1970	1.7%	**1980**	10.0%	**1990**	7.5%	**2000**	6.9%

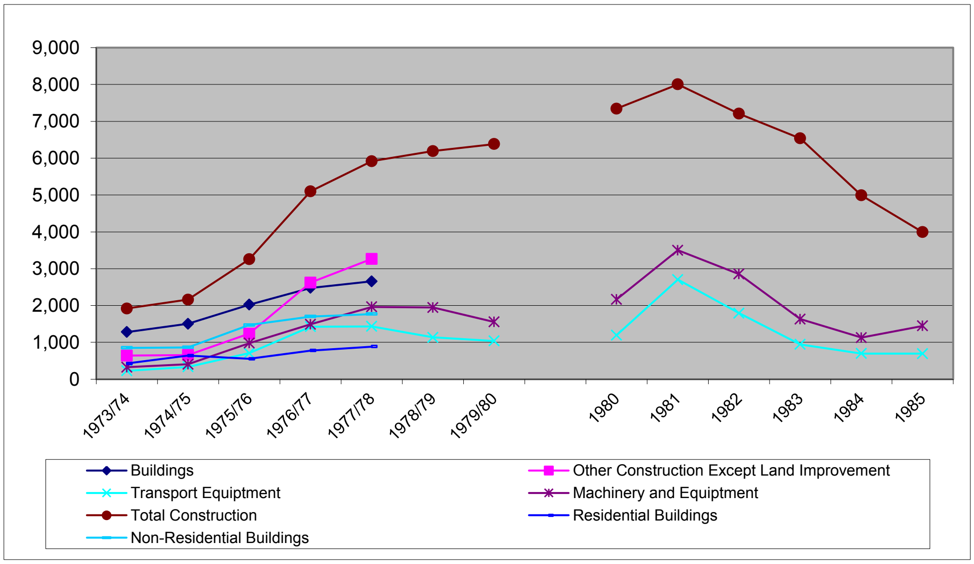
Source: CBN, unpublished originally prepared for a 50th anniversary publication, CBN Statistics Department (Director, Dr. Sani Doguwa), Abuja, obtained April 2009.

A.1b: CPI 12MMA 1960-2000 (May 2003=100)

1960	0.14						
1961	0.15	**1971**	0.23	**1981**	0.99	**1991**	6.37
1962	0.15	**1972**	0.25	**1982**	1.06	**1992**	9.23
1963	0.20	**1973**	0.26	**1983**	1.31	**1993**	14.50
1964	0.20	**1974**	0.30	**1984**	1.84	**1994**	22.77
1965	0.20	**1975**	0.40	**1985**	1.93	**1995**	39.35
1966	0.21	**1976**	0.48	**1986**	2.03	**1996**	50.88
1967	0.21	**1977**	0.59	**1987**	2.24	**1997**	56.31
1968	0.22	**1978**	0.67	**1988**	3.50	**1998**	60.74
1969	0.22	**1979**	0.74	**1989**	5.26	**1999**	64.76
1970	0.23	**1980**	0.82	**1990**	5.65	**2000**	69.25

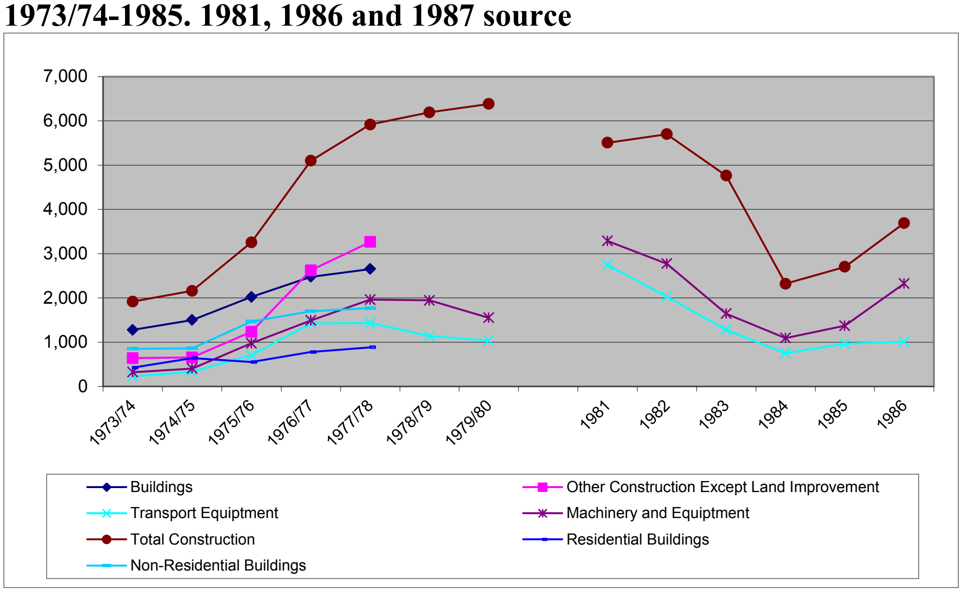
Source: CBN, unpublished originally prepared for a 50th anniversary publication, CBN Statistics Department (Director, Dr. Sani Doguwa), Abuja, obtained April 2009.

A.2: Nominal gross fixed capital formation by type of capital goods (Naira MM) 1973/74-1985. 1981 and 1986 source



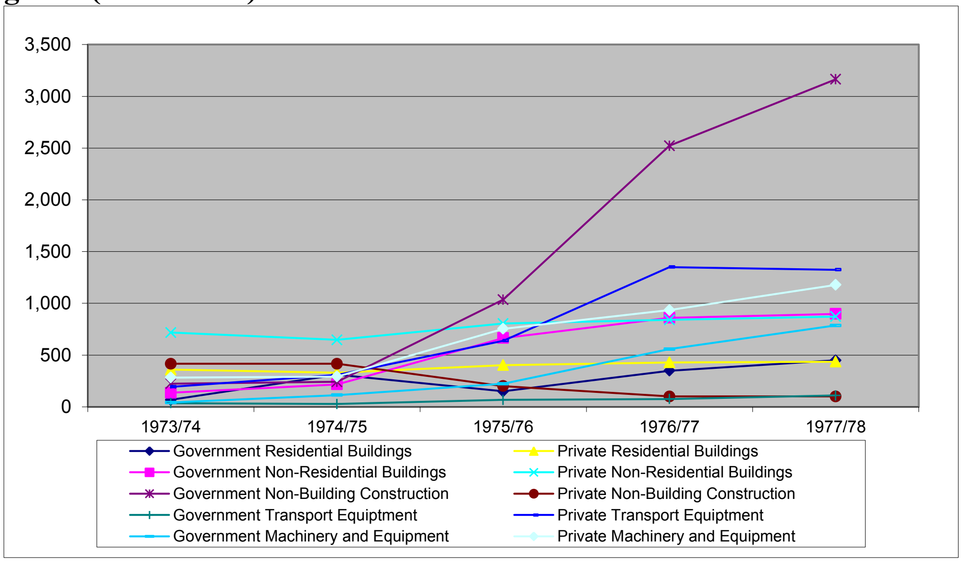
Source: *Annual Abstract of Statistics 1981,*141; *Annual Abstract of Statistics 1986*, 181.
Note: In the 1986 source the 1978/79 and 1979/80 total construction classification appears to group buildings and non-building construction.

A.3: Nominal gross fixed capital formation by type of capital goods (Naira MM) 1973/74-1985. 1981, 1986 and 1987 source



Source: *Annual Abstract of Statistics 1981*, 141; *Annual Abstract of Statistics 1986*, 181; *Digest of Statistics June, 1987*, 10.
Note: For 1981-1986 years the 1987 abstract numbers are very different from the 1986 abstract. In the 1986 source the 1978/79 and 1979/80 total construction classification appears to group buildings and non-building construction.

A.4: Nominal public and private gross fixed capital formation by type of capital goods (Naira MM) 1973/74-1977/78



Source: Government and total gross fixed capital formation classification from *Annual Abstract of Statistics 1981*, 141, 143.
Note: Private sector is implied from taking the difference between total and government gross fixed capital formation. Non-building construction excludes land improvement.

A.5: Real GDP in constant prices excluding crude petroleum and natural gas and building and construction (Naira MM) 1974-2000

1974	10,960	**1988**	145,060
1975	19,469	**1989**	153,264
1976	19,607	**1990**	162,976
1977	21,458	**1991**	169,540
1978	20,111	**1992**	173,050
1979	19,532	**1993**	176,087
1980	21,736	**1994**	178,979
1981	123,825	**1995**	182,649
1982	127,676	**1996**	188,222
1983	120,250	**1997**	188,222
1984	111,877	**1998**	194,683
1985	125,576	**1999**	201,007
1986	131,878	**2000**	209,868
1987	132,181		

Source: CBN, unpublished originally prepared for a 50th anniversary publication, CBN Statistics Department (Director, Dr. Sani Doguwa), Abuja, obtained April 2009.
Note: 1974-1980 is in 1977/78 constant basic prices, and 1981-2000 is in 1990 constant basic prices.

APPENDIX B: Construction Company Data

Discussion and description of sources

A dataset of construction-related firm financial and operational statistics was collected during fieldwork in Nigeria over 2008-2009. It was compiled from historical summary financial statements printed in the Nigerian stock exchange handbooks, company annual reports, articles in industry magazines, and data provided directly by companies.

The indigenization decree of 1972 put pressure on many of the largest construction firms to list on the local stock exchange. Firms listed in Lagos provide summary financial statements to the stock exchange. These financial statements were published in stock exchange handbooks. This dataset uses stock exchange handbooks dating from 1980, which preserved a valuable historical record of financial data of private sector companies which might otherwise be lost or unavailable to the public. In most cases the summary financial statements included for each company includes five years of historical data, so the 1980 handbook in most cases included data from 1975. This dataset uses *The Nigerian Stock Exchange Handbook Volume One 1980*, *The Nigerian Stock Exchange Handbook Volume 2 1984*, *The Nigerian Stock Exchange Handbook Volume III 1987/88*, *The Nigerian Stock Exchange Factbook 1993*, *The Nigerian Stock Exchange Factbook 1998* [year unclear].

An incomplete series of annual reports, including financial statements, notes to the financial statements, operational data, ownership details, and an annual descriptive chairman's statement are available for two of the largest listed construction firms in Nigeria, Julius Berger and Cappa and D'Alberto, as well as the historically largest Nigerian cement manufacturer, West African Portland Cement Company (WAPCO). The Julius Berger annual reports were available from 1980-1999, except for the annual reports of 1982 and 1988. Most Julius Berger data in the dataset came from these annual reports and other company publications and webpages except for 1975 data, which came from *The Nigerian Stock Exchange Handbook Volume One 1980*. Cappa and D'Alberto annual reports are available from 1979 to 2000, except for the annual report of 1989. All Cappa and D'Alberto data came from the annual reports and from their commemorative book *50th Anniversary in Nigeria 1932-1982*. West African Portland Cement (WAPCO) annual reports are available for 1978, 1984, 1988, 1991, and 1998-2000. Where there are inconsistencies between data given in annual reports and stock exchange handbooks, in most cases the annual reports are considered the more authoritative source.

Indicators of construction volume such as sales and profits were deflated using the CBN 12MMA CPI annual deflator from CBN Statistics Department shown in Appendix A.1.

The industry publication *Construction in Nigeria* in some cases included financial data from construction firms which was not included in the stock exchange handbooks. An article by E.O. Olowo-Okere in a 1986 edition of the magazine was particularly helpful.[1]

[1] E.O. Olowo-Okere 'Wither the Construction Industry in Nigeria', *Construction in Nigeria*, Vol. 3, No. 1 (May 1986).

It contained turnover and profit/loss figures for 10 listed construction firms for 1976-1985, though it is not clear if the data was adjusted to account for different fiscal year end dates.

In this thesis as far as possible, unless otherwise noted, data for construction companies is presented on a calendar year basis. Cappa and D'Alberto, CWA, G. Cappa, Arbico, Dumez, Roads Nigeria, WAPCO, Ashaka Cement all have fiscal year end dates different from the calendar year end. These are calendarized by attributing to each calendar year a percentage of each fiscal year's data provided depending on the percentage contribution of the months presented in the fiscal year end data to the calendar year. Dumez changed from a March year end to a December fiscal year end in reporting to the Nigerian Stock Exchange handbook in 1998, including years 1994-1998. WAPCO changed from a November to a December fiscal year end from 1993-2000. WAPCO reported 1993 as a 13 month year (this was adjusted by multiplying by 12/13). It is significant to note that Cappa and D'Alberto annual reports quoted here are referring to years ended March 31.

When sources give both construction firm group and company data (such as in the Cappa and D'Alberto annual reports), this thesis uses group numbers. The 1975-1978 data in *The Nigerian Stock Exchange Handbook 1980* for G. Cappa appears to be mistakenly noted in million Naira, not in thousand Naira as the table in the handbook states. This is corrected in the 1984 handbook and in this thesis.

Notes on construction industry financial data:

Sales

1. Olowo-Okere is the source for Arbico sales for 1983-1985 and Dumez, Roads Nigeria and Taylor Woodrow sales for 1976-1977.
2. Olowo-Okere and the stock exchange handbook differ significantly in their data for Dumez sales for 1978 and 1979. The handbook data is used as it is considered a more reliable source.

Pre-tax profit

3. Olowo-Okere is the source for Arbico pre-tax profit for 1983-1985 and Dumez, Roads Nigeria and Taylor Woodrow for 1976-1977.
4. Julius Berger profit on contract work appears to be mistyped in 1991.
5. Taylor Woodrow pre-tax profit in 1985 in the 1987/88 handbook appears to be missing one of its brackets. The data is assumed to be a negative value.

Employee data

6. Julius Berger 'salaries, wages, pensions and social benefits' are not disaggregated from 1982-1991. 'Staff costs' are given separately from 1990-1999. In the overlapping period 1990-1991, 'staff costs' are lower than 'salaries, wages, pensions and social benefits'. Thereafter both categories are given as the same. The 'salaries, wages, pensions and social benefits' series is used as it is the more continuous series.

7. *The Nigerian Stock Exchange Handbook 1980* gives Cappa and D'Alberto employees at 'about 4,000', though this number is given in the annual report as lower, 3,291. The annual report number is used. Employees numbers are calendarized for Cappa and D'Alberto to a December year end.

Borrowing

8. It is unclear if the Julius Berger bank interest charges mentioned from the first annual report available, for the year 1980, refer only to bank facilities or if any other liabilities or facilities which were interest bearing. Bank overdrafts are only shown in current liabilities from 1982, whereas bank interest and charges are recorded from the first possible date of 1979 (in the 1980 annual report). In addition to bank overdrafts, current liabilities are disaggregated into trade creditors and amounts due to Julius Berger's parent company (which own 40%), Bilfinger + Berger. Note 8 in the Julius Berger 1980 annual report notes 'Amount due to Bilfinger + Berger Bau AG: This represents cash collected less outgoings on behalf of Bilfinger + Berger Bau AG, a non-resident enterprise, in respect of certain contracts performed by that company.'
9. Cappa and D'Alberto showed no long-term debt for the entire period 1975-2000. They show a small amount of short term debt taken on in 1984 and paid down in 1985. They show interest on overdrafts from 1993-2000, but do not show the corresponding overdraft amount, and an additional 'total interest' amount almost matching this figure from 1986. The Cappa and D'Alberto reports available are incomplete, and so the full balance sheet and notes to the balance sheet are not

always available, but the abridged balance sheet, available for every year 1975-2000, shows there was no long-term debt.

APPENDIX C: Cement Price/Volume

Discussion and description of sources

A dataset of cement prices and volumes of sold, imported and manufactured was collected during fieldwork in Nigeria over 2008-2009. The sources included data from company archives, Nigerian government data from government annual statistical abstracts/digests of statistics and a Federal Ministry of Industries cement study, newspapers, two unpublished dissertations, and several books and articles relating to the Nigerian construction industry. In the mid-1970s Nigeria switched from the imperial system, where cement was measured in long tons (2240 lbs), to the metric system, where cement was measured in (metric) tonnes (1000 kg). In this thesis, for the period before 1970, cement is shown in long tons. For the period after 1970, cement is shown in (metric) tonnes, unless noted. Cement prices quoted per bag are assumed to be referring to hundredweight bags (112 lbs) through 1974, and 50kg bags from 1975 onwards.

The full contract and correspondence archive of Godwin and Hopwood (Godwin Hopwood Kuye from 1989), a Lagos-based architecture firm founded in October 1955, was made available for this study. Cement prices in this appendix were taken from a sampling of contracts/projects dated in 1957-1960, 1962, 1965-68, 1970 and 1974. When a source is from the Godwin and Hopwood archive, it is cited as ‘GH’.

Government annual statistical abstracts/digests of statistics were copied from the library of the NBS in Abuja. The following appendix draws on the *Annual Abstract of Statistics 1961* (where cement figures for 1960 are listed as provisional), the *Annual Abstract of Statistics 1967*, the *Annual Abstract of Statistics 1972*, the *Annual Abstract of Statistics 1981*, the *Annual Abstract of Statistics 1986*, the *Digest of Statistics December 1994*, the *Digest of Statistics December 1998* and the *Annual Abstract of Statistics 1999*. It is normally only noted when government abstract/statistic digest data does not agree with data from previous years' digests. The Nigerian Federal Ministry of Industries produced a report on the history and future requirements of the cement in the series *Industrial Master Plan Studies* and it is used here as a source. It includes a historical overview of the evolution of the domestic cement industry, and relevant raw materials, technologies and company developments.

Unpublished dissertations by Olukayode Sunday Oyediran and T. I. Aduloju were valuable sources of material price data. The Oyediran study gives prices for a large range of building materials quarterly from 1986-1999, though this appendix averages the quarters to get an annual cement price. Aduloju's data gives prices of a large range of building materials from 1977-1984 was taken from an article in the *Construction In Nigeria* industry magazine. A second article from the same magazine by F. A. Olaloku gives cement import data from 1970-1972, and from 1974-1977 for a number of building materials. The Olaloku cement data in this article is given in tons, but it is assumed in this thesis that this is a typing error, and that it is actually referring to (metric) tonnes, as its sources include the CBN annual reports 1975-1977, which give cement volume data in (metric) tonnes. Periodically the *Construction In Nigeria* magazine published a commonly used construction material price index as an appendix. The Federation of Construction Industry published a commemorative book in 1999, *FOCI in the New Millennium*, which gives some ex-works cement prices in addition to other building material prices from 1986-1990, and 1992.

S. U. Ugoh was an authority on the Nigerian cement industry through the 1960s, and this thesis draws on several of his articles in the *Nigerian Journal of Economic and Social Studies*, one of which includes domestic cement production from 1958-1960.

Nigeria's earliest and largest cement manufacturer, the West African Portland Cement Company (WAPCO) published a company history of itself in 1990 using its own company archives, and gives cement prices and volumes imported and manufactured for select years.

The CBN Research Department provided imports, domestic production by company, and prices sold by company, for cement from 1981-1990. The prices associated with WAPCO are most likely to be most comparable to those in the Lagos area. All prices from this source are given as of December.

The sources are used principally for three groups of historical series: cement prices, cement imports by volume and value, and domestic cement production by volume. At various points in this thesis, cement import series are used as a source of pricing data, by dividing the value of cement imports by volume to arrive at an implied price. These prices series have the source key title of ‘Imports-Derived Price’. Apart from possible questions about the providence of the primary data, there are two problems with this ‘import derived’ way of presenting data. First, as there are multiple sources for both value and volumes of imports, each potential pairing would offer a different implied price. This is addressed in the dataset by pairing the same source of volume and value together, or by matching those with continuous series for the same period as much as possible. Second, import values are likely to be recorded at the place of freight arrival, therefore would not include the transportation or distribution costs. At points there appears to be a consistent price discrepancy between retail and import pricing, so potentially a distribution mark-up could be added to make the sources more consistent. Additionally, the sources record pricing over a disparate geographic area and at different points of the year, which make the prices less comparable but lend insight into seasonal pricing around the country. Unless otherwise noted, cement consumption is defined as imports volumes plus domestic production or sales volumes. This is due to the lack of more direct consumption data.

Where cement prices or values are noted as real, or adjusted for inflation, nominal data was deflated using the CBN 12MMA CPI annual deflator from CBN Statistics Department shown in Appendix A.1. In many cases the date, and location within Nigeria at which a price was given is unknown, and this thesis groups all prices within a year as referring to that year.

Cement source key for all cement chart appendices below:

AAS:	*Annual Abstract of Statistics*
DOS:	*Digest of Statistics*
GH:	Godwin and Hopwood archive, Lagos, Nigeria. The location of the job were the price was recorded is given if available, such as Lagos or Kaduna. See GH Material Price List Chart in Chapter Three for job number references.
Ugoh (1964):	S.U. Ugoh, 'The Nigerian Cement Company', *The Nigerian Journal of Economic and Social Studies*, Vol 6., No. 1 (1964).
Ugoh (1966):	S.U. Ugoh, 'The Nigerian Cement Industry', *The Nigerian Journal of Economic and Social Studies*, Vol. 9, No. 1 (1966).
Adejugbe:	M.O.A. Adejugbe, 'Resource Allocation and Locational Efficiency in the Nigerian Cement Industry', *The Nigerian Journal of Economic and Social Studies*, Vol. 14, No. 2 (1972).
Ministry of Trade:	Data from the Federal Ministry of Trade and Industry (Files on monthly trade report for West, East and North - 1957 to 1966) in Adejugbe (p.226).
WAPCO:	Peter Pugh and J.F. Ade Ajayi, , *Cementing a Partnership: The Story of WAPCO 1960-90* (Cambridge, 1990).
Ex. factory:	Prices when the cement leaves the factor, from WAPCO (West African Portland Cement), NCC (Nigerian Cement Company), CCNN (Cement Company of Northern Nigeria), in Adejugbe (p.232).
Olaloku:	F.A. Olaloku, 'The Quantity Surveyor, The Second Tier Foreign Exchange Market (SFEM) and the Construction Industry in Nigeria: Options and Challenges', *Construction in Nigeria*, Vol. 4, No.1 (1987).
Fed Plan:	*Industrial Master Plan Studies: Cement*, Federal Ministry of Industries, April 1991, (p.37, imports and domestic production), (p.39, prices).
UN Comtrade:	http://comtrade.un.org/db/, SITC rev 1. Downloaded 5/6/10.
Aduloju:	T.I. Aduloju, 'The Effect of the Rising Costs of Building Materials on Housing Programmes in Ondo State', B.Sc. Dissertation, Department of Quantity Surveying, University of Ife (1985). Ondo State Ministry of Economic Planning and Statistics, Statistics Division, Akure, in *Construction in Nigeria* Vol. 3, No. 1 (1986).
Oyediran:	Olukayode Sunday Oyediran, 'Effects of Macro-economic Variables on Construction Costs in Nigeria: An Econometric Model', Ph.D. Thesis, Department of Building, University of Lagos (2002). This data is given

	quarterly from 1986-1999. Data used shows the average of the four quarters in each year.
Shyllon:	Yemisi Shyllon, 'The Roofing Materials Industry in Nigeria and Incentives for Increased Production', *Construction in Nigeria*, Vol. 11, No. 2 (1995).
FOCI:	J.O. Makoju, 'Meeting the Cement and Paint Needs of Construction in Nigeria: The Problems and Prospects', *FOCI in The New Millennium* (Lagos, 1999), 184. Ex-works cement price.
Price Index:	Price index refers to industry price indices published periodically in the publication *Construction in Nigeria* in the year the price is given.
CBN:	Central Bank of Nigeria (CBN) annual reports, or unpublished data, see Appendix C.16.
1981 Ministerial Report:	Federal Republic of Nigeria, *Report of the Ministerial Committee on the Causes of the Excessively High Cost of Government Contracts in Nigeria*, (Apapa, 1981), 24.
Kilby:	P. Kilby, *Industrialization in an Open Economy: Nigeria 1945-1966* (Cambridge, 1969), 101.

C.1: Nigerian annual cement consumption 1954-1970 (tons)

Notes and sources:

1. Import and production data are from AAS 1961 (imports, p.64), AAS 1967 (production, p.35, imports, p.81) and AAS 1972 (production, p.38, imports, p.87), except for production for 1958, 1959 and 1960, which came from Ugoh (1964) and production for 1957, which came from Adejugbe (p.219), which used data from the Federal Office of Statistics (FOS) and filled questionnaires from cement manufacturers as its source. A number of other sources were available for this period and were all broadly in agreement with those shown in the chart.

C.2: Cement price 1946-1970 (N/ton)

Notes and sources:

1. AAS 1961 (p.77): The c.i.f. price of cement imports.
2. Imports Derived Price: The imported value of cement in naira is divided by the imported tons of cement from the same source, for an implied value per ton. Sources included AAS 1961 (p.64), AAS 1967 (p.81), and AAS 1972 (p.87). The AAS 1961 refers to 1960 cement figures as provisional.

C.3: Company planned vs. actual cement production 1964-1970 (tons)

Notes and sources:

1. Total actual production: AAS 1972 (p.38).
2. Company planned production and individual company production from Ugoh (1966) (p.109). Port Harcourt, Anglo Canadian, Lagos and Mid West companies were clinker grinding plants.

C.4: Cement imports 1946-1970 (tons)

Notes and sources:

1. WAPCO (p.10).

C.5: Cement domestic production 1946-1970 (tons)

Notes and sources:

1. Ugoh (1964).
2. Adejugbe (p.219). From FOS and filled questionnaires from cement manufacturers.

C.6: Cement consumption 1970-1985 (tonnes)

Notes and sources:

1. Domestic production: AAS 1981 (p.86) and AAS 1986 (p.125). Note that WAPCO (p.115) estimates 3m tonnes of domestic production in 1983 and 1984.
2. CBN: CBN annual reports 1976 (p.25), 1977 (p.23), 1979 (p.23), 1980 (p.29), 1981 (p.26). 1980-1981 data is only given for January-June, so is multiplied by two here to estimate a full year figure. CBN annual report data appears to lack cement imports for 1977-1979 (using the later, revised figures from 1979).
3. Imports – Import Value Derived: This uses import values divided by various adjusted price series. The price series is adjusted to reflect import values as approximately 30% of retail cement price, based on an average taken from 1975-1984. Import values source: for 1977-1978, AAS 1981 (p.114); for 1979-1984, AAS 1986 (p.153). Price series source: Aduloju.
4. Total Consumption – Combined Estimate: Domestic production plus imports. 1970-1977: domestic production from AAS 1981 and imports from UN Comtrade. 1978-1980: domestic production from AAS 1981 and AAS 1986 and imports from the Imports-Abstracts/Aduloju Price series (see above). 1981: domestic production from AAS 1986 and imports from UN Comtrade. 1982-1984: domestic production from AAS 1986 and imports from the Fed Plan series. 1985: domestic production from AAS 1986 and imports from UN Comtrade. The major points of difference for total consumption were the import figures, particularly 1977-1978, 1981 and 1983. For 1977-1978, the Olaloku series provided a much higher number for 1977, and the newspapers gave a much lower

number. In one article ('3.6m tonnes of cement consumed in one year', *Business Times*, 15/8/78, 24) the WAPCO chairman estimated in 1978 that 2.3m tonnes were imported, and in another newspaper (John Nwosu, '2M tonnes needed for projects', *The Daily Star*, 13/9/78, 1) the Nigercem General Manager agreed that 2-3m tonnes were needed in imports. In another article ('N106m cement factory opened', *The Daily Times*, 10/5/78, 15) the figure of 3m tonnes a year is given. As a compromise the middle figure from the Imports/Aduloju series was used. For 1981, the UN Comtrade number was used as the middle figure between the Fed Plan and the Imports/Aduloju series. For 1983 the Fed Plan was used, as the Fed Plan and the Imports/Aduloju series agreed and the UN Comtrade figure was an outlier.

C.7: Domestic production of cement 1970-1985 (tonnes)

Notes and sources:

1. CBN: CBN annual reports 1976 (p.25) and 1977 (p.23), 1977 data is estimated.
2. Note: WAPCO (p.115), estimates 3m tonnes of domestic production in 1983 and 1984.

C.8: Cement imports 1970-1985 (tonnes)

Notes and sources:

1. CBN: CBN annual reports 1976 (p.25) and 1977 (p.23), 1977 data is estimated.
2. Import Derived Price: This uses import values divided by various adjusted price series. The price series is adjusted to reflect import values as approximately 30%

of retail cement price, based on an average taken from 1975-1984. Import values came from: for 1977-78, the AAS 1981; for 1979-1984, the AAS 1986. Price series: Aduloju.

3. Newspapers refer to: 1977: '3.6m tonnes of cement consumed in one year', *Business Times*, 15/8/78, 24. A WAPCO estimated annual number is given in 1978, so it is used as a proxy for the previous year, Nigercem agreed 2-3m tonnes per year of imports were needed. 1978: 'N106m cement factory opened', *The Daily Times*, 10/5/78, 15.
4. WAPCO (p.115), estimates 3m tonnes of domestic production in 1983 and 1984, which is higher than other estimates, but gives the numbers for imports as 3.7m tonnes in 1983 and 1.3m tonnes in 1984, consistent with other sources

C.9: Cement price 1970-1985 (N/tonne)

Notes and sources:

1. GH: Prices given in the Godwin and Hopwood archive, Lagos area, see GH material price list chart in Chapter Three for job number references. Site cement prices.
2. Imports - Olaloku, AAS 1981: These prices come from dividing the Olaloku import volumes by the AAS 1981, which covers the whole of the same period.
3. Imports - Fed Plan, AAS 1986: These prices come from dividing the Fed Plan import volumes by the AAS 1986 values, which cover the whole of the same period.

4. Construction magazine refers to 1978 price from 'Underweight Cement Alert', Trade News section, Construction *in Nigeria* Vol 2, No. 2 (1978).
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‘Building Materials Industry Expanding’, *Focus*, 15/1/79.

‘Cost of materials as it affects property values’, *Nigerian Statesman*, 26/3/80, 12.

‘CMAN wants parts duty removed’, *Business Times*, 30/8/82, 1. Two prices are given.

C.10: Sample real cement price 1970-1985 (N/tonne)

Notes and sources:

1. 1970, 1974: GH.
2. 1972: Imports - Olaloku, AAS 1981: see appendix C.9.
3. 1973: ‘Shortage of Cement’, Sketch View, *Daily Sketch*, 4/12/73, 3.
4. 1975-1976: ‘Cost of materials as it affects property values’, *Nigerian Statesman*, 26/3/80, 12.
5. 1977-1984: Aduloju.
6. 1985: Fed Plan (p.39).

C.11: Cement imports 1981-2000 (tonnes)

Notes and sources:

1. CBN: see Appendix C.16.

C.12: Cement production 1981-2000 (tonnes)

Notes and sources:

1. CBN: 1986-1989, see Appendix C.16. 1990-1998 from CBN annual reports 1991 (p.86-87), 1993 (p.105), 1995 (p.107), 1997 (p.119) and 1998 (p.115).
2. Fed Plan: sales from local production (p.37)
3. DOS 1994 (p.52).
4. DOS 1998 (p.44).
5. AAS 1999 (p.399).

C.13: Cement consumption 1981-2000 (tonnes)

Notes and sources:

1. Imports 1982-1984: Fed Plan (p.37).
2. Imports 1986-1996: CBN, see Appendix C.16.
3. Imports 1981, 1985, 1997-1998: UN Comtrade.
4. Production 1981-1985: AAS 1986 (p.125).
5. Production 1986-1989: see Appendix C.16.
6. Production 1990-1998: CBN annual reports 1991 (p.86-87), 1993 (p.105), 1995 (p.107), 1997 (p.119) and 1998 (p.115).

C.14: Real cement price 1986-2000 (N/tonne)

Notes and sources:

1. Imports: Fed Plan: Fed Plan import volumes (p.37) divided by import value from AAS 1991 (p.236) to derive import price.
2. CBN: see Appendix C.16.
3. Imports: CBN: These prices come from dividing the CBN import volumes by import values 1986-1990 in AAS 1991 (236), 1991-1992 in DOS 1994 (p.92).
4. Imports - Fed Plan, AAS 1986: These prices come from dividing the Fed Plan import volumes by the AAS 1986 (p.153) values, which cover the whole of the same period.

C.15: Construction supply curve 1981-1998

1. Cement consumption from 1981-1998 defined as imports plus production.

2. Imports 1981, 1985, 1997: UN Comtrade.
3. Imports 1982-1984: Fed Plan (p.37).
4. Imports 1986-1996: CBN, see Appendix C.16.
5. Production 1981-1985: AAS 1986.
6. Production 1986-1997: CBN. CBN 1986-1989, see Appendix C.16. 1990-1998, see CBN annual reports 1990-1991 (p.86-87), 1993 (p.105), 1995 (p.107), 1997 (p.119) and 1998 (p.115).

C.16: CBN unpublished cement data

Data was received from Ezinne B. Nwafor, CBN Research Department, April 23, 2009.

Cement Industry Production Profile (Million Tonnes)

	1986	**1987**	**1988**	**1989**	**1990**	**1991**	**1992**	**1993**
Local Production (Million)	3.5	3.4	3.4	3	3.1	2.9	2.8	2.6
Imports (Million)	0.8	0.7	0.8	0.7	1.1	1.5	1.98	2.08
Total Supply (Million)	**4.3**	**4.1**	**4.2**	**3.7**	**4.2**	**4.4**	**4.77**	**4.68**

	1994	**1995**	**1996**	**2004**	**2005**	**2006**	**2007**	**2008**
Local Production (Million)	2.6	2.6	2.5	2.3	2.7	3.3	4.7	6.2
Imports (Million)	1	1.09	1.06	6.1	5.7	6.8	6.3	7.3
Total Supply (Million)	**3.6**	**3.59**	**3.6**	**8.4**	**8.4**	**10.1**	**11**	**13.5**

Prices per Tonne of Cement

Firm	Dec. 1991 N/Ton	Dec. 1992 N/Ton	Dec. 1993 N/Ton	Dec. 1994 N/Ton	Dec. 1995 N/Ton	Dec. 1996 N/Ton
WAPCO	810	1350	3100	6300	6825	7140
Ashaka	740	1300	3150	5500	6000	6000
Bendel	840	1300	3200	7000	7000	7000
Benue	820	1120	2999	4400	5600	5600
Sokoto	800	1200	2500	4688	6090	6090
Nigercem	960	1400	2200	5000	5000	6500
Calabar	800	1600	2200	-	-	-

Source: CMAN

APPENDIX D: Private Company Data

Where company capital investment, sales or profits are noted as real, or adjusted for inflation, nominal data was deflated using the CBN 12MMA CPI annual deflator from CBN Statistics Department shown in Appendix A.1.

D.1: Nestle Nigeria

Nestle Nigeria (Food Specialties (Nigeria) Ltd, which changed its name to Nestle Foods Nigeria Plc during 1991) reports were available for 1981-1998 except for 1982 and 1987. It started trading operations in Nigeria in 1961, and listed on the Nigerian Stock Exchange in 1978. It manufactures and markets high quality food products.

In the middle of the period covered by this appendix Nestle Nigeria began reporting on both group and company levels. This appendix attempts to use the company level data, as older data, given before group and company data were split up, matches the later company level data. In the 1994 and 1995 reports, only group numbers given, and so the 1996 report was used to fill in details to provide continuity with the earlier company data. During 1996 Nestle Foods Nigeria Plc became the parent company to Nestle Nigeria Limited. Certain numbers such as employees are given for both company and group in 1996 report, but in some cases the breakdown was unclear.

Notes relating to capital investment:

1. Various metrics for capital investment are shown. Real total capital commitments refers to capital commitments authorized but not yet in the accounts, (some years split into contracted and non-contracted), given in the 1981 report but unavailable thereafter. Real capital expenditure refers to capital expenditure given in chart from the 1984 annual report onwards (with 5 years of historical data). Fixed assets net of disposals was given in the accounts until 1986, after which this data subtracts proceeds from sale of fixed assets from purchase of fixed assets.
2. Maintenance of assets category was changed to 'maintain and replace fixed assets' in the 1983 report.
3. In 1989 report only 'year at a glance' financial data was available, so 'capital expenditure net of disposals' is classified here as purchase of fixed assets net of disposals. Full numbers are given in 1990 report, almost exactly the same number.
4. Capital expenditure chart in the 1992 report fills in missing data from 1989-1992. Numbers do not specify if they are at group or company level, but number matches the company level number in 1988, so assumed that it is company level.

D.2 Flour Mills

Annual reports of Flour Mills of Nigeria are available for 1982-1983, 1985, 1987, 1989 and 1990-2000. Flour Mills was incorporated in 1960 and listed on the Nigerian Stock Exchange in 1978. Flour Mills' business lines changed over time, and as of 1991 were given as flour milling, cement, sack manufacturing, and others. It is assumed that notes to the accounts except where specified apply to the Group, not the Company.

Notes relating to capital investment:

1. 1984 purchase of fixed assets in the 1985 report (p.20) is unclear.
2. Note 11 in the 1987 report mentions deferred payments to pay for milling plan and machinery at 6 month instalments, to be repaid by 1993 (p.18). The same note appears in every years report through 1993, so presumably it was paid on schedule.

D.3: Manufacturers Association of Nigeria (MAN) Half Yearly Reports

MAN produced reports twice yearly from 1987 to 1999, which were designed to provide an independent source of economic data based on member surveys, as well as an analysis of the current state of the Nigerian economy based on public and other sources of economic data. The whole series is available since reports were initiated in first half (1H) 1987 except for except for the second half (2H) 1997 report, and much of the missing data from 2H 1997 is given in reports of later periods.

Surveys results typically included percentage capacity utilization by sector, percentage local sourcing of raw materials by sector, unplanned excess stock of goods resulting from poor sales (in Naira), total production by sector (in Naira), capital investment by sector (in Naira, separated into classifications typically including new products, expansion, modification, and replacement, and employment by sector). In most categories and in most years' reports, the number of respondents by sector to each survey question is given.

The reports also contain tables showing other data, but these are reported inconsistently and so are not included in the results of this appendix: percentage change in average unit cost of production by sector, percentage change in ex-factory price by sector, sales of finishing products by sector (in Naira), percentage annual increase in production by sector, percentage annual increase in sales by sector, annual percentage change in cost of imported raw materials by sector, and percentage change in cost of local raw materials by sector. In addition, summarized company financial data given in the reports for several major industrial firms for the period 1995-1998. From 1993 foreign exchange sourcing by sector is also available in certain years.

This dataset has limitations. Data from MAN surveys relies on voluntary reporting from member companies, and may be inaccurate. In some cases there appear to be clerical errors, such as where data is totalled or averaged. In certain years, the number of survey respondents per sector or per survey question are not reported, making it difficult to tell how significant reported numbers are. Even where the number of survey respondents is given, the size, location and relative significance of the respondent firms is not given, which may distort the trends. In some cases it appears likely that where data should be reported as not available, it is reported as zero. The CBN 12MMA CPI given in Appendix A.1 is used to deflate the MAN data, but this is an annual number, whereas the MAN data is given on a semi-annual basis, and so the deflator does not match the data exactly. In some cases, MAN responses by industry in are totalled or averaged, and the totalled and averaged numbers given and the calculated totalled and averaged numbers are different, indicated clerical errors or missing data.

Notes relating to capital investment by sector (Naira MM):

1. Capital investment by sector was given in 2H 1989, and then from 2H 1990 onwards.
2. Company sample sizes were not provided from 1H 1995. Given and calculated totals for company sample size and investment amounts differ in 1H 1992, 2H 1992, 1H 1993, 2H 1993, and 1H 1994 (motor vehicles company sample size was not given, so it is possible that the difference between the given and calculated sample size is the implied amount for motor vehicles).

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