The Polish Motor Vehicle Industry

as a Case Study in Eastern Europe's Transition

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Abstract

The Polish Motor Vehicle Industry as a Case Study in Eastern Europe's Transition

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This thesis examines the impact of shock therapy on the Polish economy, and within it, on the motor vehicle industry. It is argued that shock therapy has not proved satisfactory as a theory of economic transformation. The following reasons are provided:-

- Shock therapy fails to provide an adequate explanation of the collapse of the command economy. Its emphasis on problems being largely monetary, rather than structural, is misguided, as this leads to the erroneous conclusion that with a strong monetary and fiscal shock, increases in utility will ensue, despite a fall in real income.
- The above may partially explain why shock therapy has failed to satisfactorily predict the outcome of the reform programmes. The assumption of post-reform growth rates following the path of a "J-Curve" has not been borne in reality. The forecasts of various improvements after the first year of the Balcerowicz Programme in Poland were, with the exception of exports, highly inaccurate. By the end of 1993 (after four years of reforms), only one indicator (inflation) registered an improvement over the respective pre-reform level. There was, therefore, no "delayed positive response".

It is argued that the major reason for the failure of shock therapy reforms is that the theory largely neglects the significance of market failures. In particular, sufficient consideration has not been given to the problems of information gaps, absence of capital markets, structural rigidities, investment coordination and high levels of risk and uncertainty, all of which constrain the ability of agents to effectively respond to a liberalised economic regime. The role of careful government intervention - to attempt to remedy market failures - has been undervalued. Failure to take appropriate measures with respect to market failures most important in transforming economies has led to unnecessary costs.

The case study on the motor vehicle industry provided evidence that shock therapy's policy for microeconomic restructuring - trade liberalisation in conjunction with privatisation and FDI - has not proved successful, with the notable, but unusual exception of FSM. The severe recession, in combination with strong important competition, led to a slump in sales, output, and underutilisation of capacity; leading productivity to decline from already very low levels.

With respect to enterprise restructuring, it was found that this was either slow, or largely neglected in all the main determinants of plant productivity considered, i.e., work organisation, high tech capabilities, supplier network, and the Just-in-time system. In regard to management-labour relations, it was found that both parties viewed these as having improved. However, severe "macro" problems frequently override the purportedly better relations at the micro level, so that considerable friction remains - which occasionally spill over into major disputes that act against the restructuring process. The industry has experienced a severe contraction in capacity utilisation and employment - a fact that is very much at odds with the government's wish to preserve the bulk of the industry. It is concluded that an industrial policy for the motor sector would have been more appropriate than the policy that has hitherto been used.

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Excellent assistance with translation, interpretation and data collection was provided by Maria Matuszewska, Mariagrazia Pelaia, and especially, Piotr Kedzierski. Finally, I am also indebted to many individuals and organisations - too numerous to list - for providing valuable advice and information.

The submission of the thesis has been delayed owing to an unfortunate and rather serious injury, which necessitated suspending my status for two terms. My thanks to all concerned for their patience and understanding.

Glossary of Abbreviations

AER	American Economic Review
BPEA	Brookings Papers on Economic Activity
CBUs	Completely Built Units
CKD	Completely knocked-down
CLM	Complete Local Manufacture(r)
CMEA	Council for Mutual Economic Assistance
CVs	Commercial Vehicles
EC/EEC	European Community/European Economic Community
EIU	Economist Intelligence Unit
EOQ	Economic Order Quantity
EOS	Economies of Scale
ER,PNB	Economic Review of the Polish New Bulletin of the British and American Embassies
FDI	Foreign Direct Investment
FMCG	Fast Moving Consumer Goods
FSM	Fabryka Samochodow Malolitrazowych
FSO	Fabryka Samochodow Osobowych
FSU	Former Soviet Union
GFCF	Gross Fixed Capital Formation
GM	General Motors
GUC	Polish Central Customs Board
GUS	Polish Central Statistics Office
IMF	International Monetary Fund
ISIC	International Standard Industrial classification
J-V	Joint-Venture
Jelcz	Jelczanskie Zaklady Samochodowe, Jelcz
JIT	Just-in-time
KD	Knocked-down
LC	Local Content
LCVs	Light Commercial Vehicles
Lublin	Fabryka Samochodow, Lublin
MCV	Medium Commercial Vehicle
MES	Minimum Efficient Scale
MHCVs	Medium and Heavy Commercial Vehicles
MIT	Massachusetts Institute of Technology
MITI	Ministry of Trade and Industry (Japan)
MNC	Multinational Corporation
NICs	Newly Industrialising Countries
Nysa	Fabryka Samochodow Dostawczych, Nysa
OECD	Organisation for Economic Cooperation and Development
OEM	Original Equipment Manufacturer
PCs	Passenger Cars
PNB	Polish New Bulletin of the British and American Embassies
Pol-Mot	Polish Motor Trade Organisation
Poznan	Fabryka Samochodow Rolniczych, Poznan
PSA	Peugeot-Citroen
R&D	Research and Development
Sanok	Fabryka Sanocka Autobusow, Sanok
SKD	Semi-knocked-down
SOE	State-owned Enterprise
Star	Fabryka Samochodow Ciezarowych, Starachowice
TE	Technological Effort
TFA	Technology Frontier Area
UNECE	United Nations Economic Commission for Europe
VI	Vertical Integration
VW	Volkswagen
WERI	World Economy Research Institute

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PART I

BACKGROUND TO THE TRANSITION

Chapter 2: **The Transition from a Command to a Market Economy: a Critique**

Chapter 3: **Poland's Economic Transformation.**

CHAPTER 1: Introduction

1.1. Aims of Thesis

The tumultuous events of late 1989 resolved a question which had been discussed in Eastern Europe[1] for much of the post-Second World War period, with ever greater intensity: to what extent could, and indeed should, market-determinants of allocation be introduced in conjunction with the prevailing command-type planning mechanism? This question had always been premised on the assumption that the planning mechanism would continue to be the main allocator of resources, but would be supplemented by elements of the market, in the hope of boosting total factor productivity and economic growth. This approach increasingly became standard practice during the course of the 1980s, as all the East European economies attempted to lift themselves out of stagnation and contraction.

The revolutions of 1989 saw the collapse and removal of the various Communist parties, and with them, the command economy structures. This, in turn, removed the major obstacle for the complete shift to a market-driven economy. Given the unprecedented agreement for this shift, all East European countries rapidly began thoroughgoing market-oriented reform at differing speeds. The situation has produced debates on *how* to proceed, but there has been little debate on the question: what is the ultimate objective? The reason for this is that the answer has been unanimously assumed: a resounding one in favour of the speedy realisation of advanced market economy status. Little analysis has, however, been conducted as to whether this is actually a realistic and attainable objective.

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[1] For the sake of convenience, the term 'Eastern Europe' includes the former USSR, whilst '*e*astern Europe' excludes it. The latter comprises Albania, Bulgaria, Czech and Slovak Republics, the former East Germany, Hungary, Poland, Romania, and the former Yugoslavia.

This thesis attempts to provide a contribution to such an analysis. It examines economic transformation that is unprecedented in scale, scope, and time-horizon. The major focus is the Polish economy, and within it, a detailed analysis of the Polish motor vehicle industry.[2] The close similarity of Poland to other East European economies suggests that the findings obtained here will have direct relevance for the latter countries.

An explanation needs to be provided as to why Poland, and the Polish motor vehicle industry, were chosen as the subjects of study. Regarding the former, the Polish economy was the most rapid in the old Eastern bloc to embark on thoroughgoing market reforms, after its implementation of the "shock therapy" (also known as "big bang" or rapid reform) strategy in January 1990.[3] Consequently, the results of this policy would be the first to reveal themselves, and thereby, provide a series of benchmarks for other reforming economies.

With respect to the latter, there are three major reasons. First, Poland has a substantial motor vehicle industry - the largest outside the former USSR in Eastern Europe. Second, the Polish motor industry, which has had links with Western manufacturers for many years, has been attracting more interest from major Western manufacturers than any other industry in Poland.[4] Therefore, its progress provides useful insights for other industries; in particular the role and extent of foreign direct investment, upon which the government policy for restructuring state-owned enterprises so crucially rested at the beginning of the reform programme. Third, the motor industry has been, and continues to be to a large extent, the

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[2] The terms motor vehicle, motor, and automotive are interchangeable.

[3] Arguably, the former East Germany's reform programme has been even more rapid, but for reasons of peculiarity - East Germany was completely subsumed into Western Europe's largest economy - it cannot provide as valid a comparison as Poland.

[4] One crucial factor for this interest is the recognition by major motor manufacturers that the passenger car in particular constitutes a consumer durable for which there has been a truly chronic shortage (with waiting lists having been normally over five years, prior to the transformation). Consequently, there is an enormous desire and, to a significant extent, demand overhang for motor vehicle products - which, given economic expansion, would translate into a substantial increase in effective demand in the medium term.

forerunner in manufacturing practices - from mass production techniques in the past, to "lean production" currently - practices which have spread to other industries, and have become fundamental determinants of competitiveness. Furthermore, the international motor industry in the past decade has been the subject of two major surveys - the latter of which was the most extensive survey undertaken of any industry.[5] The lessons drawn from these have had, and are continuing to have, a profound influence, in not only the motor industry world-wide, but manufacturing industry in general.

This thesis is therefore an attempt to combine two very important elements of economic transformation: the macro problems of transition, with the more specific (micro) problems of restructuring a major and important industrial sector. *The ultimate aim is to test the validity of the shock therapy strategy as the optimal route to economic transformation, and its objective of achieving economic advancement.* In particular, through the use of the case study, *the efficacy of shock therapy for industrial restructuring, is closely examined.* In doing this, the thesis addresses the following key questions:

- Does the theory underpinning shock therapy provide a satisfactory explanation of the collapse of the command economy, and does it satisfactorily predict the trajectory of economic development once it has been implemented?

- Is it possible, and indeed advisable, to attempt the creation of a mature market economy with the speed advocated by the shock therapy strategy?

- What assumptions lie behind shock therapy? Are they met in reality?

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[5] The surveys were conducted under the auspices of the MIT's International Motor Vehicle Program, and results published as two books: A. Altshuler, M. Anderson, D. Jones, D. Roos, and J. Womack, 'The *Future of the Automobile Industry: Report of Massachusetts Institute of Technology's International Auto Program'* Allen and Unwin, London, 1984; and J. Womack, D. Jones and D. Roos, *The Machine that Changed the World,* Rawson Associates, New York, 1990.

- Given the widespread existence of market failures in post-1989 Eastern Europe, is the policy of rapid trade liberalisation - a central plank of shock therapy - optimal for microeconomic restructuring?

- .Under conditions of market failure, what role should the government play? Would the use of industrial policy be more efficacious than *laissez faire* for restructuring?

- Has shock therapy *overall* proved supportive of, or a hindrance to, socially acceptable restructuring of the economy as a whole, and the motor vehicle sector in particular?

1.2. Plan of Thesis

The thesis is set out as follows.

Part I *(Background to the Transition)* begins with *Chapter 2*, which is entitled: 'The Transition from a Command to a Market Economy: a Critique'. It entails the following sections:-

(a) the starting point of transition - the command economy;

(b) the causes of slowdown and ultimate collapse of the command model;

(c) the desired endpoint of transition - the advanced market economy;

(d) a discussion on markets and efficiency;

(e) given the limitations noted in (d), the steps which need to be taken to achieve (c), and the feasibility of doing so;

(f) Methods of transformation: an analysis and critique of the major theory of transition, *viz.*, shock therapy. The chapter also examines the other main theory - "gradualism".

The shock therapy approach was, as already noted, applied to Poland in January 1990. Therefore, it is appropriate to examine how this was conducted and what results were achieved - *Chapter 3* attempts to do this.

Part II deals with various aspects of *the Case Study on the Motor Vehicle Industry.*

Chapter 4 provides a necessary and detailed analysis of key concepts relevant to, and factors essential for, the achievement of competitiveness in the international motor vehicle industry.

Chapter 5 deals with the Polish motor industry. It provides:-

(a) a brief historical examination;

(b) details of key characteristics of the industry;

(c) trade and incentive regimes, before and after the reform programme.

Chapters 6 and 7 entail the enterprise survey.

Chapter 6 provides a discussion on the methodology used for the survey;

Chapter 7 provides the results of the survey of the eight original equipment manufacturers (OEMs)[6] - particularly concerning the key factors noted in chapter 4. It also includes sections on labour costs, prices, and multinational strategies; an assessment of the

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[6] OEMs manufacture and assemble components for new vehicles. They are also known as 'final assemblers' or simply as 'vehicle manufacturers'.

strategies and prospects of the eight OEMs; and concludes with a section on the role of government.

Chapter 8 is the concluding chapter, summarising points made in previous chapters.

1.3. Data Sources

For the enterprise survey, the primary data for the eight OEMs was obtained through the use of an extensive questionnaire (for details, see chapter 6), and interviews with representatives of enterprise management and trade unions (for whom there was a smaller, separate questionnaire). Additional primary information was obtained from relevant organisations, based predominantly in Warsaw.

The remaining information was obtained from a variety of sources: relevant books, reports, statistical publications, academic journals, magazines, newspapers, databases, and correspondence with numerous relevant individuals and bodies.

CHAPTER 2: The Transition From a Command to a Market Economy: A Critique

2.1. Introduction

The main aim of this chapter is to provide an essential backdrop to the later analysis of the focus of this study: the problems of restructuring the Polish economy and in particular the Polish motor vehicle industry. The chapter sets itself the task of examining the following: (a) the starting point of transition, i.e., the command economy; (b) the causes of slowdown and ultimate collapse of the command model; (c) the desired endpoint of transition - the advanced market economy; (d) comments on markets and efficiency (e) the steps which need to be taken to achieve (c), and the feasibility of doing so; (f) a critique of the two major theories put forward for transition, *viz.* "shock therapy" and "gradualism".

At the outset, two points should be borne in mind. First, the importance of political factors in economic policy making. It needs emphasising that pure economic analysis in Eastern Europe[1] is particularly complicated by the extremely heightened enmeshing of political factors, and constant fluctuations therein, with economic policy-making. In other words, the couplet 'political economy' presents itself with considerable force in the current East European setting with the 'political' strongly influencing and constraining economic prescriptions. Murrell's argument that in the 'present period of economic transition, the analysis of political processes is perhaps more vital than ever' and of 'the primacy of politics in current economic decisions' will be accepted as valid.[2] Second, and seemingly paradoxically,

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[1] As noted in chapter 1, the term 'Eastern Europe' includes the former USSR, whilst 'eastern Europe' excludes it.

[2] Peter Murrell, 'Public Choice and the Transformation of Socialism' *Journal of comparative Economics*, 15, 1991, p. 205.

analyses and proposals emanating from Western economists in particular, are proving highly influential with the new political leaderships. Not since the days of Keynes, one can argue, have economists seen their theories and proposals being so rapidly put into practice, and to such an extent. This presents us with the fortunate position of isolating and examining the results of policy-making more quickly and accurately than is normally possible.

It should also be further noted that little debate has taken place over the issue of whether markets can in fact offer universal and optimal allocation of resources. This has been a much-discussed issue in economic theory, and was particularly apposite in the 1920s and 1930s (when the slump in the advanced economies gave rise to unprecedented levels of state intervention that was crucial in preventing even greater economic collapse); thereafter, in the post-World War period of boom (when a number of economies in all parts of the globe, including those of Eastern Europe, began to expand rapidly on a state-led basis); and again in the world-wide recession of 1973-75 (when once more, state intervention and increased market regulation, became the norm). The identification of market failures and incomplete and imperfect markets received widespread acceptance - not just in the academia, but also amongst government policy makers. This crucial issue has been absent from the debates which have taken place and, as such, tend to exhibit ahistoricism. Of course, this is understandable given the profound failures of the command model and explains the uncritical and widespread acceptance of the free market system *in toto*. It will therefore be addressed in 2.6.

2.2. The Command Model[3]

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[3] There are, in fact, several terms to describe this model - some more contentious than others. The merit of the term used is that it clearly expresses politico-legal powers behind economic decision-making (see text). Other terms that have been used in the literature include: 'administrative economy', 'bureaucratic economy', 'bureaucratic collectivist', 'bureaucratic state capitalist', 'centralised', 'centrally planned', 'centrally managed', 'shortage economy', 'socialist', 'Soviet-type', 'Stalinist', 'state socialist', etc.

The origins of this 'model' go back to the former Soviet Union (FSU) in 1928-29 when directive planning, in the form of 5-year plans, was introduced as the basis of rapid industrialisation and later, forced collectivisation. The rationale behind this policy was primarily political, which was dictated by the perceived need to catch up and overtake the West.[4] This was the fundamental *dynamic* of the FSU's economy and is crucial in explaining the structural features of this model. After World War II, the model was adopted by all the east European countries, almost in its entirety, when these came under the aegis of the FSU.

In spite of gradual changes over the ensuing four decades, the model to a large extent, remained intact. The key characteristics of this model can be described as follows:-

i. State ownership of the means of production, of finance and foreign trade. There is therefore little private ownership, and limited internal market;

ii. Agriculture is state-owned or collectivised;[5]

iii. The economy is directed by 5-year plans which are subject to continual revision, and disaggregated into annual/quarterly operational plans;

iv. Plans, once finalised (after a process of 'plan bargaining'), take the form of commands which are backed by the force of law (hence "command economy");

v. Plans are "mono-hierarchical"[6] - where the key economic decisions (industrial, labour, financial, supply, banking, internal and external trade, investment, agricultural, technical progress, national, regional and local) are controlled by the Communist Party *nomenklatura*;

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[4] The policy can be attributed to Stalin, who in the midst of the first 5-Year Plan (in 1931) exhorted: '[t]he tempo must not be reduced! ... We are fifty or a hundred years behind the advanced countries. We must make good this distance in ten years. Either we do it, or we shall go under'. Cited by Michael Ellman, *Socialist Planning*, Cambridge University Press, Cambridge, 1988, p.13.

[5] Although Poland was a notable exception to this - its agricultural sector largely remained in private hands.

[6] See Ellman, op., cit., p. 24. Ellman derives the term "mono-archy" from Wlodzimierz Brus. Brus (with K.

vi. Planning is in physical units. This means the physical allocation of material goods, where 'allocation certificates' are more important than money. Thus there is no price system *per se* - prices being arbitrarily set by the planning authorities;

vii. From vi, it follows that the economy is largely demonetised (although money still exits and plays its conventional role of medium of exchange and measure of value - albeit to a lesser extent than in market economies) - in the absence of commercial banking, monetary transactions are conducted via the state mono-bank;

viii. Primacy is accorded to heavy industry and the military-industrial complex.[7]

The above "structural" characteristics give rise to what may be described as "systemic" features, which can be listed as follows:-

a). Largely as a consequence of (viii) and rapid industrialisation, the industrial sector is "overgrown".[8] The share of industry in the GDP of command economies is considerably more than for market economies, with similar GNP per capita. Winiecki demonstrates this by using methodology developed by Chenery. Thus, in 1965, actual share of industry of Eastern Europe was 52% - whereas the 'expected' share for a similar market economy was only 39%. By 1979, industry's share had climbed to 63%, against an expected share of 40%.[9]

b). Production units are large in comparison to market economies, but considerably less in overall numbers. The average size of a production unit or establishment, in terms of number of

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Laski) has also referred to this feature as the 'Communist mono-archy'. Cited by M.C. Kaser in 'The East European Economies in Transition' in *European Management Journal,* 8, 3, Sept. 1990.

[7] This has a profound distortionary effect on the rest of the economy. Thus, for instance, the FSU spent a similar amount on defence expenditure as the USA with an economy variously estimated at between only a half to a quarter of USA's size.

[8] The term is from Jan Winiecki, *The Distorted World of Soviet-type Economies,* Routledge, London and New York, 1988, p.73.

[9] Ibid., p. 81, table 3.1.

employees, is between 15-20 times that of developed market economies.[10] The main reason for this can be attributed to the need for the various planning ministries to simplify as much as possible the planning process - hence their proclivity for as few enterprises as possible in their product sectors. (Note that lack of competition implied that the existence of large numbers of enterprises per sector was considered wasteful). Thus, whereas most work establishments in the U.K. (65%) have between 5-33 employees (1979 figure), in Poland, only 10% of enterprises have less than 100 employees (1985 figure).[11] Furthermore, there has been a shift over time from the small/medium establishment sector to the large sector.

It is remarkable how this process of concentration and centralisation, so familiar to 20th century developed market economies, notably in the rise and expansion of monopolies in many industries, became a hallmark of command economies over a relatively short period. But as the example of U.K. shows, small/medium firms (firms being the equivalent of an 'enterprise') nonetheless constitute the largest number in advanced market economies. This can be explained by the relative ease of market entry and exit, a consequence of which is the far greater number of enterprises that exist for a given level of population. By contrast, in command economies, both entry and exit are extremely difficult: entry because of the severe circumscribing of private firms; exit, because enterprises are not allowed to go bankrupt (see (g) below). Compounding the tendency for "gigantomania" is the high degree of vertical and horizontal integration (see (d)).

(c). It follows from (b) that monopolies are prevalent. Given the preponderance of large production units, and the limited nature of the market (autarky rather than international trade

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[10] Cited in D.M. Newbery, 'Sequencing the Transition', Department of Applied Economics, University of Cambridge, mimeo, 1992, p. 5

[11] Figure for UK cited in ibid., p. 7, fig. 3; figure for Poland in GUS (Polish Central Statistical Office), *Rocznyk Statystyczny,* Warsaw 1986.

being preferred) few enterprises are required per product sector. Hence concentration levels are high.

(d). There is a high degree of vertical integration among enterprises, and horizontal integration across related products. This is, as already mentioned, a key factor in explaining why enterprises are so large. It stems from what Nove describes as "Ministerial autarky", i.e., uncertainty of delivery from suppliers of other ministries results in the reluctance to rely on them and so drives ministries and "their" enterprises to become as self-sufficient as possible.[12] A corollary to this is what Winiecki describes as the underspecialisation of production (notably in the civilian economy, as considerable specialisation in the armaments sector is evident), i.e., high product mix, produced in relatively small quantities, using inordinately large amounts of material inputs and production factors.[13]

(e). The existence of chronic shortages in both consumer and producer goods sectors. However, their causes, in one crucial respect, are different. This difference stems from the historically low priority, hence neglect, that has been accorded to consumer goods and services. These sectors have never been part of command economies' 'leading links', and consequently have been relegated to the appropriately termed 'residual principle'. (i.e. after the allocations to the leading links have been accounted for, the balance, or 'residual' is distributed to the remaining parts of the economy).[14] Thus shortages in consumer goods have been *absolute* and are reflected in the permanence of excess demand in all but the most basic of goods (and even here, some countries - notably Bulgaria, Romania, Poland, FSU - have on occasion suffered from absolute shortage, and as a consequence, rationing).

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[12] Alec Nove, *The Soviet Economy,* George Allen & Unwin, London, 1965, p. 68.
[13] Winiecki, op. cit., p.75.
[14] For an exposition of these terms, see Ellman, op. cit., p.30.

This has given rise to phenomena familiar to command economies - queuing, forced substitution of purchase, forced savings , large monetary overhang - all of which are an expression of repressed inflation[15] - as well as high cost of production, excessive use of energy, and lack of innovation in consumer industries. With respect to the producer (and intermediate) goods sectors, shortages exist because of the incentive structure, i.e., the emphasis on plan fulfilment and "overfulfilment" in terms of physical output. There is therefore the phenomenon of what Kornai describes as "expansion drive", i.e., the expansion of production regardless of cost considerations, and hence the existence of permanent excessive demand for inputs and investment goods.[16]

Winiecki cites five factors which create an overall climate of shortage: fictitious production data (i.e., overestimation of production performance) to central planners; production of substandard quality goods which are inappropriate for downstream customers; production of wrong types of goods; supply of goods at a later time than scheduled; and finally, goods not supplied to the right place.[17] Winiecki shows how (for intermediate goods) shortage is a relative rather than absolute phenomenon: thus, inputs per unit of output, for example, with respect to steel and energy are some 2.5 times higher in command economies *vis-à-vis* developed market economies.[18]

With respect to investment goods, expansion drive gives rise to what Kornai terms as "insatiable investment hunger".[19] Kornai could have made here the important point that the

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[15] For an analysis of repressed (or suppressed) inflation, see R. Barro and H. Grossman, 'Suppressed Inflation and the Supply Multiplier', *Review of Economic Studies,* 1974, pp. 87-104.

[16] Janos Kornai, *Economics of Shortage* (2 vols.), North Holland, Amsterdam, 1980, p.193.

[17] Winiecki, op. cit., pp. 4-6.

[18] Ibid., table 1.1, p.7.

[19] Kornai, op. cit., p.191. To explain this, Kornai invokes Marx to make the interesting analogy with: 'the capitalist's [or the firm in a market economy] "animal instinct" which drives ... towards capital accumulation in the hunt after profit'.

drive, in the East European context, is not for profit, but rather for 'survival'. But, as will be noted under point (f) below, survival *per se* is not of much concern to *enterprises* in command economies (although plan fulfilment is crucial for self-preservation and self-aggrandisement of enterprise managers). So wherein lies its source? Survival, was, of course, one of the great concerns of the political leadership of East European economies *as a whole*, particularly of the FSU, and formed the pretext for the call for greater effort and sacrifice.[20] Thus, one can postulate that investment hunger and expansion drive at the enterprise level, have their *ultimate* source in socio-political objectives of the political leadership and its aim of "catching up" (as pointed out in note 5), as quickly as possible, the most advanced economic and military powers. Hence, expansion drive was greatest in the military-industrial complex - where the perceived need to catch up was also greatest. From this, it becomes clear that insatiable investment hunger, seemingly in-built into the dynamic of enterprises, is actually *exogenously given*, and buttressed by the incentive system. This system rewarded plan fulfilment and "over-fulfilment" - with plan target centring on physical output, and being a function (i.e. an improvement) of the previous year's. The easiest route to raising output and achieving targets was by extensive methods, i.e., by extra usage of capital, labour and materials - which constitute enterprises' "investment hunger".

(f). It was noted earlier that bankruptcy is an extremely rare phenomenon in command economies. The existence of the "soft budget constraint" helps to explain this.[21] Under a tightly controlled central plan, bankruptcies can seriously disrupt inputs to other enterprises with the possibility of a damaging chain reaction of non-fulfilment of plan targets. The soft budget constraint ensures that this does not happen. The budget of an enterprise is "soft" because, where financial difficulties arise, an array of subsidies are provided by the centre - in the form

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[20] It was the perceived need to 'survive' that formed the basis of the arms race with the major Western powers.
[21] The term is another one of Kornai's, and given extensive analysis in op. cit, p. 299ff.

of allowing the enterprise to set prices on a cost-plus basis, free grants, credits, 'soft taxes' etc. - to enable the enterprise to stay afloat.[22] Thus, for enterprise managers, little consideration need be given to the enterprise as a going concern. It should however be noted that the 'softness' of the constraint varied between enterprises in different sectors. Those in, or related to, the high priority military sector had generally softer constraints than those geared for domestic consumer goods, or in the civilian service sector.[23]

(g). Hoarding of labour and materials. This is a consequence of taut planning and chronic shortages. Planners are aware that because of shortages, and in order to fulfil plan targets as easily as possible, enterprises strive for 'slack plans', and therefore underestimate their capacities, capabilities, and efficiencies. To compensate for this, planners 'overcorrect' plans by setting targets at what they perceive to be the maximum attainable - in other words, they set "taut" targets. However, enterprises too are cognisant of planners' methodology, and in anticipation, strive to reserve (i.e., hoard) resources - labour and materials, which results in underemployment and waste (excessive inventories and spare parts). Given the strict penalties for even a minimal underfulfilment of plan requirement (e.g., less than 1%) - reprimands, inspection by higher bodies, loss of managerial bonuses, reductions in the enterprise incentive funds[24]- this behaviour is understandable and from the viewpoint of enterprise managers, can be deemed economically rational.

(h). The existence of a 'second economy' (or black economy), where goods and services are illegally produced and provided privately. This is once more an expression of the chronic

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[22] Ibid., pp. 306-313.

[23] See Christopher Davis, 'The High-Priority Military Sector in a Shortage Economy' in H.S. Rowen and C. Wolf Jr. (eds.), *The Impoverished Superpower: Perestroika and the Soviet Military Burden,* Institute for Contemporary Studies, San Francisco, 1990.

[24] Ellman, op. cit., p.47.

shortages of consumer goods, and in some countries, e.g. Hungary, formed a significant part of the national income, and elements of it were given legal protection.

For over four decades in the FSU, and for over two decades in eastern Europe, the command model did achieve considerable success in terms of achieving rapid growth rates, particularly in its high priority sectors.[25] Such rapid growth led many to believe that the command economy was indeed a superior system to the market economy. The argument had some persuasion in that since the slump of the early 1930s, all developed economies had considerably increased the role of the state, including the most 'free-market' of all, the USA, under Roosevelt's 'New Deal' government. The FSU, and later, other east European economies, took this process to extreme levels, i.e., the almost complete domination of the economy by the state. But in spite of rapid growth, there was considerable dissatisfaction with the system, which led to a series of social convulsions across much of Eastern Europe,[26] that forced the authorities to respond by introducing political and economic (usually market) reforms. This suggests that in even in its heyday, the system was deeply flawed, requiring the 'stick' of politico-economic authoritarianism, in combination with the 'carrot' of a degree of liberalisation, to keep it intact.

Brus, using the experience of Poland, summarises six basic criticisms of the command model:-[27]

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[25] For Poland, see Wlodzimierz Brus, *The Economics and Politics of Socialism: Collected Essays,* Routledge & Kegan Paul, London & Boston, 1973, p. 1.

[26] The most notable ones being East Germany in 1953, Poland and Hungary in 1956, Czechoslovakia in 1968, Poland again in 1970, 1976, and 1980.

[27] Brus (1972), op. cit., p.88.

1. Rigidity of production - not justified by objective conditions in the spheres of production and consumption

2. Excessive inputs lead to excessive costs in achieving plan targets.

3. Inadequate concern for technical progress, both in methods of production and in product refinement, which could have been obtained with the aid of continuously applying comparatively minor modifications.

4. Weaknesses and internal contradictions of the system of economic incentives, which undermine, instead of strengthening, the connection between the interests of the state and those of the individual.

5. Bureaucratisation of the state and economic apparatus - leading to gross inefficiency.

6. Lack of a price system - giving rise to many irrational, [i.e., wasteful] investments.

Such dysfunctions contributed to decline in growth rates, lagging of labour productivity further behind the advanced Western economies, endemic disproportions in the economy, and considerable underemployment. In spite of early rapid growth rates, living standards became stagnant and certainly did not live up to expectations.[28] It, therefore, increasingly became clear to the political leaderships that reforms were necessary and ineluctable.[29]

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[28] For example, Nove argues that in the FSU, increases in real wages between 1960-85, given as 125% by official statistics, were in fact at most only 20%. Alec Nove, 'A Further note on Hidden Inflation and its Statistical Consequences', *Soviet Studies,* January 1988, pp. 136-138.

[29] Apart from the exceptional circumstances of Yugoslavia, which after the 'Tito-Stalin split', introduced reforms in 1950-51, early attempts at market-based reforms were attempted in Poland and Hungary in 1956, Czechoslovakia in 1967-69, FSU (very tentatively) between 1966-69, and Hungary again in 1968. Apart from the Hungarian reforms of 1968, these were all to be reversed.

Reforms advocated have, as noted in chapter 1, assumed and stressed the preservation of the planning mechanism; whilst with greater vigour, argued in favour of the market, as the mechanism for allaying some of the shortcomings of directive allocation. The phenomenon - ascribed with the epithet of "market socialism" - became a *common sense* of command economies throughout the course of the 1980s.[30] Its advocates sought a symbiotic synthesis of central co-ordination with the (less "anarchistic" aspects of the) market - one in which weaknesses of one would be corrected by the other, i.e., where "plan failures" or "unbalanced plans" would be corrected by the market, and where "planning" would ensure that "market failures" or "imperfect markets" did not arise.

But the history of reforms has not been an auspicious one: they tended to have the perverse effect of accentuating dysfunctions within the planning mechanism, so that there was neither 'plan' nor 'market' which, as a consequence, contributed to the remorseless decline of all the East European economies. The next section will examine the causes of this decline.

2.3. Causes of Slowdown.

Because of similarities between the various East European economies, the causes of slowdown in growth are also similar. It is for this reason that the example of the prototype - the FSU - will be used for the purposes of elucidation, not only for the obvious reason that it has attracted greatest attention and research on this matter, but also because its close economic links have had a direct impact on its smaller neighbours. Thus a slowdown in the

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[30] For a discussion of market socialism, see Alec Nove, *The Economics of Feasible Socialism,* George Allen & Unwin, London, 1983. Kaser has described the combination of plan and market (with reference to China), as a "dual track" basis of production, where output above a fixed quota (plan target) could be sold on the market. See M.C. Kaser, 'One Economy, Two systems: Parallels between Soviet and Chinese Reform', *International Affairs,* July 1987, pp. 395-412.

FSU's economy has had a deflationary impact on its former 'satellites'. (An examination of Poland will be undertaken in the next chapter).

The following can be taken to be the principal factors for the slowdown of the FSU, and by extension, all the other east European economies:-

2.3.1. The Exhaustion of Extensive Growth.

Soviet growth had up till about 1975 been based on 'extensive growth', i.e., the increasing use of factors of production - notably labour, capital, fuel and raw materials to 'extend' productive capacity. Aganbegyan makes this clear:-

'If you take a typical post-war five-year period, then usually in these five years, the basic application of funds and capital investment increased 1.5 times, the extraction of fuel and raw materials by 25-30%, and a further 10-11 million people were recruited into the national economy, a large proportion of whom moved into the new branches of production'.[31]

Aganbegyan's last point (re labour) can be embellished by Gomulka's use of the concept of 'dual economy' as a causal explanation of the slowdown. Gomulka considers this a characteristic of less-developed countries in general, where wide variations exist in labour productivity among the 'modern' and 'traditional' sectors of a less developed economy. The former sector employs relatively up-to-date technology, gained from the 'Technology Frontier Area' (i.e. modern industry, based on technology predominantly obtained from the advanced countries); the latter sector is based on 'home-made technology' employing low quality labour and inputs (i.e. agricultural, rural and handicraft industries).

Gomulka reasons thus:-

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[31] Abel Aganbegyan, *The Challenge: Economics of Perestroika,* Hutchinson, London, 1988, p. 7.

'[a]t a certain point of development, the sectoral investments are such that employment in the modern sector increases faster than in the traditional sector. As labour is being transferred to the modern sector, average labour productivity would be increasing from a level prevailing in the traditional sector to one prevailing in the modern sector, implying a positive growth of the average labour productivity even if the sectoral productivities are constant'.[32]

This simple model, at a level of abstraction, does indeed demonstrate how the FSU (and other east European economies) transformed themselves from less-developed agriculture-based societies, to industrial economies. Moreover, sectoral productivities were not constant - as one would expect, productive growth has been higher in the industrial sectors - and so added to the 'dual economy' factor.

Thus, a rapid expansion of the industrial base saw high rates of growth, particularly in the first two decades after the war, but over time, with industrial maturity, and a secular decline in the labour-force transfer to the industrial sector, growth from 'extensive development', markedly dropped. Gomulka, using official Soviet statistics, shows how the duality factor (in this case the shift of employment from small to larger-scale enterprises) gave an average annual labour productivity growth of 2.3% in 1969-75, but only 1.2% between 1975-79. He estimates that reserves of labour productivity growth had largely been exhausted by 1979 - a persuasive assertion, given the stagnant nature of the period which followed.

With respect to fuel and raw materials, Aganbegyan notes that the output of the mining industry increased by only 8% between 1981-85, in contrast to an increase of 25% between 1971-75, caused by the exhaustion of the most [easily] accessible natural reserves.[33] So extensive development of the extraction industry leads to proportionally greater costs, in view of not only higher unit excavation costs, but also from costs associated with the development of transport links and new towns.

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[32] Stanislaw Gomulka, 'Duality, Maturity, and Innovation', in *American Economic Review, Papers and Proceedings*, May 1986, p. 171.

[33] Aganbegyan, op. cit., p. 8.

Finally, in regard to capital investment, there was a decline in the rate of growth of capital investment from 41% in 1971-79 to 17% in 1981-85.[34] In the absence of increased efficiency (see 2.3.2. below), a decline in investment growth leads directly to a decline in overall growth.

Taking these three factors together (labour, fuel and raw materials and capital investment together), Aganbegyan estimates that between 1971 and 1985, two-thirds of growth was attributable to extensive factors, whilst only one-third was attributable to 'intensive' (efficiency) factors. So, *ipso facto,* a decline in the former led directly to a decline in the overall growth. This analysis therefore graphically illustrates how extensive growth was precluded in the 1980s, and why the drive for restructuring of the whole economy (*'perestroika'*), of necessity, required *intensive* forms of development.

2.3.2. Decline in Capital-Labour Ratios and the Declining Rate of Technical Change.

This is an explanation put forward by Desai, and without being tautological, relates to the first explanation. For Desai, slowdown in growth:-

'reflects a combination of diminishing returns to capital accumulation and low and even declining rates of technical change (which therefore fail to provide the necessary offset to these diminishing returns)'.[35]

Thus, given the fact of low technical change, and where the rate of growth of the workforce is significantly lower than that which would sustain the overall capital-labour ratio in the face of capital accumulation, as in the Soviet case, a decline in growth rate will follow.[36]

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[34] Ibid., p. 10, table 1.
[35] Padma Desai, 'Soviet Growth Retardation'. in *American Economic Review, Papers and Proceedings*, May 1986, p.175.
[36] Loc. cit.

To this overall explanation, Desai provides further 'sub-factors' that accentuate low returns. These are first, the familiar one of plant and enterprise-level inefficiencies accruing from the lack of internal competition, thus exhibiting Leibenstein's X-inefficiency,[37] and second, the absence of innovative activity. Indeed the lack of innovative activity explains the low and even declining rates of technical change as a whole. But a word of caution is necessary here: there are a number of examples which contradict this. Wilczynski (in 1974) provided examples of Comecon countries reaching high technological levels and becoming important exporters of technology - not only to developing, but also to industrially advanced countries - albeit solely in high priority sectors (military, space, and some branches of metallurgy and machine-building).[38] However, excluding these notable exceptions, they were overall, well behind the West.[39] In other words, in the sectors of the "residual principle" (i.e., excluding the military-industrial complex) little innovative activity and technological advance took place.

Desai's analysis is therefore, one-sided. It neglects the evidence of how a command economy, as a '*sui generis* war economy',[40] can rapidly divert resources for particular, high priority research projects, such as weapons development or space exploration, and in doing so, produce "technology frontier" output and achieve high levels of technological change in these sectors. But this has been dependent on the economy as a whole being able to sustain the necessary levels of investment expenditure for this type of activity. Clearly, for an economy suffering from negative or stagnant growth rates, this becomes an increasingly burdensome task. The evidence has shown that up until the mid 1970s, the technological gap between the

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[37] See Harvey Leibenstein, 'Allocative Efficiency vs. "X-efficiency"', *American Economic Review,* June 1960, pp. 392-415

[38] Jan Wilczynski, *Technology in Comecon,* Macmillan, London, 1974, p. xvi.

[39] Ibid., p. 4.

[40] This term was coined by Oscar Lange in *The Political Economy of Socialism,* Warsaw, 1957, p.16, cited in Nove (1965), op. cit., p. xxii.

FSU and the advanced countries was still substantial, and thereafter, rather than narrowing, actually widened.[41] Apart from declining levels of resources, the reasons for low technological development can be explained by autarkic development, preference for new investment - hence the reluctance to innovate, centralisation of initiatives, separation of research and development from enterprises, and low priority accorded to quality - with the objective of quantitative plan fulfilment being of paramount importance.[42]

In addition to the above two 'sub-factors', Desai points to inefficiencies arising from the prevalence of 'inappropriate incentives and decisions rules' (i.e., non-profit-maximising criterion that could result in a sub-optimal output being chosen), and the existence of the soft-budget constraint has a negative impact on innovative activity, where shifts in production adjustments are resisted. Desai also provides external, 'economy-wide factors': intersectoral allocative inefficiencies of resources caused by institutional constraints - such as labour and plant immobility and differential capital charges; bottlenecks and shortages arising from rigidities in the economy; and low and falling morale of the population.[43] This last factor, although difficult to quantify in terms of its impact on slowdown, is nonetheless also a *reflection* of the slowdown, and most certainly constituted the main driving force behind the various 'perestroika-style' reform programmes pre-1989, in the endeavour to arrest the slowdown.

2.3.3. Institutional Sclerosis.

This is an explanation of slowdown provided by Murrell and Olson.[44] It focuses solely on institutional dysfunctions arising from the ageing process (hence 'institutional sclerosis')

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[41] Evidence provided by Amman *et. al.*, cited in Ellman, op. cit., p. 31.
[42] See Ellman, and his citing of Berliner, in op. cit., p. 32.
[43] Desai, op. cit., p. 178.

which exist in *any* economic system, but which, owing to peculiarities of the command model, afflict it more than a market economy. Murrell and Olson (henceforth M & O) argue that the undoubtedly high growth rates achieved by command economies in their early years was due to high rates of investment and savings, but over time a 'gradual accretion of informal coalitions and interest groups' (which causes institutional sclerosis), slows down these rates. To demonstrate this, M & O develop a model of growth using the concept of 'catch-up potential'. By catch-up, they mean a measure of the *opportunity* for growth. Specifically, this means that low *per capita* income countries have *greater* opportunities for growth than their high per capita counterparts - although, by virtue of lacking appropriate institutions and policies, they do not always avail themselves of these opportunities.[45] A key assumption is that only institutions and policies are determinants of economic performance. Therefore, this is an endogenous model of growth, universally applicable,[46] where all countries with ideal (*sic.*) institutions and policies, could attain similar levels of per capita incomes.

M & O's results show that between *1950-65*, the economic performance of advanced market economies and East European command economies was, in regard to catch-up potential, almost the same. They therefore reason that:-

'when they are first adopted, Soviet-type economies can achieve approximately the same growth performance as ... Western market economies'.[47]

However for the following 15-year period, *1965-80,* the similarity ended. Thus, on the one hand, market economies experienced no slowdown in catch-up potential, i.e., they

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[44] Peter Murrell and Mancur Olson, 'The Devolution of Centrally Planned Economies', *Journal of Comparative Economics,* 15, June 1991, pp. 239-265.

[45] M&O's thesis therefore 'predicts that the highest rate of economic growth will be in that subset of the relatively low-income countries that have lately obtained institutions and policies that are relatively favourable to economic growth and that the highest income countries will not have very high rates of growth'. Ibid., p. 242.

[46] The only exogenous factor they accept is the supply of natural resources, but believe this to play no major role in determining growth.

[47] op. cit., p. 250.

achieved the same level of growth efficiency as during 1950-65. But, on the other hand, command economies for the same period, did show a significant slowdown in catch-up potential (13% on average; 16% excluding - the substantially marketised -Yugoslavia). The reason for this slowdown was the greater *sclerotic process* inherent in command economies.

The explanation for this increasing *institutional sclerosis* is given as a shift in the changing power structure prevailing in command economies - where power of the 'leader' is diluted by oppositional groupings. M & O provide the example of Stalin:-

'[a]t least to an approximation, he controlled the Soviet Union just as the owner of a firm in a market economy controls his firm ...Clearly, his power, prestige and international influence were increased if the Soviet economy performed better, and diminished if it performed less well'.[48]

More generally, any leader controlling a society has an "encompassing interest" in ensuring that productivity of that society is improved. Provided that sufficient resources are allocated for consumption, the remainder can be channelled into savings and investment, thus implying a higher growth rate is achieved than would otherwise have been the case in the absence of such an encompassing interest. In other words, the objective function of the leader is to maximise growth. But, as noted in 2.2.(g), enterprises strive for slack plans; thus their objective can be said to be one of 'satisfisficing' growth. There is therefore a contradiction of interests, and it this which gives rise to inefficiencies resulting from sclerosis. This results in information distortion, which occurs in two different ways: first, from the distance information has to travel, passing through layers of officials, before reaching the centre; second, there is an incentive to intentionally distort information - as also noted in 2.2. (g) - (particularly in the case of enterprise managers) or not to transmit information at all, in order to obtain slack production targets.

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[48] Ibid., p. 253.

For M & O, it is only competition amongst bureaucrats which acts as a countervailing factor, by ensuring that the *level* of distortion does not hinder growth, for at least a period. But, over time, collusion or collective action, by high and middle-ranking bureaucrats, and enterprise managers, increases, which adds to the distortionary process. Power shifts away from the leader (or politburo), to high-ranking subordinates, whence the encompassing interest of the leader disappears, so that 'no one has the incentive to make [the economy] work ... the system must [therefore] collapse or be fundamentally transformed'.[49]

This theory is akin to Leibenstein's 'bounded rationality' of X-efficiency, and exposes a (negative) similarity between command and market economies. In both, sub-optimal operation gives rise to X-inefficiencies. Expansion of organisation introduces incremental complexities, which, unless they are offset by efficiency-inducing measures, can increase levels of X-inefficiencies. By extension, the argument can be applied to economies as a whole, and it is self-evident that the thesis is particularly apposite to economies run on the basis of large conglomerates, i.e., command economies. Nove has argued that distortions (within a command economy) are a consequence of *scale*, indeed a product of *diseconomies of scale.*[50]

However, even if one accepts that institutional sclerosis constitutes a contributory factor to slowdown, there are nonetheless weaknesses in the theory which render it unlikely to provide an *overall* explanation for slowdown, as it purports to do. Four can be illustrated as follows: (a) it ignores the economic factors listed in sections 2.3.1 and 2.3.2. above, together with exogenous shocks. Moreover, the rapid internationalisation of the world economy has made autarkic development counterproductive, as this has ruled out possible gains from trade, particularly in regard to obtaining modern technology; (b) the emphasis on 'leader' (and even

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[49] Ibid., p. 260.
[50] Nove (1983), op. cit. p. 77

politburo) is far too narrow. The leader is part of the *nomenkatura*, which *as a whole*, benefited enormously from the rigidly structured, closed, command economy. The model does not provide evidence for the extent of collusion - which renders the notion that this was the key factor in causing sclerosis, untenable; (c) as noted in 2.2.(e) above, it was the perceived need for *survival* which impelled the leadership to strive for competitive parity *vis-à-vis* the advanced countries, in the heavy industry and defence sectors. 'Prestige' and 'influence' flowed from successfully achieving this; (d) the model cannot explain why other dictatorial regimes (in both command and market economies) have failed to achieve similar levels of growth, as the East Europeans were able to do, prior to the setting in of institutional sclerosis.

As noted, compounding the tendency towards slowdown, was the persistence with autarkic development. Lack of (or minimal) trade and informational exchange with the West, denied Eastern Europe access to the latest advances in technology and know-how. The monopoly of trade under Foreign Trade Organisations prevented technological feedback to the enterprises for exports which did take place, which remained underspecialised, and were not based on any notion of comparative advantage. Technology which was imported, as in the case of the motor vehicle industry (see ch. 5), tended to be at least a product generation behind, so that as the technology frontier pushed outwards, Eastern Europe failed to keep abreast of it, even in the high priority sectors.[51] Therefore, as extensive factors gradually became exhausted, there was no shift to intensive methods, for the basis of this shift - incentives, capabilities, institutions - did not sufficiently exist.

Response to slowdown had taken two broad forms. First, as already noted, certain market-oriented reforms were instigated, whose purpose was to alleviate the dysfunctions

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[51] Of course the Cocom protocol had denied access to much of this technology anyway.

inherent within the command model, in particular by the granting of a degree of enterprise autonomy. Results of these however were invariably negative: performance tended to *deteriorate,* which in turn induced measures to *re*centralise. Second, many countries took out loans, which were in plentiful supply in the 1970s, from a surfeit of petrodollars deposited in Western banks. Nagy argues that these, instead of being utilised for modernisation, were used to maintain the prevailing, rigid, obsolete and inefficient structure.[52] The ensuing high debts prompted increased foreign trade, with Yugoslavia, Poland, Romania, and Hungary in particular, becoming increasingly interlocked in the international market. As a consequence of the recession of the late 1970s and early 1980s, with the evaporation of markets, and increased interest rates, these countries were hit extremely hard. Debt-servicing became a key macroeconomic concern. Slowdown gave way to stagnation, and then contraction. Thus the system had shifted from a position of 'pre-crisis' to crisis, and ultimately in 1989, to collapse. A fundamental transformation became a necessity, with the objective being the transformation to a mature market economy.

The next section will examine the key characteristics of the advanced market economy.

2.4. The Advanced Market Economy

Whereas the command model is relatively homogeneous in form, the same cannot be said for the market-economy model, where variations are considerable. Considerations of a transition to a market economy have, however, *always* assumed the model of the *advanced* industrialised economies. Understandable though this is, given that it constitutes the desired

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[52] A. Nagy, 'Social Choice in Eastern Europe', *Journal of Comparative Economics,* 15, June 1991, p. 271.

objective of transformation, it nonetheless ignores the fundamentally important point that the market model - in its multitudinous varieties - prevails in the economies of the majority of developing countries, where every economic indicator shows them to be inferior to the East European command economies. As such, the assumption is false. Having stated this, the advanced model, for the purpose of this exercise, will be taken as the standard one.

The following can be taken to be the key structural characteristics of the advanced market economy:-

i. Substantial private ownership of the means of production (including agriculture), finance, and trade. This constitutes the majority of national income. Here one is simply assuming non-state ownership, and not just entrepreneurs, the classical definition of private ownership.

ii. There is a formal separation of the political process from the economy, i.e., the government uses financial instruments to *regulate* the economy, as opposed to commands to *direct* the economy.

iii. The profit motive is the key incentive, and the ultimate objective of economic units is profit-maximisation (or at least the 'satisficing' of profit).

iv. The market mechanism allocates goods and income. This is conducted primarily by price-competition, although non-price determinants also prevail. In contradistinction to command economies, prices tend to reflect relative scarcities.

v. The economy is highly monetised, with financial institutions acting as intermediaries for exchange, and recipients and suppliers of funds, via the medium of capital markets. The Central Bank is separated from the commercial banking system.

The following can considered to be systemic features (note that these are *generalisations*, and not universal characteristics):-

(a) Open entry and exit to markets.

(b) There is open unemployment; and as a corollary, there is a 'social safety net' provided by the state.

(c) Firms face a hard budget constraint, and so bankruptcy is permissible and prevalent.

(d) There is, on average, relative to East European economies, less spent on the military/industrial complex. Conversely, the service sector is proportionally much larger.

(e) The consumption/production ratio is higher, and there is no chronic shortage in the command economy sense.

(f) Monopolies (or oligopolies) dominate the economy, but small firms constitute the largest number. In medium and large firms, there is a clear separation of ownership from control.

(g) There is a much greater degree of variation in size of firms and production establishments

(h) Market determinants of allocation give rise to a much greater degree of horizontal linkages.

2.5. A Transformation Paradigm

A simple comparison between the key characteristics of the command model and the advanced market model shows that the accomplishment of the following market economy characteristics are a *sine qua non* for transition:-[53]

i. The conversion of the bulk of state property into private ownership; removal of state monopoly over trade and finance; liberalisation of the private sector; decollectivisation of agriculture.

ii. Production no longer planned, or more accurately, directed, by a centralised state apparatus. A key role of government is to provide the legal framework for property rights and market driven contracts.

iii. The creation of effective market competition. This will require prices to reflect relative scarcities, thus necessitating, to some degree at least, the freeing of prices and a degree of demonopolisation, augmented by import competition from the liberalisation of trade.

iv. Plan fulfilment to give way to profit-maximisation as the ultimate objective of enterprise production; hardening of budget constraints, and in consequence, the permissibility of bankruptcy.

v. The creation of financial institutions on a commercial basis, which will be separated from the control of the central (previously mono) bank. The establishment of financial, capital markets.

vi. The transformation of 'disguised' unemployment into open unemployment; and consequently, the setting up of a social safety net.

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[53] For a detailed analysis of the issues involved, see M.C. Kaser, 'The Technology of Decontrol: Some Macroeconomic Issues, *The Economic Journal,* 100, June 1990, 596-615.

vii. Less expenditure on defence and heavy industry. Abolition of chronic shortages through channelling of greater resources into consumer goods and services sectors.

viii. Emphasis on horizontal linkages between enterprises.

ix. The creation of an array of support institutions - by the government, private sector, and foreign investors. Apart from financial institutions (noted in v.), this to include institutions for technological development, skill enhancement, export promotion, and information provision.

Before carefully examining the elements that need to be considered for competitive enhancement - as a prerequisite for a successful transition - some cautious remarks are made in the following section concerning markets and efficiency.

2.6. Comments on Markets and Efficiency

East European advocates who idealise the advanced market model assume properties which may not accord with reality. The fundamental, usually implicit, assumption is that the advanced countries are truly competitive market economies, and *ipso facto*, are able to efficiently allocate resources in the manner assumed in textbook economics, under conditions of perfect competition. Consequently, the simple, *de facto* neoclassical prescription: "leave it to the market", has gained enormous popularity as a panacea for the economic ills bedevilling these countries, (and forms the theoretical basis of the major transitional theory - shock therapy). This section examines the major assumptions underpinning this view - arguing that these are rarely encountered in even the most advanced economies - but that departures from efficiency are much greater in Eastern Europe than in the West.

Neoclassical theory requires the following well known requirements for efficient markets that are a prerequisite for perfect competition, and the efficient allocation of resources:-

- Factors are fully mobile;
- Technology is identical and freely available to all firms;
- Instantaneous assimilation and utilisation of new technology, i.e., no time lags and costs for its acquisition, adaptation, and implementation;
- Appropriate and sufficient skills are readily available;
- Existing agents (i.e., firms and institutions) possess the necessary capabilities for adjustment;
- Perfect information is available for the provision of all relevant information for optimal decision-making;
- No economies of scale, or economies of scope;
- No externalities;
- Absence of risk and uncertainty;
- Firms do not collude.

Under these assumptions, markets may be efficient.[54] Thus, there is a high substitution of factors, so that, under equilibrium, each firm (and industry) produces at its optimal level. Under this scenario, there is, by definition, limited role for government: that of simply creating the conditions for market efficiency. Any intervention is therefore bound to be distortionary.

But all these assumptions are unrealistic, for the following reasons:-

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[54] There are in fact various other assumptions for perfect competition that stem from the pricing principle of equating marginal cost to price. For example, Graaff lists *seventeen* such assumptions. See J. de V. Graaff, *Theoretical Welfare Economics,* Cambridge University Press, Cambridge, 1967, p. 142ff.

- Factors are rarely fully mobile. "Indivisibility", rigidity and fragmentation are common;
- Technology is not always identical and freely available - technology leads and lags, patents, lack of knowledge, and cost of acquisition, weaken this assumption;
- Technology cannot be instantaneously utilised. This takes time and involves learning costs - frequently requiring a degree of adaptation before commissioning;
- Existing agents may not have the capability for undergoing or assisting the process of adjustment - once more, time and costs for "relearning" will be incurred;
- Information is rarely "perfect". There are considerable obstacles (know-how, transaction costs) to obtaining all relevant information.
- Externalities are widespread - and these may reduce competitive behaviour, or provide market solutions which are socially sub-optimal;
- Skills necessary for adjustment (restructuring) take time to develop (i.e., there is a learning cost), or acquire;
- Economies of scale and scope can be considerable - giving larger firms a significant competitive advantage, and frequently posing a barrier to entry (see 4.3.).
- Firms frequently collude, owing to the prevalence of monopolies and oligopolies. This gives rise to non-competitive behaviour, and imperfect markets.

Where optimal conditions do not hold, there is "market failure", i.e., inefficient allocation of resources with the use of markets.[55] Stiglitz has argued that market failures are pervasive in even the most advanced market economies:-

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[55] See J.O. Ledyard, 'Market Failure', in J. Eatwell, M. Milgate, and P. Newman (eds.), *The New Palgrave, A Dictionary of Economics,* Macmillan, London, 1987, pp. 326-328. For a survey of the market failure literature, see Tyler Cowen (ed.), *The Theory of Market Failure: a Critical Examination,* The Cato Institute, George Hamilton University Press, Fairfax and London, 1988.

'[w]hile traditional [i.e., neoclassical] literature characterised market failures as exceptions to the general rule that decentralised markets lead to efficient allocation, in this view, the presumption is reversed. It is only under exceptional circumstances that markets are efficient'.[56]

Given the strictness of the assumptions for efficient markets, this assertion is very persuasive. Moreover, it suggests that the reasons for the relative success of the advanced industrialised countries are located beyond the competitive equilibrium theory of efficient markets, but rather, amalgamate historical, political, as well as economic factors.

However, it is patently the case that the market mechanism will function more effectively under conditions of "relative maturity", with highly developed mechanisms for information exchange and risk minimisation. It therefore follows that, where it is not "mature", or indeed for the most part, recent, as in Eastern Europe, the *degree* of market failures will be much greater.[57] Not all "failures" have called for government intervention: several have developed their own extra-market solutions by way of institutions and cooperative mechanisms (see the example of supplier associations in Japan in 4.8.). But because these frequently take time and can be costly to establish, they may not be suitable in Eastern Europe. The case therefore, for government intervention then becomes powerful - in an attempt to speedily remedy market failures.

With respect to transforming countries, two critical observations of the market mechanism are especially important. The first relates to the *welfare consequences* of price liberalisation in these economies - where prices have long been administered on the back of a plethora of subsidies - particularly for basic consumer goods. Under this scenario, the setting

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[56] J.E. Stiglitz *et al.*, *The Economic Role of the State,* Basil Blackwell, Oxford and Cambridge, MA., 1989, p. 38.

[57] This much has been known for developing countries. Thus, Stiglitz has suggested that, for these countries, market failures are particularly important in the areas of learning, capital, and information markets. (A similar list is provided in 2.7. of important market failures in Eastern Europe). J.E. Stiglitz, 'Markets, Market Failures, and Development', *American Economic Review, Papers and Proceedings*, 79, 2, May, 1989, p. 202.

of market clearing prices may lead to considerable Pareto inefficiency in the short term. Alexeev has formally demonstrated that, with respect to the FSU, retail price reform (i.e., liberalisation) without monetary compensation, would, in the short run, hurt the poorest.[58] Therefore to be Pareto-improving, real wages also need to be raised - above the average price increases. However, as will be seen in 2.8.1. and chapter 3, the use of market-oriented shock therapy as a key means for achieving macroeconomic stabilisation, requires a contraction in aggregate demand via the setting of market clearing prices, enforced by the 'anchor' of a punitive wages tax to bring down real wages. Thus, the method of using generalised market-clearing prices, as in this case, directly conflicts - at least in the short run - with the Pareto principle upon which it relies for justification.

The second observation is more directly relevant to industries requiring restructuring. It concerns the relevance of current prices for future production, in the absence of sufficiently developed futures markets, and uncertainty/lack of knowledge regarding future tastes, demand and competition; and where there exists a lack of sufficient skills and technological know-how, in combination with interdependency in investment decisions in vertically linked enterprises.[59] Thus, for an example appropriate for this study, the design and development of a new motor vehicle (including powertrain unit) currently takes between 3-5 years. In attempting to shift East European motor manufacturers to produce competitive models (here the problem of resources and capabilities will be set aside for the purposes of this argument - these are dealt with in ch. 7), the usefulness of current, market clearing, price signals is at least questionable.

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[58] Michael Alexeev, 'If Market Clearing Prices are so Good, then Why Doesn't (Almost) Anybody Want Them?', *Journal of Comparative Economics,* 15, 380-391, 1991.

[59] The problem of market signals being inadequate for investment decisions has received attention in Development and Marxian literature. For the former see, for example, Tibor Scitovsky, 'Two Concepts of External Economies', in A.N. Agarwala and S.P. Singh (eds.), *The Economics of Underdevelopment,* Oxford University Press, New York, 1963 [1954], pp. 295-308; for the latter, see Chris Harman, 'The Myth of Market Socialism', *International Socialism* 42, Spring 1989, pp. 3-57.

At worst, these may be wrong signals which, if relied and acted upon, may damage the saleability of the end product. Therefore, current market signals *per se* may not enable rational allocation of resources for future markets. Consequently, in the real world, there is, for long term investments, enormous risk and uncertainty. Risk-minimising measures - such as extensive surveys, heavy advertising, financial inducements etc.[60] - are generally unavailable to East European manufacturers.[61]

From this discussion, it is important to recognise that certain types of market failures will be particularly problematic in Eastern Europe - and will arise in the areas of incentives, capabilities, and institutions. Of particular note are market failures relating to the existence of weak information, capital, and labour markets, minimal institutional support structures, and high uncertainty emanating from the potential socio-political instability of the transition process - which may exaggerate risk, given widespread information gaps. These are addressed in the following section.

2.7. Necessary Steps for Competitive Enhancement under Conditions of Market Failure

This section addresses the question: how will increased competitiveness, essential to a successful transition, be achieved? The answer necessitates examining those key requirements for accelerating overall industrial competitiveness. This approach recognises the *generalised* market failure which exists in post-1989 Eastern Europe, and attempts to overcome these via measures which lend themselves to policy formulation and implementation. It aims to provide

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[60] These can enable market leaders to frequently register superior sales performance, of even relatively inferior products, over their smaller rivals, who do not possess the same levels of sales-inducing measures.

[61] It is of course the case that, despite these risk-minimising mechanisms, even market leaders may experience failure.

those missing elements, normally found in advanced market economies, *outside* the free play of markets. These constitute *incentives, laws, controls, and institutions for capability building,* which *regulate* and provide *support* to firms in the market economy. Up to a point, these can be considered analogous to the laws and planning ministries which *directed* the SOEs in the command economy. A transition with the minimum friction implies the replacement of the (relatively inefficient) latter by the (potentially more efficient) former, i.e., minimising the cost of transition, while necessary capabilities, skills, and institutional structures develop. The focus of the ensuing discussion will be market failures especially relevant to Eastern Europe.

Following Lall, the necessary elements can be enumerated as follows:-[62]

i. Appropriate incentive structure, i.e., provision of appropriate and clear signals by factor and product markets, the minimum condition for a competitive market;

ii. Industrial capability; this determines the ability of economic agents to respond to, and in turn, is conditioned by (i).

iii. Institutional support, i.e., guidelines for directing and modifying both (i) and (ii).

The task of government policy is therefore to create a correct incentive framework and to intervene where there exist market failures in order to stimulate the development of

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[62] This section adopts the "capability approach", and is largely based on the following works by Sanjaya Lall: 'Fostering Industrial Competitiveness in Romania', Institute of Economics, University of Oxford, mimeo., 1990(a); 'Hungary: Evaluating the Government's Reform Programme', Institute of Economics, University of Oxford, mimeo., 1991; *Building Industrial Competitiveness in Developing Countries,* OECD, Paris, 1990(b); and 'Creation of Comparative Advantage: the Role of Industrial Policy', International Development Centre, Oxford, mimeo., 1994. The triumvir of incentives/capabilities/institutional support is based on OECD methodology; see *OECD: Structural Adjustment and Economic Performance,* OECD, Paris, 1987, cited in ibid., *Building..*, p. 29. Also useful were H. Pack and L. Westphal, 'Industrial Strategy and Technological Change : Theory versus Reality', *Journal of Development Economics,* 22 (1986), 87-128; and Stiglitz, *AER,* op. cit.

industrial capability, and provide necessary institutional support, in conjunction with domestic and foreign agencies. All these are fundamental to overcoming market failure. Each will be dealt with in turn.

2.7.1. Incentive Framework

Creating a correct incentive framework in the transition to a market economy involves providing a stable macroeconomic setting, as well as providing sectoral signals which have a desirable impact on long term industrial restructuring, in conjunction with setting up appropriate rules and legislation. The most important are as follows: a) a low inflation rate; b) a stable exchange rate - which in turn requires balanced trade and budget accounts; c) prices generally reflecting relative scarcities, and therefore costs - which requires removal of price distortions, hence a degree of liberalisation; d) increased competition from both local firms (through demonopolisation and entry of new firms) and foreign firms (through removal of trade barriers); e) open export markets; f) low and stable rates of interest to induce productive investment; g) selective taxation; h) incentives for foreign firms to invest locally without undue hindrance; i) establishment of legislation and codes of conduct.

Clearly, some measures will be relatively quick and easy to implement, and realise; some will be more difficult, requiring greater time and care; whilst others will be almost impossible to implement. So, for example, liberalisation of prices and removal of trade barriers are measures which can be implemented with considerable ease and attained quickly, but, if ubiquitously administered, may have a "destructive" impact (see below) on certain sectors of domestic industry . Hence a degree of protection - in the form of subsidies and import controls

for the vulnerable sectors, will need to be maintained, at least for the short, and possibly medium term. (This is of course at variance with a neoclassical/shock therapy assumption - the reason for its advocacy is given below). Conversely, controlling inflation, balancing budgets and demonopolisation can be assumed to be more difficult to achieve, particularly under conditions of acute uncertainty prevailing in Eastern Europe. Stringent policies to attain these objectives may provoke strong opposition to reform measures. Finally, some measures are beyond the effective control of any single government - hence will be almost impossible to implement and attain, as and when desired. This is particularly true for achieving stable exchange rates, inducing foreign investment, and the opening up of export markets.

Problems may be compounded when the implementation of policies produces perverse results. Thus, full *price liberalisation* may provoke the large monopolistic SOEs to simply increase prices rather than compete through restructuring. If demonopolisation is to be effected first, the most obvious method would be across vertical links, in which case little increased direct competition would ensue. Demonopolisation across product lines would be extremely difficult, as similar goods have traditionally been manufactured in the same large factory or plant in Eastern Europe, with minimal duplication of facilities. But assuming this were to be achieved, there would then be the risk of collusion. Enterprise directors might consider full-blown competition to be unsettling and counterproductive to their interests, and hence attempt to cushion it by colluding. Moreover, where collusion does not take place, there may be the potential for take-overs or mergers - again to escape competition. The only option available to governments to curb such anti-competitive practices is direct intervention via the passing and enforcing of antitrust laws - although, there is no guarantee that this will bring about desired results. This potentially intractable problem indicates that a policy for coordinating sectoral investment, as part of an overall industrial policy, might be desirable to

overcome, or minimise these market failures - possibly one involving FDI take-over for the most efficient enterprises, and a package of capability-building measures for the remainder (see 2.7.2. and 2.7.3. below).

Insofar as the key policy of *trade liberalisation*, to induce import competition is concerned, two points need to be noted: first, as noted above, this may be too sudden, as imports could destroy a substantial portion of the tradable sector, for, as noted in 2.6., *technology adaptation, development, and commissioning takes time, as does necessary skill enhancement and acquisition*. This would not only increase unemployment, and related social costs, but also damage future competitiveness, resulting in a loss of skills and capabilities. Second, certain imports may only affect upper niches of a product line, and so largely avoid direct competition. It must be stressed that these cautionary remarks do not *per se* constitute an argument against import competition for restructuring - for clearly, restructuring *is* a *sine qua non* for the achievement of competitive production. What is suggested here is that, given sufficient time, current costly domestic enterprises may, through appropriate measures (including *temporary* protection), be converted into internationally competitive ones.

This therefore suggests that import controls will be desirable for a certain period, and should be carefully selected to provide sufficient, effective protection - covering only those industries which would otherwise be deleteriously affected, and which have the potential of becoming economically efficient in a reasonable amount of time and at reasonable cost (although protection should however, be bypassed for those intermediate and investment goods used as inputs for the export sector). This is very similar to import protection of "infant industries", except that the policy is applied to mature industries that have developed, from the viewpoint of a market economy, under distortionary policies. Trade liberalisation, under

conditions of market failure (especially, imperfect information, undeveloped labour and capital markets), cannot satisfactorily decide which industries have at least the *potential* for achieving international competitiveness. Thus, under full trade liberalisation, some enterprises, or indeed, industries, may be unnecessarily forced to exit. This might be uneconomic over the longer term, if, with sufficient time and resources, they may have proved viable. Hughes and Hare show how, post-liberalisation, market signals may not provide 'sufficiently clear guidelines' as to the relative competitiveness of firms and industries - and that financial markets may not be sufficiently developed to provide funding to the most efficient. Moreover, distortions prior to liberalisation may still prevail, for example, via the windfall gains on currencies or inventories. This might give a distorted view of the most profitable - and by extension - most efficient enterprises.[63]

This issue therefore comes under the domain of state intervention. Deciding which sectors or enterprises should be afforded protection of the 'infant industry' sort will necessitate detailed analysis and comparisons to establish their relative merit - as well as taking account of political and social costs and pressures. (Large industries, such as the motor vehicle, generate both economic and political arguments for protection. Allowing wholesale bankruptcies, which give rise to widespread unemployment, will inevitably trigger fierce political opposition in combination with associated economic costs - loss of capabilities, multipliers and payment of hefty social security benefits - see 5.5 for levels of protection given to the Polish motor industry). Doubtless, state intervention may in certain cases prove incorrect, where, protected industries/enterprises fail to achieve desired levels of efficiency and quality of output.[64] But

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[63] G. Hughes and P. Hare, 'Industrial Policy and Restructuring in Eastern Europe', *Oxford Review of Economic Policy*, 8,1, Spring 1992, p. 84; and G, Hughes and P. Hare, 'Competitiveness and Industrial Restructuring in Czechslovakia, Hungary, and Poland', in *European Economy*, Special Edition No. 2, *The Path of Reform in Central and Eastern Europe*, Commission of the European Communities, Brussels, 1991, p. 85.

[64] State/government/public failures are, of course, also prevalent, and so successful intervention cannot be guaranteed. But, where interventions are carefully formulated and administered, desirable outcomes may be

under this scenario, it could be argued that attaining a mix of "successes", as well as "failures", will register a resource-allocation improvement over the danger of liberalised markets letting most fail. Evidence of East Asian countries, for example, conclusively shows that protection afforded to export-oriented firms proved efficacious in forming world-competitive industries.[65]

This policy conflicts with neoclassical trade theory which prescribes zero effective protection, or a low 'neutral' (i.e., non-discriminatory) rate. The argument used to support this, and therefore against (especially selective) protection, is that discriminatory rates lead to tariffs becoming a key variable in determining sectoral profitability. This consequently leads to distortions in investment, and ultimately, loss of allocative efficiency: primarily through protection of relatively inefficient sectors - whereby a delay in the adoption of new technology, organisation and work practices necessarily arise. Although not of paramount significance in Eastern Europe at present, there is the further argument that protection may generate retaliatory measures by trading partners.

As seen in 2.6., these arguments rest on the assumption of instantaneous adaptation of new technology and skills, with no development or learning costs, via the medium of existing agents. They do not address the fundamental problem that *resources cannot simply be reallocated smoothly and costlessly under a liberalised trade regime.* Of crucial importance is the fact that the they ignore the significant and numerous market failures that may distort resource reallocation (i.e., restructuring) from taking place within a required time constraint.

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achieved, which ultimately prove superior to a policy of non- intervention . On state failures, see Stiglitz, *The Economic Role of the State,* op. cit., p. 45ff. and H-J Chang, *The Political Economy of Industrial Policy,* D Phil. Thesis, Faculty of Economics and Politics, Cambridge, 1991, p. 34ff.

[65] See, for example, R. Wade, *Governing the Market: Economic Theory and the Role of Government in East Asian Industrialisation,* Princeton University Press, Princeton, 1990, esp., chapters 10 and 11; and A. Amsden, *Asia's Next Giant: South Korea and Late Industrialisation,* Oxford University Press, New York, 1989. For an overview, see S. Lall, 1994, op. cit. The evidence from these, and other works, points strongly to the role of industrial policy in the form of *selective state intervention* in creating comparative advantage, as being key to explaining East Asia's rapid economic advancement (excluding the unique and unusual case of Hong Kong).

The various assumptions for efficient markets were stipulated in 2.6. - their non-attainability leading to market failures. It is now worthwhile examining the most relevant of these for current East European industrial restructuring:-

- Imperfect and insufficient *information*, and a lack of institutions for its provision - to decide a) *what* needs to be done to restructure enterprise organisation and output mix (i.e. to conduct the process of technological upgrading; b) *how* to restructure - assuming that information is available to decide what the objective is to be; and - related to b) - c) not knowing, through lack of knowledge, *which resources* are necessary .
- Even if the above is satisfied, there arises the problem of obtaining necessary *resources* for restructuring: first, domestic capital markets are underdeveloped; and second, foreign sources of finance might be prohibitively costly - from cost of loan itself, plus transaction cost for its arrangement.
- With existing agencies, there may be a limit to the extent of restructuring, i.e., the *capacity to learn* will be constrained.
- *Structural rigidities* (i.e., with respect to inputs - raw material and intermediate goods - from poor linkages, sectoral specificities of capital, immobility in the labour market, and infrastructural weaknesses) will accentuate hindrances to the restructuring process. These call for remedies in these markets, and do not require protection. But, in the interim, industry will continue to incur relatively high costs.
- Related to the second point, there may be the possibility that, where applicable, a major overhaul of an enterprise's activities might be considered too *risky* (and costly) immediately post-liberalisation, under conditions of *uncertainty* currently prevailing in Eastern Europe. Consequently, this might prevent access to finance - at least at market rates, from both domestic banks and foreign sources - a fact which may be compounded

by their inability to undertake rigorous credit analysis and investment appraisal (because of lack of data). Similarly, risk and uncertainty might also discourage the alternative of setting up joint-ventures with foreign multinationals. If this proves to be the case, then enterprises may opt for low risk strategies (e.g., government assistance) - which will increase the likelihood of their future failure - and ensue in sub-optimal resource allocation.

- *Investment coordination,* as already mentioned, may not be optimal under a policy of market liberalisation.

Concerning Eastern Europe, a point regarding incentives arising in factor markets is worth stressing - that of factor endowments being heavily biased in favour of the large state-owned enterprises. The consequences of these may be an imbalance in factor inputs, i.e., wrong choice of technology or mix of capital/labour ratio, and inappropriate type and quality of materials. In the absence of efficient markets, regulatory checks and balances will need to be invoked to minimise these distortions (see 2.7.3.)

The following section examines the key components for enhancing capabilities of industrial sectors.

2.7.2. Industrial Capability

Although the East European economies are "overindustrialised" in terms of the relative size of industry in GDP, their industrial sectors are relatively backward and in great need of modernisation. Consequently, it is imperative that they acquire and enhance the various determinants of industrial capability. These are categorised below (the delineation represented here is not, and probably cannot be precise, and so in some cases, there is a certain element of

overlapping).[66] Note that as resources (finance, know-how, human capital etc.) are simply not available for all to be undertaken simultaneously, a careful process of selective intervention will be necessary.

a) Physical Infrastructure.

A strong infrastructure is obviously crucial for the efficient working of a modern economy. Even in advanced countries, it is commonly accepted that the state provides the bulk of the infrastructure (where externalities are highly prevalent).[67] In Eastern Europe, modernising the physical infrastructure will require vast funds for improvement and modernisation, particularly in the key areas of transport and communications, which are notoriously poor. Given the constraints on resources for undertaking infrastructural overhaul (with budgets usually in deficit) the time horizon for its completion will necessarily be long. This will therefore, in the interim, hinder the ability of enterprises to attain efficiency improvements.

b) Investment Capabilities.

This has two main aspects. The first involves the ability to conduct project appraisal (including ability to locate sources of appropriate technology and know-how), and second, the ability to proceed with the project until its successful conclusion - involving activities associated with design and engineering, procurement, construction, installation, training/hiring personnel for necessary skills, and commissioning. Both were reasonably well developed under the previous system, but largely conducted by ministries. Now, under the open regime, they

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[66] This draws on Lall, 1990(b), op. cit., table 1, p. 21, and Amsden, op. cit., table 7.8., p. 174.

[67] Although in recent years, private sector involvement has considerably increased.

need to be developed at the enterprise level. This may require recourse to assistance from state agencies, non-governmental organisations, consultancy firms etc.

c) Production Capabilities.

This entails all those capabilities associated with the manufacturing and related processes, of producer and consumer goods. These include process engineering (co-ordinating the build of products using appropriate equipment in a smooth and constant manner), product engineering (the engineering essential to proceed from the design stage to product development, to the adding of refinements and improvements using improved technology, and for the innovation of new products), quality control (ensuring quality standards are maintained), maintenance engineering (repair and maintenance of machinery and equipment); and the absorption of R&D knowledge of advanced techniques to generate new processes and products.

d) Specialisation and Linkages.

Specialisation is clearly a prerequisite for attaining economies of scale. As noted in 2.2., it has not been a common characteristic of the command economies' civilian sector, the lack of which contributed to inefficient usage of factor inputs. Linkages are necessary for transfer of technology and know-how and enhancement of R&D, between and within enterprises, industries and institutions. The market mechanism enables some of this to take place, but as will be seen in chapter 4, intense extra-market linkages in the Japanese motor vehicle industry (formalised by the creation of supplier associations), have been instrumental in its success. In command economies, the system of ministerial autarky particularly hindered diffusion of technology between manufacturer and supplier, and between indigenous

enterprises and foreign (notably Western) firms and institutions. The overcoming of this legacy will necessitate a major restructuring drive, involving sectoral coordination of the type successfully conducted in some East Asian countries (e.g., Japan and South Korea), through use of industrial policies/strategies.

e) Technological Effort (TE)[68]

This includes innovation and R&D. Clearly, a vital factor contributing to the relative backwardness of the civilian economy in Eastern Europe seems be a significant shortfall in the technological effort, i.e., a shortfall in the effective generation and use of R&D and innovation knowledge at the applied (i.e., production) level. In consequence, this led to the failure to sufficiently extract economic growth by use of intensive methods. However, in terms of actual resources devoted to TE (as percentage of total GDP), this was actually high - in FSU's case, in excess of leading Western countries. Table 2.1 gives estimates for various years. But, as Hanson and Pavitt point out, much of the difference in R&D expenditures can be attributed to the greater share of military R&D in the FSU total (estimated at between 50-65%) - suggesting that the civilian sector R&D was below the West's.[69]

Table 2.1: Comparisons of R&D expenditure as percentage of GDP/GNP

	US	Japan	West Europe	east Europe	USSR
1967	3.07	1.58	1.78	-	3.0
1975	2.38	2.01	1.81	-	3.5
1982	2.69	2.49	2.04	1.8[e]	3.6[e]

[e] estimate (Poland for 1982 = 2.3)
Source: P. Hanson and K. Pavitt, *The Comparative Economics of Research, Development and Innovation in East and West: A Survey,* Harwood Academic, Chur and London, 1987, table II, p. 53.

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[68] Also known as innovation capability.
[69] P. Hanson and K. Pavitt, *The Comparative Economics of Research, Development and Innovation in East and West: A Survey,* Harwood Academic, Chur and London, 1987, p. 53.

The shortcomings in the previous system of TE lie in the method by which it was conducted.[70] This can be briefly summarised as follows: (i) Much of TE was conducted by state research centres that serviced enterprises requiring broadly similar types of technology. Thus, there was a separation between these and enterprises - with relatively little in-house R&D conducted (although some basic product development and minor innovations were carried out by enterprises themselves). This made applied R&D relatively ineffective. (ii) The rigid, bureaucratised manner in which it was conducted, thereby hindering the (admittedly low) desire on enterprises' part for technological advancement; (iii) As noted above, owing to the high priority given to the military R&D effort, lack of resources invested in the civilian TE; (iv) The lack of incentives to innovate, especially for industries geared for the domestic markets - arising from the soft budget constraint, and low internal competition. (v) The lack of advanced skills and equipment - because of isolation from the West - necessary for a strong TE.

With the changes since 1989, the above shortcomings have largely been removed. (i) and (ii) by the granting of enterprise autonomy; (iv) by the removal of the soft budget constraint and promotion of competition; (v) by closer links to the West. With respect to (iii), although there has been a significant decline in the military R&D effort, this has not led to a concomitant increase in channelling of resources to the civilian R&D sector. The reason for both lie in economic decline. Only when significant economic growth is achieved can one expect an increase in resources for the TE.

Presently, R&D in transforming countries needs to focus more on the absorption of new techniques and development, rather than research. Indeed, the ability to undertake

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[70] This condenses points made *in passim* in ibid.

original research is by and large not possible, but, nor is it necessary during the catching-up period. What is important however, is to obtain the benefits of R&D conducted in the major industrial centres. Thus, TE should entail mastery of state-of-the-art industrial practices, and the ability to apply these to domestic industry - a process that requires considerable minor innovation. Even though the new incentive framework is more propitious for TE, market failures may still prevent a successful expansion. Thus, it may not be conducted at all, or be conducted inefficiently, because of information and knowledge gaps of the type noted in 2.7.1. (what TE to undertake, how to undertake, and obtaining the resources necessary etc.). Intervention may therefore be necessary to overcome these failures so as to provide information, or assist in its gathering; or to provoke the setting up of an industrial structure that is conducive to the TE, e.g., by increasing market concentration, whereby the resulting larger enterprises have greater capacity to undertake a more concerted TE. Furthermore, intervention may also be necessary to restructure existing R&D institutes, to induce more in-house R&D, and to encourage the setting up of new technology-based firms.

2.7.3. Institutional Support

It was argued in 2.6. that the relative success of the advanced market economies was located in a number of factors - broadly speaking, economic and extra-economic. This was to stress that neoclassical theory's emphasis on unhindered, competitive markets did not capture the complex reality of economic advancement. Of crucial importance is the existence of a network of institutions that are central to the workings of an advanced market economy. These have evolved over time - either by purposive government interventions, or under the influence of market transactions - to provide various necessaries (skills, information, finance) to industrial enterprises. Many of these do not exist in Eastern Europe, and those which do,

are not suitable for the new market regime. Thus, new institutions have to be created and existing ones need to adapt to the new environment. Of fundamental importance are institutions related to education, skills, and training, as well as finance and information. These are examined below.

a) Education, Skills and Training.

The need for a sufficient and appropriate skills-base is of vital importance for a successful transformation. In general, the level and range of skills are determined by the degree of sophistication of an economy. As the economy advances, through technological development, so it will require a concomitant advance in its skills-base. The existence of market failures in basic skill formation is one reason why much of this is undertaken by the state even in advanced countries. Basic education is provided at the school level, for the provision of adequate numeracy and literacy. Much of higher education is also provided by the state, i.e., university-level and vocational education, including research. Vocational training is provided by both state institutions and/or private companies, and the same applies to specialist research.

Eastern Europe has generally very high levels of adult literacy and basic education. The majority of the population has had at least secondary education, whilst a significant proportion attains tertiary levels. Table 2.2. provides the example of Poland in comparison with a sample of three differing countries:-

Table 2.2: Education statistics for Poland, Germany, Korea, and Malaysia

	Poland (1990)	West Germany ('89)	South Korea ('91)	Malaysia ('90)
Primary[a]	98	105	107	93
Secondary[a]	82	104	88	56
Tertiary[b]	1,418	2,810	3,950	671

Expenditure[c]	4.9 (3.8 in '89)	4.1	3.7	5.5

Notes: [a] Gross percentage enrolment rates (note that double counting can lead to ratios in excess of 100).

[b] Number of students per 100,000 inhabitants

[c] Total public expenditure on education as a percentage of GNP.

Source: UNESCO, *Statistical Yearbook,* 1992.

Despite the fact that Poland's expenditure on education (as a percentage of GNP) has recently exceeded that of the former West Germany's and South Korea's, its educational enrolment rates still lag significantly behind these at the secondary and tertiary levels. However, compared to Malaysia - a rapidly developing NIC - Poland's enrolment rates are far higher, even though Malaysia's recent relative education expenditure has been greater. A similar situation obtains for other Eastern European countries (with Hungary's and the former Czechoslovakia's being somewhat better, whilst Bulgaria's and Romania's, rather worse). This suggests that the basic education infrastructure is relatively strong in these countries, and in comparison with developing countries, they possess good potential to attain skills necessary for industrial competitiveness. Nonetheless, although basic education is good, it is not entirely appropriate for the new, much less rigid, market-oriented regime. Consequently, the existing curricula needs to be altered, and new methods and fields of study, stimulated.

The new incentive regime, and concomitant changes in the economy (e.g., the rapid rise in unemployment and the need to find markets) will certainly have an impact on various aspects of enterprise and employee behaviour. This will, for example, mean changes in work attitudes. Thus, job hunting and job preservation are likely to necessitate the possessing of higher levels of qualifications and skills to secure/maintain employment in the much harsher labour market. Enterprise autonomy in a market-oriented environment will lay emphasis on some skills not generally needed in the past, e.g., sales and marketing (maintaining existing and

finding new markets), accountancy and financial expertise (seeking sources of funds and provision of statements of income and expenditure), and internal reporting skills (to establish departmental efficiencies); whilst stressing the importance of others such as quality and maintenance, which had previously been neglected.

Training (including retraining) has, in recent years, become a vital component for maintaining and increasing competitiveness in an era of rapidly changing (often computer-related) technological advances. Encouragement for the creation of training centres has been widespread amongst advanced countries, and the issue has received high priority in economic policy making and indeed, political campaigning.[71] South Korea has, for example, stipulated expenditure levels of 5% of turnover on training by larger firms.[72] It therefore follows that the governments of transforming economies will also need to aid and abet the establishment of training centres - both state and private - for the relearning process and human capital formation that is urgently required.

One would expect training for skills upgrading to be prevalent in those enterprises with close links with leading foreign multinationals - be they in the form of joint-ventures or FDI. The links here will resolve problems of what new skills to develop, how to develop them, and the resources necessary for their development. Other enterprises however, may not possess the ability to conduct systematic skills upgrading. Consequently, for them, state intervention will then become imperative.

b) Financial Intermediaries

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[71] For example, in the UK, the Labour Party has, of late, focused on training as a key economic policy in its programme for improving Britain's long term competitiveness.
[72] Cited in Lall (1990a) op. cit., p. 19.

These are one of the main mechanisms for the allocation of capital in a market economy, and need to be speedily created in Eastern Europe. The primary task of government is the replacement of the mono-bank with new financial institutions (both state and private), that will not only subsume, but considerably expand the role of the mono-bank, i.e., cover the fields of all types of banking, insurance, and capital markets. Just as with industrial SOEs, these new institutions will need to operate on a market-oriented basis.

In the absence of financial markets functioning with an acceptable degree of maturity, it might be propitious for state institutions to act as conduits for the channelling of investment. But here, we are confronted with the problem of state-failure, of the sort noted by Stiglitz with respect to developing countries, i.e., state institutions will also lack information and skills to compensate for this market failure.[73] Under such circumstances recourse would need to be made to external institutions (national, international or private) with experience of investment allocation. It might be added that, given the desire to liberalise and rapidly expand the private sector, it is particularly appropriate that this sector, with its preponderance of hitherto neglected small enterprises, should be a candidate for special support.

Insofar as sources of finance for new investments are concerned, in the absence of developed capital markets, three main sources are available - internally-generated funds, foreign direct investment and international institutions (e.g. EBRD and World Bank). The role of the state will be to attract investment for desirable and necessary projects, and upon approval, to effectively monitor their execution, and ensure that terms of agreement are satisfied.

c) Information

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[73] Stiglitz, *AER*, op. cit., p. 202.

All the east European transforming economies aspire to join the EEC. It is therefore appropriate for them to adopt EEC units of measures, technical standards and quality levels; obviously, assistance from the EEC should be enlisted for this task. Support structures, commonly found in the developed world, include information and technology centres to provide industry with knowledge of state-of-the-art technology prevailing internationally, and assistance with technology imports, standards, metrology, and quality assurance institutes, industry associations, and a variety of consultancies - engineering, finance, management, advertising etc.

The above can be considered necessary (but not necessarily *sufficient)* steps to be undertaken for transformation, under conditions of market failure. *The failure to take these into account may result in additional costs and waste, and the prolongation of the time period to reach the objective of a successful transition.*

The next section examines the theory underpinning the *actual* method undertaken in Poland (and later applied to other countries - notably Czechoslovakia and Russia)) - shock therapy. Also examined is the other main theory for transformation - that of "gradualism".

2.8. Methods of Transformation

Two main sets of reform packages, often overlapping with each other, have been put forward: the "shock therapy" programme (otherwise known as rapid reform or "big bang"), and the "gradualist" reform programme. For both methods, reforms have three key elements: macroeconomic stabilisation, microeconomic restructuring, and institutional reform. The

fundamental difference in approach lies in regard to the first element - the speed of implementation of macrostabilisation reforms. Differences with respect to the latter two essentially concern the timing and manner of instigating appropriate reforms. But their ultimate objective of achieving a Western-style market economy remains the same. This section will provide a critical evaluation of both these strategies.

2.8.1. Shock Therapy Programme.

This has been the most influential, and reflects a sharp reaction against the hitherto extreme *etatiste* policies prevailing in Eastern Europe, having as its theoretical basis, rigorous neo-classical theory. Advocates of shock therapy argue that the economic case for this is overwhelming. Distortions within a command economy are so great, in particular the price structure, that in order to prevent further damage to the economy, it is essential that an immediate, comprehensive overhauling of the economy be undertaken. They point to the fact that previous attempts at market-oriented reforms in Eastern Europe have not been successful, and with a revolutionary change in the political system, it is appropriate and opportune to make an uncompromising shift to the free market. Thus the basis for shock therapy is a combination of political expediency - "seizing the time" whilst there is broad political support for reforms; and economic theory - the assumed superiority of markets over non-market mechanisms, i.e., markets are intrinsically efficient and generate appropriate capabilities and institutions.

Previous reforms in Eastern Europe, it is argued, did not go beyond what Kornai describes as a 'critical value of bureaucratic regulation'.[74] Kornai had noted how in Hungary,

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[74] Janos Kornai, 'The Hungarian Reform Process: Visions, Hopes, and Reality', *Journal of Economic Literature,* Vol. xxiv, Dec. 1986, p. 1700.

after the 'New Economic Mechanism' had been introduced in 1968, directive planning had in large measure been abolished, and replaced by market co-ordination. Nonetheless, he argued that bureaucratic intervention still remained dominant - which stifled the free play of market forces. As a consequence, no significant improvement in efficiency accrued. From this, he made the general point that beyond a critical point of bureaucratic co-ordination, the introduction of market forces will remain ineffective - the aim of reformers should therefore be to drastically *reduce* bureaucratic intervention - so that it not longer plays a critical (i.e., hindering) role - in conjunction with widespread and rapid market reform. This reasoning therefore, either explicitly (as in Kornai's case) or implicitly, underpins the case for shock therapy.

The most influential exponents of shock therapy in Eastern Europe are David Lipton and Jeffrey Sachs, former advisers to the first Solidarity-led government in Poland, and the architects of the 'Balcerowicz Programme', launched in Poland in January 1990 (see ch. 3). More recently, Sachs has been adviser to Boris Yeltsin's government in Russia, and architect of the shock therapy programme launched there in January 1992. The theoretical basis and proposals of this programme were provided by Lipton and Sachs in two papers published in 1990.[75] In light of their importance and influence, it is therefore appropriate that an examination of these articles form the basis for the ensuing discussion.

Prior to expounding their strategy for reform, Lipton and Sachs (henceforth L&S) focus on a key assumption which they believe legitimises their argument in favour of shock therapy. Correctly identifying the existence of repressed inflation, they believe it to be:-

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[75] See David Lipton and Jeffrey Sachs, 'Creating a Market Economy in Eastern Europe: the Case of Poland, *Brookings Papers on Economic Activity* (BPEA), No. 1, 1990: pp. 75-133; and Lipton and Sachs, 'Privatisation in Eastern Europe: the Case of Poland', BPEA No. 2, 1990, pp. 293-341.

'a fundamental factor in many of the deepest economic problems of the Eastern European economies ... A strong dose of macroeconomic austerity [tight monetary and fiscal policies] can substantially alleviate many problems that are misinterpreted as structural rather than monetary'.[76]

Leaving aside whether problems are 'misinterpreted as structural' (there are strong arguments for believing that many problems are in fact structural, as has already been noted in 2.2. above), some problems do indeed have a monetary aspect, e.g., monetary overhang. From this assumption, they argue that:-

'as a result of repressed inflation, the *measured* effects of various reforms are likely to substantially differ from their real effects. For example, decreases in real wages may well coincide with increases in real living standards, and vice versa'.

To back this claim, a model of repressed inflation is presented, from which certain conclusions are derived:-

'[a]s long as the system is demand determined, increases in real income cause increases in utility. But when the system is characterised by excess demand [as in Eastern Europe], increases in *real* income cause *decreases* in utility' (my emphases).

The reasoning presented here is erroneous for the reason that under repressed inflation (or excess demand), queuing, although very much a disutility, did nonetheless provide a benefit (or utility) in the vast majority of cases, when a purchase resulted. Thus, for example, if the queuing time for a passenger car was five years at the official price, this waiting period is clearly a severe disutility. But assume that prices, after liberalisation, have shot up, then under such circumstances, there will be many who will no longer have the necessary purchasing power for procuring a car at all. For such hitherto potential customers, the utility gained from not having to queue has been more than offset by the disutility emanating from non-affordability of a car. In general then, for any given good, one can assert that, with respect to those with adequate disposable income, the utility from not having to queue for purchases

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[76] Ibid. (1990, no. 1), p. 89.

of goods will be very real, but this will not be the case for those no longer able to afford such a good at market-clearing prices, under conditions of stagnant, or declining, real incomes. Therefore, only an increase in real income, *in conjunction with an increase in the supply of (consumer) goods* will eradicate queuing, i.e., excess demand, and give rise to an increase in utility.

It should be noted that L&S proceed to qualify the earlier generalisation by arguing that:-

'economic stabilisation and reform are likely to result in *measured* [my emphasis] real income declines combined with utility increases, or at least decreases in utility that are much less than what is suggested by official data'.[77]

However it is not certain whether the use of the modifier "measured" prevents the above refutation. This is premised on the assumption that real income must surely imply *measured* real income (as opposed to measured - or monetary - income). If real income is not measured *per se*, then the concept simply becomes devoid of any meaning.

This analysis should not be construed as in any way being a defence of the shortage economy, but rather as a caution against models based on spurious assumptions that give rise to anomalous conclusions, which are later used for policy development. Having stated this, L&S's further development of the shortage model demonstrating the phenomena of hoarding, corruption, harmful effects on the trading system (anti-export bias), and anti-private sector bias are reflected in reality, but do not follow from their earlier conclusions. In this instance, one can argue about the efficacy of modelling behaviour that can be so readily and logically ascertained from the nature and priorities of the system. Interestingly, L&S come to the conclusion that: 'insatiable *investment demands* ... have been decisive in creating chronic

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[77] Loc. cit.

shortages'.[78] However, they do not address the vital question of what the motive force for these investment demands is (For this, see 2.2.(e) above). By solely concentrating on examining chronic shortages (and its manifestations of excessive demand/repressed inflation), they only take account of the *effects* of dysfunctions under a command economy, not the causes. *In this, the theory underpinning shock therapy, fails to provide a satisfactory explanation of the failures of the command economy.*

From their analysis of excessive demand, for reasons of 'economic logic' and the 'political situation' (these were noted in the introduction to this section), L&S argue for a rapid and comprehensive process of transition, i.e., shock therapy.[79] They sum up their reasoning, insofar as economic logic is concerned, as follows:-

'[s]tructural reforms cannot work without a working price system; a working price system cannot be put in place without ending excess demand and creating a convertible currency; and a credit squeeze and tight macroeconomic policy cannot be sustained unless prices are realistic, so that there is a rational basis for deciding which firms should be allowed to close. At the same time, for real structural adjustment to take place under the pressures of tight demand, the macroeconomic shock must be accompanied by other measures, including selling off state assets, freeing up the private sector, establishing procedures for bankruptcy, preparing a social safety net, and undertaking tax reform. Clearly, the reform process must be comprehensive'.[80]

In regard to the political situation, they assert:-

'[f]ragile governments facing a deep economic crisis are best able to carry out strong measures at the beginning of their tenure'.[81]

From this, three policy proposals (steps) are advocated: i. the ending of excess demand (i.e., macroeconomic stabilisation); ii. the creation of market competition; and iii. privatisation as a means to achieving effective corporate governance. Each will be dealt with in turn.

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[78] Ibid., p. 99.
[79] Loc. cit.
[80] Loc. cit.
[81] Ibid., p. 100.

2.8.1. (a) The Ending of Excess Demand (i.e., Macroeconomic Stabilisation)

This is to be achieved through a fiscal and monetary austerity programme, and by currency devaluation (in order to create a stable convertible currency and end the bureaucratic allocation of trade). It should be noted that L&S equate excess demand with the shortage economy. Indubitably, fiscal and monetary squeeze, with price liberalisation (see below), choke off effective demand, but do not intrinsically tackle the problems of the shortage economy.

With respect to consumer goods in the East European context, the problem is fundamentally a supply-side one, where there has been an accentuation of absolute shortage in a period of economic downturn. Currency convertibility can improve imports, which in theory should improve the supply of consumer goods. But in reality, imported goods - mainly from the West - are likely to be (and indeed are) prohibitively expensive for the vast majority of the population at significant levels of consumption, so that only those on upper-level incomes (who, as a rule do not suffer from chronic shortages) will benefit. Insofar as macro austerity measures are concerned, these will have a substantial impact on state enterprises - subsidies and cheap credits will be removed - which will, on the one hand, harden the budget constraint, but on the other, lead to possible bankruptcies, widespread layoffs, a decline in production, and hence *create further shortages*. (In the case of Poland, see chapter 3). A reaction against the programme will be a likely consequence. As a rule, the stronger the austerity measures, the stronger will be the resistance, so that if the reforming government does not have sufficient popular support, pressure to relax 'the shock' will be enormous, in which case the government

will have to change course. Again, the example of Poland will amply demonstrate this. The same situation has more recently arisen in Russia.

2.8.1. (b) The Creation of Market Competition.

This, to be carried out in conjunction with step 1, entails four sub-steps: deregulation of prices, free trade, full liberalisation of the private sector, and demonopolisation of the state sector. It is clear that the first two sub-steps are closely linked, as are the latter two. The following remarks can be made of both sets of sub-steps. L&S pre-empt an obvious criticism with respect to price deregulation: that under monopolistic conditions, this does not foster competition, but on the contrary, strengthens monopoly power. They counter this by invoking the second sub-step, i.e. '[f]ree trade *instantly* [my emphasis] brings to bear on domestic firms the competition of the rest of the world'.[82] But this may have quite the opposite effect to the one intended, or no effect at all.

In regard to goods where this is a high price disparity between imported and domestic goods (e.g. more than 2 or 3:1), under conditions of stagnant or declining real incomes, imports (which in the main are from the West) will not offer sustained direct competition. Thus, those who normally purchase domestically-produced goods, may switch to higher-priced imports (probably of better quality), as a 'one-off' purchases, but will not be able to afford to do so on an ongoing basis, and so will not markedly have an adverse effect on sales of domestic producers. Hence with respect to 'high disparity' goods, there will not be the instant and sustained competition L&S assume.

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[82] Ibid., p. 101.

In regard to goods where there is a low disparity between domestic and import prices, one would expect, assuming that the quality of imports was superior, as is invariably the case, the 'switching effect' to be very great. In other words, competition would be far too strong and have the counterproductive effect of severely damaging domestic industry. (This is confirmed by the case of the Polish motor vehicle industry: in 1990, the Polish government reduced import duty on both new and second-hand motor cars, with the drastic effect of buyers switching decisively in favour of superior-quality imports; leaving stockpiles of unsold domestically-produced cars. If the government had not increased levels of protection in 1991, the Polish car manufacturing enterprises would have been *de facto* bankrupted. (For an elaboration of this, see 5.5). The import competition in this case was too great and quick to enable domestic manufacturers to adjust their operations in time to meet the import challenge (i.e., undergo the necessary "relearning process").[83] Now shock therapists might argue that this is in fact a desirable outcome (although no one actually did - but this may have been for reasons of political expediency) - an instance of efficient resource allocation - whereby inefficient enterprises are simply driven out of the market. The rejoinder to this argument was made in 2.7.1. The reality of the government rejecting this in practice is also significant.

With respect to the latter two sub-steps (full liberalisation of the private sector and demonopolisation of the state sector), the former had already been set in motion during the course of the 1980s in Hungary, Poland, and Yugoslavia (and to a lesser degree in the FSU) but with great restrictions. For Kornai, 'true' liberalisation means the removal of these restrictions. Thus the private sector should be granted widespread freedoms. These include: freedom to establish [i.e. own] a firm and the freedom of entry into the market; the ability to set prices; freedom to rent privately-owned assets; unrestricted right to employ people;

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[83] In the case of capital-intensive industries, the adjustment process can take several years.

unrestricted right to accumulate, buy or sell articles of value or foreign currency; freedom to export and import; and the unrestricted right to lend money and invest in private ventures.[84] The new political leaderships are indeed very much in favour of these policies, and in consequence, the private sector was substantially decontrolled in 1989-90, and given equal treatment with the state sector (except in regard to credit, where ailing state enterprises still retained priority).

The consequence has been a very rapid expansion in the *number* of new private businesses - more than half a million solely-owned businesses and 30,000 incorporated companies were registered in Poland in 1990; more than half a million have registered for licences in Czechoslovakia; Hungary, which started private sector liberalisation in 1982 has over 300,000 sole-businesses, which, along with thousands of private companies, employ approximately 10% of the workforce - although half of these have state sector jobs.[85] But, as Gelb and Gray point out, there are still considerable limitations on the private sector: lack of credit; lack of demand, as real wages have declined; limited collateral for loans to purchase private businesses; and an inefficient financial system. It is therefore confined to areas not dominated by the state sector, in most cases retail trade and services (where skill requirements, learning costs and economies of scale are low), with a minimal presence in manufacturing One can therefore view it as essentially an "outgrowth" from the old second economy.

The speed advocated (and so far conducted) for private sector liberalisation however engenders the possibility of incurring inevitable corruption, resulting in a lessening in faith of

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[84] Janos Kornai, *The Road to a Free Economy, Shifting from a Socialist System: the Example of Hungary,* W.W. Norton, London and New York, 1990, pp. 39-40.

[85] Figures from A.H. Gelb and C.W. Gray, 'The Transformation of Economies in Central and Eastern Europe: Issues, Progress, and Prospects', Policy and Research Series 17, World Bank, Washington, 1991, p. 20.

the liberalisation process amongst the public, and ultimately high political costs. Some of the dangers and counterproductive effects are highlighted by Kornai cautioning against:-

'private entrepreneurs who greedily want to make money hand over fist ... by cheating their customers or defrauding the state ...[T]hey consider it their priority to make the largest profit on the shortest possible terms. This kind of entrepreneur forgoes productive investments and settles instead for conspicuous, prodigal consumerism'.[86]

What Kornai perhaps has in mind here is that if the process of liberalisation is shrouded in misconduct from its inception, whatever support and credibility it had, will be quickly eroded.[87]

The fourth sub-step, demonopolisation, is a corollary to the liberalisation of the private sector, involving the breaking up of large state-owned enterprises into smaller, ultimately privatised, units to enable greater competition. It therefore centres upon the method of industrial restructuring. The key point of debate amongst shock therapists and gradualists is whether the state enterprises should be privatised first, and then demonopolised, or *vice-versa*. (On privatisation, see 2.8.1 (c) below). The logic of the rapid reformers clearly suggests the former method. Newbery strongly advises against this, arguing that it will preserve inefficient monopolies, and so make it difficult to break them up at a later stage. For him, a competitive market structure requires the breaking-up of state-owned enterprises first into competitive firms. Furthermore, he cautions that monopolies are better able to 'capture the regulators or politicians and lobby for protection' - and presumably also to resist efforts to bring about their dismantlement.[88]

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[86] Ibid., pp. 53, 55.

[87] To some extent, this has actually occurred in Poland as widespread disillusion has set in, and perhaps even more so in Russia, where mafia-style organisations in the major cities (above all in St. Petersburg) have rapidly spawned.

[88] Newbery, op. cit., p. 9.

2.8.1. (c) Privatisation as a Method for Effective Corporate Governance.[89]

The collapse of the command system has thrown into sharp focus the ownership status of state property. Whereas before, enterprises, *de jure*, were the property of the population in general, *de facto* it was evidently clear that they belonged to (i.e., were under the jurisdiction of) the party-state *nomenklatura*. Since the collapse of the Communist regimes, the idea that state property should now belong to everybody, instead of another elite, has gained widespread popularity. This is particularly true for workers in SOEs who now wish to have a genuine stake in their enterprises. This in turn has set a limit to the manner in which privatisation can proceed, and explains why most economists believe that such sentiments should be appeased, to at least some extent, by the free offering of shares to employees, or in some cases, the public at large - a method briefly discussed below.

The issue of effective corporate governance has received widespread and urgent attention by rapid reformers. In essence, the problem is one of transferring existing SOEs to, in Kornai's terms, "really better owners".[90] The manifest failures and inefficiencies of the SOEs under the command economy constitutes the advocacy of *rapid privatisation* as a fundamental plank in the drive to instigate enterprise restructuring. Explicit is the recognition that the previous 'owners' (the *nomenklatura)* were incompetent. Thus, privatisation represents a signal of complete enterprise autonomy - with the corollary that the policy of the soft budget constraint is firmly over, and consequently, failed enterprises should expect to be made bankrupt.

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[89] Privatisation for reasons of raising revenue or redistribution of wealth are of relatively minor importance in the current East European context.

[90] Kornai, op. cit. (1990), p. 82.

The central concern of advocates of shock therapy is that unless there is a *rapid* change in the structure of enterprise governance (i.e., of ownership and control), the process of *thoroughgoing* restructuring of enterprises would be severely hindered (because of 'political battles', and economic costs of SOEs lacking clear incentives - see below). In other words, a rapid change in the governance structure of enterprises is as necessary a condition for restructuring as the macroeconomic programme. Without the former, the latter becomes insufficient, i.e., increased competition by itself cannot give rise to improved governance, hence to improved productive efficiency.[91] From this, privatisation becomes a *sine qua non* for *intensive* forms of development.

Frydman and Wellisz argue that, in the absence of a well-defined owner, effective rationalisation and growth is not possible.[92] Similarly, Frydman and Rabaczynski (F & R) have argued that without shareholder pressure on management, fear of bankruptcy is the only effective disciplining measure offered by the product market. They also argue that managers will forge an alliance with workers to preserve their jobs and salaries - through decapitalising their enterprises, and by neglecting to undertake stringent rationalisation policies.[93] F & R therefore countenance that, as a first step to privatisation (and a temporary measure against mismanagement and abuse), all SOEs should be immediately 'commercialised', i.e., transferred into treasury-owned joint-stock companies - a policy with which L& S broadly concur. They further believe that privatisation is not just a simple change in ownership, but a transformation of the *incentive regime* for economic agents at the enterprise level.[94] In the context of a

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[91] This is however at variance with the findings of Vickers and Yarrow. They argue that competition may have a greater influence than ownership. See John Vickers and George Yarrow, 'Economic Perspectives on Privatisation', *Journal of Economic Perspectives,* 5, 2, Spring 1991, p. 117.

[92] Roman Frydman and Stanislaw Wellisz, 'The Ownership-Control Structure and the Behaviour of Polish Enterprises During the 1990 Reforms: Macroeconomic Measures and Microeconomic Responses', in Vittorio Corbo, Fabrizio Coricelli, and Jan Bossak, *'Reforming Central and Eastern European Economies,* The World Bank, Washington D.C., 1991, p. 154.

[93] Roman Frydman and Andrzej Rabaczynski, 'Markets and Institutions in Large-Scale Privatisation: An Approach to Economic and Social Transformation in Eastern Europe, in Corbo *et al.*, ibid., p. 254.

competitive market economy, these agents have to respond by changing from fulfilling quantitative targets within time and resource constraints, without undue concern for costs, to achieving net returns on investment - the need to profit-maximise - and the consequent compulsion to control costs. F & R's reasoning is however open to question.

Whilst it is undeniably true that the ultimate sanction for enterprise failure (i.e., continuous loss-making, leading to the inability to cover variable costs) is bankruptcy - and in consequence this does constitute the greatest "disciplinary measure" - the enterprise survey revealed (see chapter 7) that even in the absence of shareholders there was nonetheless considerable pressure being exerted on management. The source of this pressure was the constant need to find new markets. From this one can hypothesise that the shock to management of the removal of the cushion of previously guaranteed sales was even greater than the removal of the soft budget constraint (the anti-bankruptcy measure). The pressure from trade unions to minimise layoffs and redundancies further necessitated the search for markets. And this pressure conflicted with management's desire to rationalise and restructure. Consequently, this frequently led to friction between unions and management which increasingly spilled over into disputes. This is also at variance with the notion of alliances being formed between managers and workers - leading to preservation of jobs and salaries (as shown in 7.5. on management-labour relations). Moreover, the first few months of the Polish reform programme saw a significant decline in real wages and rapid rise in unemployment (see chapter 3) - albeit not to the same levels as the decline in output. This suggests that if alliances did exist (although there is no tangible evidence to support this view), they were relatively ineffective. There is also no evidence of any *systematic* decapitalisation.[95] Thus, one can

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[94] Ibid., p. 256.

[95] Considerable evidence for this assertion is provided by B. Pinto, M. Belka, and S. Krajewski, 'Transforming State Enterprises in Poland: Microeconomic evidence on Adjustment', World Bank, Warsaw, mimeo, December 1992, pp. 15-16.

conjecture that 'stringent rationalisation policies' did not ensue for reasons of alliances, but rather for reasons of socio-political pressures, and for the fact that effective rationalisation requires considerable resources and know-how, that are very much in scarce supply.

The privatisation approach, as set out by L&S argues for a 'rapid, efficient and equitable transformation of state property'.[96] The argument rests on a trade-off between the potential cost of overly rapid privatisation, and the higher costs of maintaining the present system in which SOEs lack clear incentives (or actually have perverse incentives) in the face of market forces.[97] (On this, see Sadowski's comments in 2.8.2). A further argument is that unless full-blown privatisation is underway, the whole process will be caught up in 'political battles' and as a consequence become stalemated. An example provided is of workers' desire to hinder the privatisation process in the event of a rapid increase in unemployment:-

'[w]orkers may assume, with some justification that their job tenure will be undercut by the privatisation of their firm'.[98]

As will be seen from the case of Poland, the rapid acceleration of unemployment has indeed produced widespread, partial opposition to privatisation, and invoked calls in some cases for self-managment. Thus L & S argue that a 'case-by-case' approach could lead to the paralysis of the whole privatisation process, as opposition to it intensifies. Another major problem of the case-by-case approach - not given consideration by L&S - is the cost involved. Thus, for example, privatisation of the first five Polish SOEs cost $5.7m., or approximately 17% of their estimated value.[99] With this in mind they advocate the following steps:-

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[96] Lipton & Sachs op. cit. (1990:2), p. 295. It should be pointed out that L&S appear to advocate precisely the 'impatient leap' which Kornai believes to be irrational, and cautions against. See Kornai (1990), op. cit., p. 53. Ironically though, Kornai, in the discussion of L&S's first *BPEA* paper does not demur on this point. Instead he states: '[w]e are in complete agreement on all basic principles', in L&S, (1990:1), p. 138.

[97] L&S, op. cit., p.297.

[98] Ibid., p. 298.

[99] From *Gazeta Wyborcza,* 23/1/91. Cited in Irena Grosfeld and Paul Hare, 'Privatisation in Hungary, Poland and Czechoslovakia', in 'The Path of Reform in Central and Eastern Europe', *European Economy*, Special Edition No. 2, Commission of the European Communities, Brussels, 1991, p. 145.

(i) Hundreds of the largest enterprises be converted into Treasury-owned joint-stock companies, i.e. the state-enterprise sector be transformed into corporate form , i.e., 'commercialised' ;[100] (ii) some firms could be managed on a case-by-case basis where there are private bidders; (iii) most firms' shares to be distributed as follows: a portion to be given at a low price or no charge to workers; a portion transferred, free-of-charge, to financial intermediaries - to be later distributed/sold to households; a portion to be retained by government and to be gradually sold as a "*block*" to 'core investors' (who will then play a key role in the management of the enterprise).

Other advocates of shock therapy argue that all shares be freely distributed. Thus Hinds argues for the 'transfer without payment' of *all* enterprises. Apart from the egalitarian sentiment noted above, he offers three further reasons as to why this is an attractive option: first, the absence of capital markets implies that the value of enterprises, and hence shares, cannot be known; second, privatisation could be conducted quickly ['giving' is much less time-consuming than 'selling']; and third, no consideration need be made of a stark reality in Eastern Europe: the lack of purchasing power for shares. But Kornai would argue here that this does not result in "really better owners", i.e., there would be no effective corporate governance. (For a further discussion of privatisation, see 2.8.2 below).

As chapter 3 shows, the results of shock therapy in Poland have, on the whole, been inauspicious - in fact the pain of the 'shock' has been very great as decline in output and real wages have been much greater than anticipated.[101] It is this fundamental fact that has arrested the shock therapy programme in Poland, and brought it to a virtual standstill in Russia. The

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[100] Ibid., p. 299ff.

[101] Estimated decline in GNP for 1990 was 5%; actual decline was 12%. Decline in industrial output was 23%; real wages fell by 28%. See table 3.14 in chapter 3 for a comparison between various forecasts and actual figures.

process has continued unabated in the former East Germany with vast amounts of aid from western Germany (equivalent to $3,000 per head per annum). But even such 'massive transfers and support measures have failed to spark the expected powerful, self-supporting, recovery process'.[102] (Also see section 2.8. below).

A trenchant critique of shock therapy has been made by Bozyk - a strong advocate of the gradualist approach.[103] He contests the view of the market mechanism giving rise to an appropriate 'systemic infrastructure' (i.e., capabilities and institutions) is mistaken, believing it to be the converse, i.e., the infrastructure which determines the efficacy of the mechanism. This assertion rests on the view that in the former case, the same mechanism would lead to similar effects, wherever it is adopted - in both developing and developed countries. Reality, of course, contradicts this. Although rather simplified, this is nonetheless a cogent criticism (noted in 2.4.) that deserves serious consideration. Implicit is the suggestion that the trajectory of development of transforming economies will not *necessarily* be in the desired direction of the advanced industrialised countries, but may rather be in the direction of the less-developed world (perhaps Latin America). In other words, there is no guarantee that, in view of numerous contingent factors, the rapid implementation of the market mechanism will, in and of itself, provide economic success. But note that this *caveat* can also be applied to the gradualist strategy.

L&S in their discussion of the initial post-shock therapy phase in Poland, recognised the sharp fall in output that had taken place (30% in the first three months), but nevertheless

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[102] The *Financial Times* quoting from a report by five of Germany's leading economic institutes, 14/4/92.
[103] Pawel Bozyk, 'Scenarios of Transition to a Market Economy in Central and Eastern Europe', Working Paper No. 57, World Economy Research Institute, Warsaw, 1992, p. 15. It is important to note that some of Bozyk's assumptions and criticisms are without foundation. Two examples, the first an assumption, and the second a criticism, will illustrate this: 'a free market economy [is one] in which priority is given to immediate goals, above all consumption' (p. 17); and second, his criticism of those advocating shock therapy: [for them the] 'public sector simply has to be scrapped' (p. 18). Both statements are patently untrue.

insisted that the policies must not be slackened, for to do this would jeopardise the gains from liberalisation. But clearly, this ignored the socio-political reality of the impact of their programme, and failed to understand that resistance to it would quickly develop. *This inability to satisfactorily predict potential costs, suggests, that as a general model and prescription for economic transformation, shock therapy has severe drawbacks.*

2.8.2. Gradualist Reform Programme

Advocates of gradual reform argue that reforms ought to be conducted in a step-by-step manner, with macrostabilisation in particular, being phased over a considerably longer time period. Whereas in the case of shock therapy, sequencing of reforms is less important - the bulk of reforms are simultaneously instigated, but obviously take differing time periods for completion - it is crucial for the gradualist programme, as certain reforms can only be instigated upon completion of contingent ones. (This is not to say that sequencing is unimportant for shock therapy. Rapid reformers such as Rabczynski and Hinds especially lay down sequencing measures - with the former taking the unorthodox view that *financial* reform should actually take top priority. However these amount to deciding which *set* of reforms should be implemented either simultaneously or in quick succession).[104] The thrust of the argument for gradual reform is that for any reform to be effective, it must be conducted under circumstances which optimise the likelihood for success.[105] Therefore, sequencing

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[104] Although Hinds argues that simultaneity of reforms is unfeasible as the time frames of the different activities needed to complete the process are different from each other. Manuel Hinds, 'Issues in the Introduction of Market Forces in Eastern European Socialist Economies', World Bank Internal Discussion Paper, Washington, April 190, p. 82. Also see Tad M. Rabczynski, 'The Sequencing of Reform', *Oxford Review of Economic Policy*, 7, 4, 1991, p. 26.

[105] For Hinds, optimal sequencing is that: 'which allows for the maximum sustainable rate of economic growth during the transitional period. In practical terms, it would be that sequencing which minimises the fiscal expenditures, thus leaving the maximum of resources available for investment and production'. Ibid., p. 82.

depends to some extent on the initial conditions confronting any transforming economy - conditions which determine the 'triggering-off' mechanism of reforms.

Gelb and Gray provide four major points of disagreement between shock therapy and gradualism: price-reform, trade liberalisation, privatisation and financial reform.[106] In each case, the differences in approach are as follows:-

(i) Price Reform: we have seen that this constitutes the major component of shock therapy for macrostabilisation, backed up by the reasoning that, without it, restructuring and privatisation cannot succeed: prices will remain distorted, budgets will not be hardened and so efficiency in the market cannot be ascertained. Gradualists counter this by arguing that instead of decontrolling prices *en bloc*, which can lead to monopoly prices and profits, prices should be liberalised in stages - with only some prices being liberalised at the outset of the reform programme - but priority must be accorded to enterprise restructuring first, in order that these can compete effectively upon full completion of liberalisation;

(ii) Trade Liberalisation: it was noted earlier that under shock therapy, trade liberalisation (i.e. removal of restrictions - both tariffs and quantitative) plays a key role in providing competition to domestic industry by 'importing' the international price structure. The response of gradualists is an agreement of the aims of this, but a rejection of the early timing, as it involves excessive costs - both economic and political;

(iii) Privatisation: for this see below;

(iv) Financial Reform: here, and the same applies to other institutional reforms, the differences are not great, and the dividing line between the two theories, less marked. In

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[106] Gelb and Gray, op. cit., p. 14, Box 1.

general, shock therapists argue that swift financial reform will assist the later process of enterprise restructuring, notably, privatisation; gradualists would prefer financial reform to be conducted gradually, and therefore contemporaneously with restructuring, as otherwise clean portfolios of financial institutions would be rendered premature.

Perhaps the fundamental difference between the two approaches can be reduced to one of cost. Shock therapists would argue that whilst their programme incurs higher costs at the beginning of transition, it will nonetheless incur a smaller *aggregate* cost *vis-à-vis* gradual reform.[107] However, Brezinski makes the point that this neglects the fact that governments may not be able to afford the price of high short run cost of stabilisation. Moreover, the assumption that individuals and organisations can adjust to the new conditions, by responding appropriately, without significant costs, is unrealistic.[108] Overall costs of both strategies can only be determined with the use of an enormous array of economic indicators, if and when all these transforming countries achieve market economy status. Final judgement on this issue therefore cannot satisfactorily be evaluated. It is however possible to provide a comparison of the performance of the economy as a whole - which can also serve as a proxy for efficiency. This is done at the end of this chapter for a number of transforming countries.

Dewatripont and Roland (henceforth D & R) disagree with the assertion that aggregate costs would be lower under shock therapy. Invoking *compensation payments* to workers as the key cost in the reform process, they argue that the goal of allocative efficiency necessitates a major shift to higher levels of productivity, and consequently, massive layoffs and labour reallocation in the transition period. They further note that the possibility of gains from a shift

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[107] See Horst Brezinski, 'Institutional Framework of Reforms: A Discussion', in M.C. Kaser and A.M. Vacic (eds.), *Reforms in Foreign Economic Relations of Eastern Europe and the Soviet Union,* UN Economic Commission for Europe, Economic Studies No. 2, New York, 1991, p. 45.
[108] Ibid., p. 292.

to more efficient institutions can offset potential losers, and thereby be Pareto-improving. Now this requires compensation payments (for D & R, in the form of an 'exit bonus') to laid-off workers which impose a great burden on the state budget, so that there is a trade-off between allocative efficiency and costs of reforms. Their solution is to opt for potential reforms that involve laying-off only those workers with the highest 'relative outside opportunities'. This will be cost-saving, even though inferior in terms of allocative efficiency, and constitutes a 'partial reform'. Upon its implementation, when workers with the best relative outside opportunities have left, it becomes optimal for the government to offer a new plan where, again, individuals with the best relative outside opportunities among remaining workers leave. Allocative efficiency is then reached gradually, at a financial cost which is lower than with full or "big bang" reform.[109] They give further weight to this analysis by suggesting that a gradualist programme implemented by a democratic, legitimate government can overcome political constraints to reforms.[110]

Although D & R's model does demonstrate that gradualism leads to lower costs, their assumption of the 'exit bonus' providing sufficient compensation for either redundancy or increased work effort, post-reform, is perhaps optimistic. When real wages are declining at a rapid rate, exit bonus that is lower than current wages, as assumed in the model, would not necessarily provide sufficient compensation to a substantial proportion of workers intended for redundancy, in which case demands will be made for an equalisation of the exit bonus with wages, at least for a minimum period. If this is not forthcoming, then the unanimous support (also assumed) for reforms amongst workers would quickly dissipate in favour of collective

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[109] M. Dewatripont and G. Roland, 'The Virtues of Gradualism and Legitimacy in the Transition to a Market Economy', *The Economic Journal, 102,* March 1992, pp 291-2.
[110] Loc. cit.

action to save *all* jobs. This would therefore add a further, unaccounted cost, and (depending on the magnitude of such a cost) possibly refute the model at the 2-stage level.

But let us assume that the exit bonus *is* sufficient to induce groups of workers to accept redundancy. It is still debatable whether the government would be able to provide this from internally-generated funds in a period of declining budget revenues (as firms are bankrupted and workers made redundant, tax revenues decline) on an ongoing basis. The solution could be external aid, but it is not certain whether this would provide sufficient funds. (In fact, experience has shown this to be thoroughly inadequate).[111] In order to maintain reform measures, governments would then have to resort to deficit-financing, which, being invariably inflationary, would jeopardise those external funds which *had* been pledged - for instance IMF loans - a condition of which is usually fiscal balance.

A key point in D & R's model is the concept of 'relative outside opportunities'. Implicit is the assumption that there exist sufficient jobs to absorb the planned displacement of workers within a tolerable time-period. If these opportunities did not exist, clearly then *voluntary* redundancy would be unfeasible: workers would simply refuse to go - unless of course the exit bonus was extremely attractive (a 'golden handshake'): an option which is not available. Displaced workers would only be able to find opportunities in the newly emerging private sector - this is because, on the one hand, there is a rapid contraction of the state sector, and, on the other, given the extremely stringent immigration policies of all Western countries, the option of large-scale emigration is non-existent. The true size and characteristics of the private sector remains unknown as Central Statistical Offices have not fully incorporated these into national accounts. The phenomenon of 'moonlighting' accentuates the problem, so that

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[111] External aid via international agencies (notably IMF, World Bank and the EBRD) is actually not aid *per se*, but loans.

estimation becomes a hazardous exercise. But, as noted in the previous section, although the private sector has mushroomed since liberalisation, it is confined to the margins of the economy, with many who work in it, still possessing state-sector jobs. Therefore at present, 'outside opportunities' in the private sector which can provide sustainable incomes (at least equivalent to state sector jobs) are relatively scarce: thus they will be unable to absorb displaced labour from SOEs - a fact which further weakens D & R's model.

Insofar as *privatisation* is concerned, the debate on 'fast' or (relatively) 'slow' methods was also noted in the previous section. Sadowski provides a succinct summary of the costs and benefits of the two approaches.[112] In regard to rapid privatisation, the major costs are declining output and a rapid increase in unemployment. (This assumes that those SOEs which are not privatised, but continue to incur losses, will be closed down). The intended benefit is the increased ability of enterprises to respond effectively to market signals. From this, closure of inefficient enterprises is viewed as "creative destruction". Conversely, the costs of gradual privatisation is that of SOEs retaining "pockets of technological backwardness" the prevalence of inefficiency, and poor product quality. The gradualist approach is viewed by Vickers and Yarrow as being tantamount to the infant industry argument - where state ownership replaces protectionism as the key variable in sustaining enterprises or industries.[113] The benefit of this method is the avoidance of a rapid increase in unemployment stemming from widespread closures, and the additional time and resources needed to attain competitiveness. But these arguments are subject to criticism.

With respect to the benefits, privatisation, by itself, does not imply the removal of technological backwardness: particularly if it has been achieved via the free distribution of

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[112] Z.L. Sadowski, 'Privatisation in Eastern Europe: Goals, Problems, and Implications', *Oxford Review of Economic Policy*, 7, 4, 1991, p. 49.
[113] Vickers and Yarrow, op. cit., p. 129.

shares, or via the medium of domestic capital. But where foreign capital (especially industry leaders) has purchased domestic enterprises, then the likelihood of technological advance will of course greatly increase (as evident in the case of Fiat's purchase of the largest Polish vehicle manufacturer, FSM - see chapter 7). It is also possible to achieve technological advance without privatisation - the history of the Polish motor vehicle industry up to the early 1970s is testimony to this (see chapter 5). In regard to costs associated with rapid privatisation, unemployment has increased sharply despite their being minimal privatisation. (See table 3.12). But here, it can be argued that unemployment levels would have been significantly higher had rapid privatisation, and in its wake, widespread redundancies, occurred.

Although they do not do so, gradualists could appeal to the Coase theorem to back their case. According to this, privatisation is not a pre-requisite for the efficient allocation of resources, i.e., legal property rights are unimportant with respect to the achievement of Pareto efficiency, provided they can be freely exchanged.[114] As Cooter notes: 'misallocation of legal entitlements by law will be cured in the market by free exchange'.[115] Thus, what is of crucial importance here is the removal of any infringements to the free exchange to entitlements. But this has proved to be extremely difficult in the East European context - the process of transfer of titles has been constantly bogged down by 'political battles'. Furthermore, the Coase theorem is lumbered by a very unrealistic assumption - that of zero transaction costs of exchange. Thus, where privatisation has taken place, transaction costs have been inordinately high (as in the case of the first five privatisations of Polish SOEs referred to earlier).

The otherwise shock therapist, Kornai, has advocated an extremely gradual 'case-by-case' approach for privatisation. For Kornai, as already noted, the objective is not

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[114] For an exposition, see Robert D. Cooter, 'Coase Theorem', *The New Palgrave,* op. cit., p. 457.
[115] Loc. cit.

simply the giving away of state property, but its transferral to more competent owners.[116] Therefore, he argues, state property should be *sold* 'at a real (*sic.*) market price' - preferably, through auctioning.[117] Consequently, a more competent owner, can only arise where payment has been made for assets by a private buyer, who perforce, has the incentive to make sure that assets are managed effectively, with increased efficiency, in comparison to the prior state-form. This argument of course echoes the rapid reformers reasoning for fast privatisation (to enable effective corporate governance), and indeed forms the basis for privatisation in general. But it, in and of itself, cannot be defended as a maxim - there are numerous contradictory examples[118] - as Kornai himself has, albeit hesitatingly, acknowledged.[119]

But if assets are to be sold on a case-by-case basis, in the absence of a mature capital market, there arises the acute problem of valuation, i.e., how to determine what is a 'real market price'. Objective valuation is impossible without well-developed capital markets in conjunction with a history of similar privatisations. Where these do not exist, the determination of 'contingent markets' is not meaningfully possible - consequently, adequate proxies are not available. There are thus no reliable benchmarks - leaving only arbitrary estimates to be made.[120] The privatisation process in east Germany, which has taken the form of a rapid auction sales approach, has highlighted this point. Revenues from privatisation at what were perceived to be 'realistic prices' have been far lower than expected. Indeed Sinn believes that net revenues will probably be *negative*, after deduction of subsidies being paid by

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[116] Kornai, op. cit. (1990), p. 82.
[117] Ibid., p. 83.
[118] In post-war U.K. for example, owners of many hitherto private, (loss-making) companies in coal, steel, and shipbuilding sectors, strongly advocated nationalisation of these industries, with the implicit assumption that this, at the time, constituted a *superior* form of ownership.
[119] See his remarks in Lipton & Sachs (1990:1), p. 142. Kornai's reasoning is drawn from the Hungarian experience, so that his general theory is one where the state sector in a command economy, because of its inevitable dominance and bureaucratisation, will not, and cannot, perform as efficiently as it would otherwise do in a market, profit-oriented, environment. See Kornai (1990), pp. 59-60, 67.
[120] For an elaboration, see Frydman & Rabaczynski, op. cit., p. 257.

the state privatisation agency, Treuhand, have been taken into account. He cites the fact that by Spring 1991, the Treuhand had completely given up hope of generating substantial revenues. Instead, it expected operating losses of tens of billions of Deutschmarks.[121]

There is a further stumbling block, referred to earlier, which the gradualist approach encounters: the lack of capital in private hands to purchase state-owned assets. Kornai is aware of this, and his solution of splitting large state enterprises into smaller, cheaper units - on the grounds of increasing the number of potential buyers, and augmenting internal competition (noted earlier in regard to demonopolisation), will not necessarily make it easier to sell the sub-units in sufficient numbers, to achieve the levels of privatisation Kornai desires In other words there is an imbalance between the capital needed to purchase state assets, and the domestic capital available.

The solution of loans are invariably excluded for a related reason: local buyers rarely possess sufficient collateral, without which the new commercially-minded banks, nor the international EBRD, will offer loans. This leaves the obvious solution of selling the bulk of assets to foreign buyers - an attractive option in view of the desire to improve the production and technology base of indigenous industry. Even if this were possible, there is however, a political obstacle to this: that of nationalism. Thus even Kornai, exhibiting economic nationalism, argues that sales to foreign owners should only take place 'to the extent compatible with the nation's interest'.[122]

But in any case, the interest expressed by foreign capital has been remarkably low, falling significantly short of the levels needed for comprehensive privatisation. A significant

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[121] Hans-Werner Sinn, 'Privatisation in East Germany', NBER Working Paper 3998, Cambridge MA, Feb. 1992, pp. 2, 8

[122] Kornai (1990), op. cit., p. 86.

factor in the hitherto (relative) lack of interest has been the world-wide nature of the current recession, that has seen a generalised cutback in investment. One would have expected German companies in particular to have made substantial inroads in Eastern Europe, but that this has not happened, has, notwithstanding recession, been due to their preoccupation with investment in east Germany. In sum, there exists a substantial investment gap, which suggests that for the foreseeable future, and for a considerably longer period than even the gradualists would desire, much of East European industry will remain in state hands.

From experience to date, it is evident that privatisation of the bulk of state assets, so as to achieve the ownership characteristics of advanced market economies, will take many years. Therefore, in *this* sense, privatisation can only be gradual.[123] Following from this, Oppenheimer has argued that much of the debate (with respect to privatisation) is pointless, as it is simply not possible to create 'at a stroke' a market economy where there has been an absence of necessary capacities, institutions, and attitudes. Thus he notes that even if the legislative process to privatise industry, establish property rights, and create banking and support structures was quickly undertaken, years would still be needed for economic agents to make the new system function effectively.[124]

2.9. Conclusion

From the above discussion, it is possible to assert that there are no "primrose paths" to the transition to a market economy - both suggested reform programmes have fundamental

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[123] Sadowski makes this necessity into a virtue by presenting the argument that the 'moderate approach' is superior because it is 'technically impossible' to privatise state assets quickly. See op. cit., p. 49.
[124] Peter Oppenheimer, 'Economic Reforms and Transitional Policies: Summary of Discussion', in Kaser and Vacic, op. cit., p. 59.

drawbacks. On the evidence to date, one can argue that the gradualist method is the more sound as it takes socio-political reality into account, and has avoided, in some measure, the unfounded optimism of shock therapy. But, from *a purely economic case,* the issue is still debatable. Post-reform experience of Hungary does not augur well for the gradualists' case, whilst that of Poland, Czech (or Czechia) and Slovak Republics, and Russia is not supportive of shock therapy (see Table 2.3. below). Experience of the former East Germany is particularly sobering. In spite of the enormous resources that have been channelled into this economy by its wealthy neighbour, the result has been devastating: a slump *greater* than the one afflicting Germany in the early 1930s.[125] Along with some restructuring, there has been an enormous destruction of capital.[126]

But, whether or not demonstrative evidence exists in favour of one strategy or the other, the patent fact is that the disappointments of shock therapy (and political pressures arising from this) have forced all governments implementing it, to *slow* down pace of reform, and thereby, adopt more cautious, *de facto,* gradualist methods. Thus, there has been a socio-political - hence, ultimately economic - *rejection* of shock therapy, in view of its inability to deliver satisfactory economic results, within a socially acceptable time period. In 2.6., caution was made regarding the market mechanism being a "panacea", and evidence provided as to why efficient reallocation may not be possible under shock therapy. These point to sound

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[125] Sinn notes that output declined by 65% in east Germany from the first half of 1990 to December 1991 as compared to 40% for Germany between 1928-32; effective unemployment was 25% in the summer of 1991, as compared to 28% for Germany in 1932 and 25% for USA in 1933. Op. cit., p. 1.

[126] The shock therapy/neoclassical view would argue that this process of "capital destruction", in accounting terms is fictional, as capital is outdated, and consequently, should have been fully amortised long ago. In other words, its book value at the time of 'destruction' was in fact zero - consequently this is not destruction *per se.* But the drawback of this view, as stressed in 2.7., is that (apart from social costs) it ignores the loss of infrastructure, skills and know-how which inevitably ensue from widespread closures, notwithstanding the fact of these being of outdated, uncompetitive plant and equipment. It may thereby prevent the creation of a future comparative advantage, in certain sectors that have been 'destroyed'.

economic reasons for the basis of its current rejection. The remainder of this section will further dwell upon these.

The fundamental premise of shock therapy (and of gradualism too) is the existence of a "J-curve" of economic performance, i.e., the initial post-reform phase will result in a limited output decline, but this will bottom out within the short-term (for shock therapy, usually taken to mean between 1-2 years), to be followed by a *rapid acceleration in growth* - in consequence mapping out a "J-curve".[127] Shock therapists argue that the shock ultimately yields a steeper upswing (whereas gradual methods may only yield a flatter "J"). This forms the *raison d'être* for the transformation process - which, to reiterate - is that market determinants of allocation will be more productive - in the *medium and long run* - than non-market determinants, and certainly more so than the failed, centralised, bureaucratic system of allocation. Resources will move with relatively short lag and minimal friction from relatively unproductive to productive uses, with an efficient supply response from factor markets.

But in the *short run*, deterioration in various economic indicators is thought inevitable. Brada and King provide a succinct summary of why this should be so (these were noted in 2.7.): initial output contraction and increase in unemployment are to be expected because of the lack of markets, or the existence of rigidities and friction in factor markets - due to sectoral specificity of capital, the inability to quickly retrain and redeploy workers, and the hesitancy in responding immediately to new market signals.[128] The case for shock therapy is that rapid and thoroughgoing implementation of market reforms will enable the *removal of*

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[127] This was the explicit assumption made by the Federal Statistics Office of Czechoslovakia in 1990. Cited by Josef C. Brada and Arthur E. King in ' Sequencing Measures for the Transition of Socialist Economies to Capitalism: Is there a J-Curve for Economic Reforms'?. World Bank Research Paper Series No. 13, Washington, June 1991, p. 2.

[128] Ibid., p. 14.

friction and rigidities (considered to be 'external' to intrinsically efficient markets), allowing the economy to rapidly expand, and consequently pursue the course of the J-curve. The reasoning holds for gradualism too, with the proviso that reforms be phased over a longer time period.

So we can see that the reasons for the initial, expected, decline, are attributable to the recognition of market failures (although they are not explicitly stated as such). The basis for the ensuing upswing rests upon the confidence that these *market failures can largely be overcome by freeing of markets* - be they rapid or gradual. *If this is valid, intervention is not necessary: that recourse to markets remains the optimal reallocative tool.* Thus, with the exception of privatisation, and provision of incentives for FDI, both theories largely abrogate policy guidance for microeconomic restructuring and institutional set-up and reform; and both reject the notion of structural market failures affecting "capability building". But, as argued in 2.7., for transforming economies, the nature and extent of market failures is much greater and widespread than is normally assumed, particularly under shock therapy. These cannot be overcome simply by freeing of markets: although some liberalisation is necessary, its pace has to be controlled and support measures have to be provided. *Evidence appears to back this view.* For Poland, this is provided in the next chapter. A brief overview of post-reform Eastern Europe is provided here.

Table 2.3 - showing post-reform performance of the major East European economies - does not provide evidence for the J-curve thesis. Decline in output in *all* transforming economies has been much greater, and for a longer period; whilst the recovery, where there has been one, has been much slower, and shallower, than expected. Thus, rather than mapping

out a J-curve, output levels have instead mapped out something more akin to an "L-curve", as can be seen from Figure 2.1.

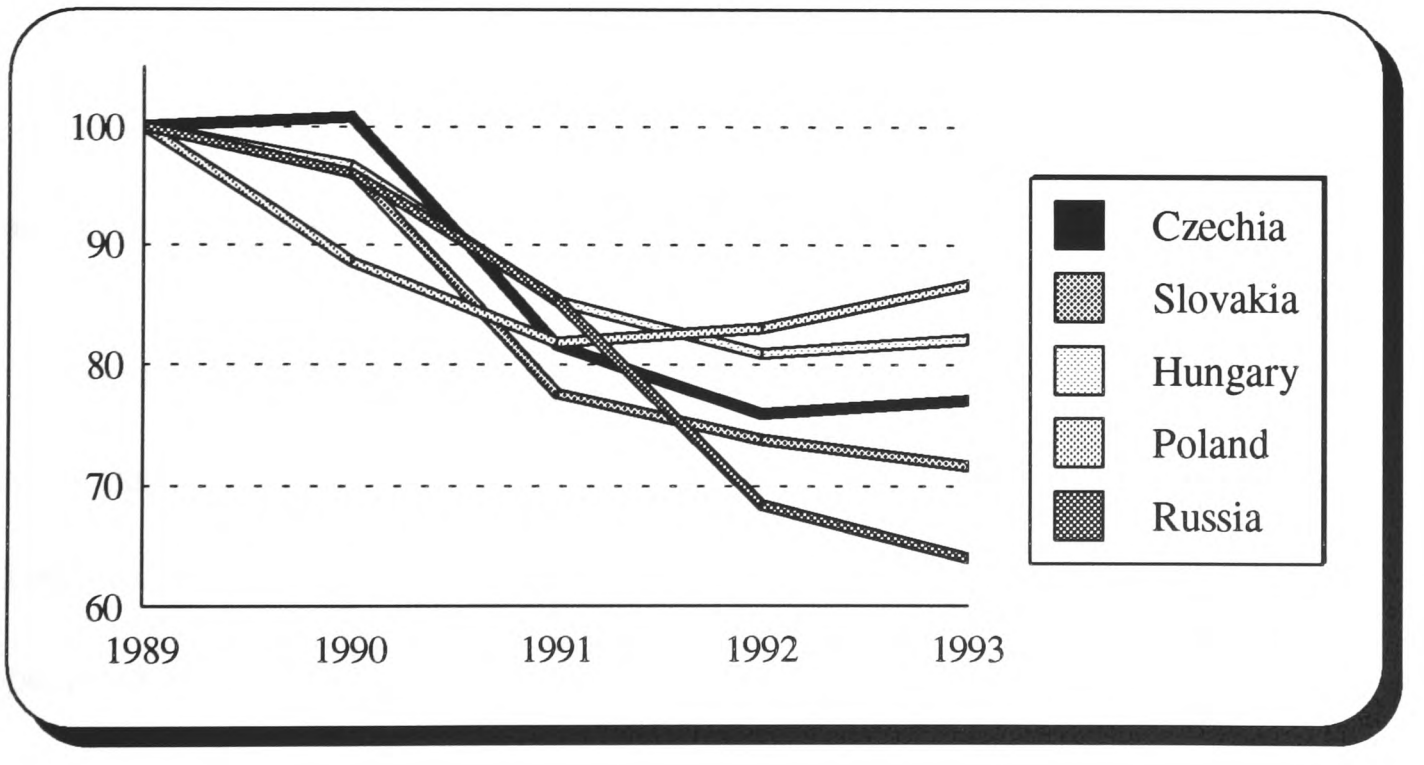
Table 2.3: NMP or GDP in Constant Prices for Seven East European Countries[a] (1989=100)

	1989	1990	1991	1992	1993[c]
Czechia	100	100.8	81.6	75.9[b]	77.0
Slovakia	100	96.2	77.6	73.8[c]	71.6
Hungary[b]	100	96.7	85.2	80.9[c]	82.1
Poland[b]	100	88.5	81.8	83.0	86.6
Romania	100	92.6	79.9	68.4	65
Russia	100	96	85.4	68.4	64
Ex-GDR *Lander*[b]	100	85.3	56.4	59.8	-

Notes: [a] NMP unless otherwise stated; [b] GDP; [c] Estimate

Source: Adapted from UN Economic Commission for Europe, *Economic Survey of Europe 1992-93,* New York, 1993, Table 3.1.1, p. 73; and GUS (Polish Central Statistical office), *Poland: Quarterly Statistics,* Vol. 1 1993, March 1994, Warsaw.

Figure 2.1: NMP/GDP of Five East European economies: 1989-1993 (1989=100).



Source: As for Table 2.3.

Only Poland showed a break in the recession in 1992, whilst Hungary and Czechia did so in 1993. But, for all transforming economies, the 1993 output levels are still *considerably below those of 1989* (ranging from 13% in Poland, to 36% in Russia). The results therefore do not provide support for the ability of free markets to generate growth and efficiency within a short time period. They are therefore not supportive of either shock therapy or gradualism, but rather, back the hypothesis that the transition might not be successful within a "desirable time period", and the assertion of there being no "primrose paths" to reform. This leads one to conclude that, over the long term, the pursuance of shock therapy, without taking account of the measures listed in 2.7., will prolong the transition process, and in so doing, unnecessarily add to costs.

A major characteristic of the revolutions of 1989 was that economic aspirations had been substantially raised. In their aftermath, the prospect of a rapid conversion to a market economy and raising of average living standards to West European levels was a most attractive one, enabling governments to rapidly pursue, with generally, considerable support, what they believed were appropriate measures, which would bring about this objective. In Poland, this was encapsulated in the phrase "return to Europe".[129]

That this has patently not been brought about, suggests the vision of quickly attaining advanced market economy status was misconceived. It needs stressing that, apart from a few "pockets", overall level of development in Eastern Europe was lower than that of Western Europe, *prior to* their becoming command economies: thus the FSU, prior to 1928, and east Europe, prior to late-1940s, were largely agrarian societies, and not mature market economies as the "return to Europe" vision implies.[130]

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[129] See Lipton and Sachs (1990 No. 1) op. cit. pp. 75-76.

[130] Thus, Radice, referring to east European levels of development in the inter-War years, writes: 'Of all the countries of eastern Europe, Czechoslovakia alone approached the economic position of ...west Europe'. E.A.

The reality is that the bulk of industrial development in Eastern Europe occurred during the command period (indeed there has been some de-industrialisation since 1989), when extensive industrial capabilities were systematically developed, under a strong import substitutionist regime (within, to some extent, CMEA trade and specialisation constraints). Although not to the levels obtaining in advanced economies, these generally reached levels in excess of those in developing countries, and certainly comparable to most newly industrialising countries (NICs). It therefore follows that a more realistic vision (or model) to consider would be that of attaining the levels of the most economically successful NICs - in the main, the East Asian market economies. In so doing, the lessons of how these have quickly developed would be highly illuminating - more so than the doctrine of *laissez-faire* as the precondition and precursor to the achievement of advanced market economy status. Reference was made in 2.7.1. to East Asian NICs (excepting the very unusual case of Hong Kong) rapid economic advancement resting in deliberate, selective, state intervention to overcome widespread market failures, in the creation of dynamic comparative advantage. This important lesson has been completely overlooked for economic transformation. Its application in post-1989 Eastern Europe may have presaged a better (i.e., less costly) economic outcome.

The following chapter examines the impact of shock therapy in Poland - the most rapidly transforming economy (apart from east Germany) in Eastern Europe.

Radice, 'General Characteristics of the Region', in M.C. Kaser and E.A. Radice (eds.), *The Economic History of Eastern Europe 1919-1975, Vol. I, Economic Structure and Performance between the Two Wars,* Clarendon Press, Oxford, 1985, p. 31. Rosenstein-Rodan, writing in 1943, described the regions of Eastern and South-Eastern Europe (excluding Russia) as part of "international depressed areas", i.e., "poor agrarian societies". See P.N. Rosenstein-Rodan, 'Problems of Industrialisation of Eastern and South-Eastern Europe', *Economic Journal,* June-Sept. 1943, p. 202.

CHAPTER 3: Poland's Economic Transformation

3.1. Historical Introduction

Poland's economy post-Second World War, like its counterparts in the rest of Eastern Europe, had been subject to periodic crises, which manifested themselves in social convulsions, and in their aftermath, to some degree of socio-economic reform. Directive planning, under the aegis of the Soviet Union, had been set up by 1949, and characteristically, reconstruction and development of the economy was centred on rapid industrialisation, above all, of the raw material and heavy industrial sectors. Resources necessary for this process had to be primarily, internally generated, or imported with convertible currency. Loans and aid from the West were denied in the wake of cold-war rivalry. The usual corollary to this was the relative neglect of agriculture (which had remained largely in private hands), and consumer goods sectors.

The ensuing squeeze on living standards sparked off the Poznan riots in 1956, which set off in train a familiar pattern of actions by the government: easing of heavy investment growth, increased supply (imports) of food, and increased channelling of resources towards consumer goods and social spending. At the political level, there was a change in leadership (Gomulka becoming First Secretary), and promises of liberalisation and reform. However, by the beginning of the 1960s, the regime displayed recidivist tendencies, as the economy concentrated once more on extensive (see 2.3. for the distinction between extensive and intensive growth) forms of industrial accumulation, with consumption falling to a post-war low.[1] Thus, from 1961-1970, domestic Net Material Product grew, on average, by 6.1%, personal income expenditure by 4.8%, whereas investment increased by 7.4% (See Table 3.1)

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1 See J. Michael Montias, 'Poland: Roots of the Economic Crisis', in *ACES Bulletin*, 24, 3, 1982, p.2.

Table 3.1: The Polish Economy 1961-80
(% annual growth in constant prices)

		1961-70	1971-75	1976-80
Domestic Net Material Production[a]		6.1	9.9	1.4
-By sector:	Industry	8.3	10.8	3.0
	Construction	6.7	13.4	-2.6
	Agriculture	0.9	1.0	-1.8
National Net Material Product[b]		5.8	12.0	0.2
-Personal income consumption		4.8	8.5	5.2
-Collective consumption		8.5	9.8	4.5
-Investment		7.4	19.0	-11.6
Foreign Trade:	Exports	10.3	10.7	4.1
	Imports	9.2	15.3	1.5
Trade with command economies:[c]				
	Exports	9.9	12.0	3.0
	Imports	10.3	8.3	5.5
Trade with market economies:[c]				
	Exports	8.9	8.4	5.1
	Imports	6.2	26.4	-2.5
Capital-labour ratio[d]		4.9	4.6	9.3
Capital Productivity[e]		1.8	3.8	-2.5
Labour productivity[f]		6.9	8.6	6.5
Share of investment in NMP:-		25.0	33.0	28.0
-Net fixed investment		17.7	24.3	24.0
-Change in inventories		7.3	8.7	4.0

[a] i.e., "produced national income".
[b] i.e., "distributed national income".
[c] For the 1961-70 period, data refers to 1966-70 only.
[d] The value of "productive fixed assets" per person employed.
[e] Domestic net material product per unit value of productive fixed assets.
[f] Domestic net material product per person employed in material production.

Source: Extracted from Z. M. Fallenbuchl, 'Poland's Economic Crisis', *Problems of Communism,* March-April 1982, Table 1, p. 6.

In December 1970, the government raised food prices, which provoked a wave of strikes and riots - that were only quelled by the resignation of Gomulka, who was replaced by Gierek, and by the rescinding of the price increases. The new government, keenly aware of the dangers of pursuing the same economic strategy, attempted to loosen the economic

straitjacket of the command economy and autarkic development. It strove to do this, above all, from increased co-operation and trade with the West. The 'New Development Strategy' involved the following: credits from the West (both from governments and commercial banks) in order to procure modern technology and equipment from, and license agreements with Western manufacturers. Thereafter the aim would be to export (relatively) technologically advanced products to the West, and in so doing, register improved productivity and growth of the economy as a whole, and industry in particular. The anticipated balance of trade surplus would then be used to pay back the credits. This was therefore tantamount to a shift from autarky to an exported-oriented development strategy.

Credit was, throughout the 1970s, in abundant supply, at relatively low interest rates, when banks were replete with petrodollars, whilst the recession of 1973-74 had depressed the demand for loans in the West. Supporters of the new strategy argued that this fact alone made it both plausible and cost-effective. For the government, it had the added attractive feature of obviating the need for any thoroughgoing systemic changes. For the first time, consumer goods sectors would be given priority: investment in these was planned to be twice the average for industry as a whole.[2] But emphasis on heavy industry also remained a high priority. Thus, broad swathes of industry were designated for rapid expansion and modernisation - what became known as the "dash for growth". Overall, between 1971-75, actual investment expenditure exceeded planned spending by 36%, with distributed Material Product rising by 9.9%, against 8% planned. Real wages grew rapidly - the 5-year target was achieved in only three years, but by 1975, the current account had incurred a deficit of $3.5 bn (from a small surplus in 1971), and total debt exceeded $7.6 bn., with a debt-service ratio of more than a quarter (26.3%[3] - See Table 3.2)

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2 Ibid., p. 6.

3 Figures on investment and wages from G. Blazyca, *'Poland to the 1990s: Retreat or Reform'?*, EIU, Special Report No. 1061, London, 1990, pp. 14-15.

Table 3.2: Poland's Balance of Payments on Current Account and Indebtedness, 1971-80.[a]

($US billions, current prices).

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
CURRENT ACCOUNT										
Exports	2.3	2.6	3.4	5.1	5.7	6.1	6.8	7.4	8.4	9.8
Imports	2.0	2.7	4.8	7.2	8.7	8.9	8.6	8.9	10.3	10.2
Balance	0.3	-0.1	-1.4	-2.1	-3.0	-2.8	-1.8	-1.5	-1.9	-0.4
Net Interest payments	0.0	0.0	-0.1	-0.3	-0.5	-0.6	-0.9	-1.1	-1.6	-2.4
Balance on current 0.3	-0.1	-1.5	-2.4	-3.5	-3.4	-2.7	-2.6	-3.5	-2.8	
INDEBTEDNESS										
End of year debt	1.2	1.5	2.8	4.8	7.6	11.2	14.3	16.9	23.1	27.0
Debt service	0.4	0.4	0.5	1.0	1.5	2.1	3.1	4.5	6.3	8.0
Debt service ratio[b]	17.4	15.4	14.7	19.6	26.3	34.4	45.6	60.8	75.0	81.6

[a] For transactions with market economies only.
[b] Debt service/exports in per cent.

Source: As for table 3.1, p. 7.

The "go" of 1971-75 rapidly gave rise to the "stop" of 1976-80, as the economy lurched into crisis. The dash for growth necessitated a scramble for resources which caused considerable strains in the economy - the ultimate manifestation of which expressed itself in shortages of consumer goods, as incomes exceeded the goods available, and of materials and equipment, and construction capacity, necessary to complete the various planned and unplanned projects. Bottlenecks became endemic. The saviour of hard currency surpluses of exports over imports failed to materialise. Fallenbuchl describes the new development strategy as being too 'ambitious', arguing that the 'investment front was too wide'. He notes that the '[i]ncreases in personal income ... were too large for the investment effort, even with large doses of imported capital'.[4] Thus, there was an overall switching from investment to consumption which the economy could not sustain.[5]

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[4] See Z. M. Fallenbuchl, 'Poland's Economic Crisis', *Problems of Communism,* March-April 1982, p. 6.
[5] I am grateful to M.C. Kaser for this point.

In order to prevent further deterioration and to regain firm control over the economy, the government in 1976 launched a deflationary package - the 'New Economic Manoeuvre' - whose objective was on the one hand to curtail consumer demand, wages, investment and imports, and on the other to boost hard currency exports. The limited autonomy which had been given to large enterprises in 1973 was abrogated. The contraction in the growth rate in the following five years was dramatic: growth rate for 1976-80 averaged just 1.4% (it fell from 6.8% in 1976 to -5.4% in 1980). The share of investment expenditure declined from 33% in 1971-75 to 28% in 1976-80. Price increases planned for 1976 were once more rescinded in the face of strikes and riots.

Although money wages continued to rise, real wages stagnated because of rising inflation and shortages - a causal factor of which was the rapid contraction of Western imports (down from a growth rate of 26.4% in 1971-75 to 2.5% in 1976-80). This certainly alleviated the visible balance of trade deficit (as exports also rose), but had the counterproductive effect of exacerbating slowdown in overall growth, as increased co-operation with Western companies had resulted in many Polish enterprises becoming dependent on them for crucial inputs. As these were denied, the "bottleneck multiplier"[6] produced shortages of inputs, and further bottlenecks down the production chain, with an adverse impact on output.

By 1979, total output had declined (by 2.3% that year) for the first time since the Second World War and total debt had mushroomed to $23.1 bn which meant a debt-service ratio of 75%. Increasingly more resources, including domestically produced consumer goods, were channelled for hard currency exports, in a desperate attempt to make the debt burden more manageable. But exports were stagnating in real terms, as the West dipped once more into recession in 1979, and competition for manufactured goods became extremely severe,

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[6] The term is from R. Portes, 'The Polish Crisis: Western Policy Options', Royal Institute Of International Affairs, London, 1981, p. 8.

particularly from the Newly Industrialising Countries, many of which had embarked on a similar, but more focused, programme of export-oriented industrialisation, backed up by a highly geared credit policy. Furthermore, the shift to intensive forms of growth through increases in factor productivity, did not ultimately materialise - indeed after 1977, growth was once more extensive-based.[7] This exhibited itself in the sharp contraction of industrial output in the early 1980s.

In the wake of poor economic performance, the government launched yet another austerity programme, centring on, once more, price increases, and complemented by initial rationing of meat. These provoked an enormous outburst of resistance, culminating in the formation of the Solidarity trade union, an avowedly oppositional force. The irreconcilable nature of the conflict expressed itself in the imposition of Martial Law in December 1981, and the re-imposition of firm central control of the economy. The economic consequences of this were dire: output declined by 6%, 12%, and 5.5% in the years 1980-82 respectively.[8] One can argue that the government, during the course of the 1980s, never really recovered from the convulsions of 1981-82. The military regime came to recognise that without thoroughgoing economic and political reforms, another social crisis was highly probable - a fact made all the clear by an outbreak of strikes in 1988. This heralded the 'roundtable talks' of 1989, and the subsequent transfer of power to a Solidarity-led government, which embarked on rapid, market-oriented reforms, guided by liberal-monetarist principles - ascribed with the epithet of "shock therapy".

3.2. The Balcerowicz Programme: Poland's Shock Therapy

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7 As the decline in capital productivity in Table 3.1 shows. Also, see D.M. Kemme, 'Productivity Growth in Polish industry', *Journal of Comparative Economics*, No. 11, 1987, pp. 1-20.

8 See Blazyca, op. cit., Table 13, p. 26.

By the time Mazowiecki's government took office in September 1989, the economy had deteriorated further. Inflation - both in its open and repressed varieties, was rapidly rising; production declining, and budget deficit increasing. The new government wasted no time in preparing an economic programme in an attempt to counter these ill effects. Known as the 'Balcerowicz Programme' - named after its author, the Finance Minister, Leszek Balcerowicz, it was modelled on advice provided by leading shock therapy theorists, Lipton and Sachs, and agreed with the IMF. The programme's ultimate objective - in line with the transformation objectives listed in 2.5. - was to rapidly bring about deep-seated structural and systemic changes necessary to create a market economy similar to those in advanced industrial countries. Measures to achieve this, it was argued, must be rapid, in order to minimise economic hardship.[9] It cautioned that the transformation was being conducted in 'extremely disadvantageous conditions'.

Under its 'general guidelines', two main courses of action were envisaged: macroeconomic stabilisation (especially control of inflation), and transformation of the economic system; the first being a prerequisite of the second. With respect to macrostabilisation, four interrelated objectives were stipulated: ending inflation, balancing the state budget, removing shortages, and making the zloty convertible. To achieve these objectives, the following measures were to be adopted and implemented:-

i.Reduction in the extent and level of enterprise subsidies, including tax concessions and withdrawal of export-related benefits; and phasing out of coal subsidies; (these being necessary for hardening budget constraints);

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[9] The ensuing discussion of the programme is based on: 'The Polish Government's Economic Programme: Main Guidelines and Directions', passed by parliament in October 1989. The programme was published in *Rzeczpospolita,* 12/10/1989, and translated in the *Economic Review, Polish News Bulletin of the British and American Embassies* (henceforth *ER,PNB*), Warsaw, 13/10/89.

ii.Reduction in real terms of defence, internal security and civil service expenditures; (representing the downgrading of defence, as Poland broke completely free from the aegis of the Soviet Union);

iii.Budget deficit to be financed by interest-bearing credit on commercial terms;

iv.The removal of price controls (unless they relate to monopolistic practices) i.e. removing price subsidies and allowing prices to rise to market-clearing levels, so they exhibit relative scarcities;

v.Control of "excessive wage growth";

vi.Substantial devaluation of the zloty, made *internally* convertible. (i.e., the free exchange of zloties for hard currency within Poland. This was to be the first step to achieving full convertibility (i.e., zloty/hard currency exchange outside Poland); initially fixed at the parallel rate of 9,500 to the dollar - a devaluation of 31.6%).

The programme envisaged a temporary rapid increase in prices, a drop in 'statistical indices in real pay', some enterprises being forced into bankruptcy, a temporary fall in output, and a rise in unemployment. Objectives v. and vi. comprised the two main 'anchors' of the anti-inflationary package, in particular their role in eliminating inflationary expectations;[10] objectives i., iv., v. and vi. were also designed to induce microeconomic restructuring.

In regard to changes in the economic system, the following legal and institutional changes were planned:-

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[10] This was stated in the government's 'Guidelines on Socio-economic Policies in 1990', in *Rzeczpospolita,* No. 291, 15/12/1991, *ER,PNB*, 19/12/1989. p. 9.

i. Changing the ownership structure, via the mechanism of widespread privatisation, to that of the advanced economies, in line with the market mechanism becoming the key determinant of allocation of resources;

ii. Increased autonomy of state-owned enterprises;

iii. Encouraging both internal competition (via liberalisation of the private sector and antimonopoly legislation) and foreign competition (by trade liberalisation);

iv. Reform of the tax system, banking system and creation of capital and labour markets.

It was recognised at the preparatory stage that the shock therapy strategy would cause hardship - after all, the squeeze on aggregate demand to end hyperinflation was to be achieved by the lowering of purchasing power, hence a decline in living standards. To offset this, a programme of welfare protection was planned for the 'economically weakest' groups (entailing subsidies for food, rent, heating, and unemployment benefit and training facilities for those made unemployed).

Foreign assistance (from international organisations, foreign companies, and governments) was viewed as a 'necessary condition for the implementation of the stabilisation programme and systemic changes'.[11] This took the form of loans for essential industrial imports and 'socially sensitive' articles, augmented by a $1bn zloty stabilisation fund from advanced economies; $700m stand-by credit from the IMF; loans from the World Bank to finance agreed projects and provision of a structural adjustment loan; financial assistance for the privatisation programme from the International Finance Corporation; debt reduction and rescheduling with respect to the Paris Club of creditor nations; debt reduction with respect to commercial banks, and access to fresh credit. The economic focus would shift to the EEC: in

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[11] Ibid., p. 12.

the short term, the aim was increased trade with, and investment from, the EEC; in the longer term, full membership. Economic ties with the (now former) CMEA countries would remain: but would change from the previous centralised, barter-type trade, to one based between enterprises, largely on the basis of convertible currency at world market prices.

The government counselled, possibly to counter rising expectations, that the programme would not bring about any perceptible short-term benefits (i.e., *within months*) to living standards - indeed would do the opposite - but was rather designed to prevent the economy from deteriorating further. Nonetheless, it did expect *real improvements "after a year" - in the form of a reduction in inflation , increasing supply of consumer goods, and increased real wages*. By this time the economy was expected to have *stabilised*, and *begun the process of microeconomic restructuring*, which would generate an *improvement in performance*. However, actual economic performance proved to be considerably worse than anticipated, as will be elaborated upon in the next section.

3.3. The Economy in 1990

On January 1st, in accordance with the economic programme, retail and energy prices were raised by the percentages shown in the following table:-

Table 3.3: Retail and Energy Price Increases on 1st January 1990

	Wholesale	Retail
Coal	400	600
Electricity	300	400
Gas	250	400
Rail Transport	200 (cargo)	250
Bus/Tram	-	100
Postal Service	-	150
Telephone	-	100

Source: *Rzeczpospolita*, 2/1/1990, translated in the *Polish News Bulletin of the British and American Embassies* (henceforth *PNB*), Warsaw, 2/1/1990.

These price increases constituted the 'burst of corrective inflation' which Balcerowicz argued was essential to preventing prices from rising steeply in the future.[12] The aim was to remove, or at least substantially reduce the inflationary overhang so that aggregate demand (in the form of aggregate personal disposable income) would equate aggregate supply (the aggregate value of goods and services). A high wage tax - in conjunction with a credit squeeze - was designed to ensure that wages were curtailed and aggregate demand reduced. The primary microeconomic impact of this was the hardening of enterprise budget constraints.

Together with price increases, there was a drastic reduction in goods sold at controlled prices (certain food and drink items, domestic utilities, pharmaceutical products, transport, health service, and energy items such as coal and coke).

There was a major overhaul of the trading regime. The customs tariff was to become the key instrument for regulating imports. The role of other instruments (in the main, import licences and convertible currency allocations), which had prior to 1989 superseded the tariff in importance, was either removed or minimised. Thus there was equality in trade. Tariffs were either suspended or set at very low levels - on average 5%. This resulted in Poland becoming the most liberalised economy in Europe, and one of the most open in the world.[13]

Inflation in January was 79.6% - predominantly due to price liberalisation, but augmented by zloty convertibility (hence devaluation), and widespread reductions in subsidies - the shortage of goods was suddenly replaced by a shortage of money as wages only increased by 1.3%. The ensuing 'demand barrier' (see 3.5.4.) contributed to a rapid decline in state sector industrial output (by 23.2%), with food processing (by 41.6%) and light industry

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[12] Quoted in ibid., p.6. For Gotz-Kozierkiewicz and Kolodko, this was equivalent to a tax on liquid assets. D. Gotz-Kozierkiewicz and G. W. Kolodko, 'Fiscal Adjustment and Stabilisation Policies: the Polish Experience', *Oxford Review of Economic Policy,* 8, 1, p.17, 1992.

[13] Cited in World Development Research Institute, *Transforming the Polish Economy,* Warsaw, 1993, p. 222.

(textiles, clothing, leather - by 28%) suffering the steepest declines.[14] (See 3.5. for a discussion of causes of decline in output).

A brief review of the salient features of the economy during 1990 is described below. These are i. Inflation, ii. Central Budget Balance, iii. Wages, iv. Output, v. Employment and Unemployment, vi. Monetary Policy, vii. Foreign trade, viii. Debt and ix. Privatisation.

3.3.1 Inflation.

Table 3.4. shows the monthly price increases in 1990. After the sharp increase in January, prices in February continued to be much higher than anticipated, before falling to single digit figures for the remainder of the year. Although the hyperinflationary spiral was broken by the absorption of the inflationary overhang, from September onwards, prices began to rise again - by 4-6% per month. The end of year figure for retail prices was 249.3% (i.e. December 1990 compared to December 1989). However the *average* rate of inflation for 1990 was considerably higher at 584.7% - the discrepancy being accounted for by the rapid price increases during the latter months of 1989. Nevertheless, the actual rate of inflation was much greater than expected: retail prices were expected to rise by 40-50% in January and by only 1-2% per month for the remainder of the year.[15] Although the reported inflation figures may be overstated, as they do not take into account the generally lower prices in the newly-spawned private sector, they nonetheless show the persistence of strong inflationary pressures. Thus the key objective of the Balcerowicz programme for 1990 - price stabilisation - *was therefore not satisfactorily achieved.*

Table 3.4: Price Increases in 1990

Month	Producer Prices (Industry)	Total Retail Prices	Food Prices
		Previous Month = 100	

[14] Figures from GUS (Polish Central Statistics office) in *Zycie Gospodarcze*, 18/2/90, *ER,PNB*, 20/2/90.
[15] See *Zycie Gospodarcze*, 10/1/91, *ER,PNB*, 15/1/91, p. 2.

January	209.6	179.6	182.8
February	109.6	123.8	117.3
March	99.8	104.3	99.8
April	102.1	107.5	110.8
May	100.6	104.6	105.1
June	101.5	103.4	101.8
July	103.3	103.6	100.8
August	102.9	101.8	100.2
September	102.7	104.6	103.5
October	104.9	105.7	105.1
November	103.6	104.9	105.8
December	103.3	105.9	107.7
		Previous Quarter = 100	
January-March	294.5	249.2	232.7
April-June	106.3	123	121.1
July-September	107.5	110.5	105
October-December	112.2	115.3	114.6
		Same Period of 1989 = 100	
December	291.5	349.3	317.3
January-December	722.1	684.7	674.7

Source: GUS: 'Poland's Socio-Economic Situation in 1990', published in *Rzeczpospolita Statistics Supplement No. 2, 2/2/1991,* in *ER,PNB*, 5/2/91, p. 12.

3.3.2. Central Budget Balance

Table 3.5. shows that the aim of achieving a balanced budget (as stipulated in the Budget Act and Budget Amendment Act of June 1990) was achieved - indeed a small surplus was registered. However throughout the year, and particularly so in the first half, the central budget was showing considerable surpluses (e.g. zls. 6.6trn. for January - June).

Table 3.5: Central Budget Revenues and Expenditures 1990 (trillion zls.)

	1989	1990			
Specification		Jan-March	Jan-June	Jan-September	Jan.-Dec
Revenue	19.6	27.2	63.3	93.8	138.7
Expenditure	24.3	25	56.7	88.1	137.8
Balance	(4.7)	+2.2	+6.6	+5.7	+ 0.9

Source: as for table 3.4., p. 15.

GUS notes the following in regard to central budget revenue and expenditure:-[16]

- - an increased share of public sector corporate income tax (due to 1989 tax arrears settlements and a reduction in tax relief; high tax on windfall profits from price gains on pre-January 1990 inventories; on sale of convertible currency; and from taxes on bank profits from high interest rates and spread.)
- - a decline in the share of sales tax (due to a decrease in output and sales);
- - the share of wages growth (*popiwek)* tax increased sharply;
- - reduction in enterprise subsidies reduced expenditure.

3.3.3. Wages

Table 3.6. below shows the steep fall in real wages in the first quarter of 1990. In spite of rises in the 3rd and 4th quarters of 1990, average real wages in the state/cooperative sector fell by 28%:-[17]

Table 3.6: Wages vs. inflation in 1990

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Consumer Price Increase (%)	136	23.5	9.9	14.7
Wage Increase (%)	67.1	24	15.5	37.2

Source: GUS, *Concise Statistical Yearbook of Poland, 1991.*

Real wages were suppressed by the imposition of a highly punitive tax-enforced wage indexation system (the '*popiwek*'), as a central anti-inflationary measure. This tax was only levied on SOEs - and thus acted as a *de facto* incentive to transfer labour to the private

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[16] GUS: 'Poland's Socio-economic Situation in 1990', published in *Rzeczpospolita Statistics Supplement No. 2,* 2/2/1991, in *ER,PNB,* 5/2/1991, p.17.

[17] From *Zycie Gospodarcze,* 10/2/90, in *ER,PNB,* 15/2/90, p. 3.

sector.[18] The index, set as a coefficient of the rate of inflation, was 0.3 for January 1990, 0.2 for February-April, 1.0 for July, and 0.6 for the remaining months. The precipitous fall in wages during the first quarter was a consequence of enterprises complying with the popiwek norm. The penalties of non-compliance with the norm (on a cumulative basis) were severe: exceeding the norm by up to 3% would incur a tax penalty of 100%; exceeding by 3-5% a penalty of 200%; and by more than 5%, a penalty of 500%. Initially, workers and trade unions also assented because they identified with the new government (although not necessarily to all aspects of the reform programme), and wished to show it goodwill. There may also have been an element of the fear of bankruptcy and unemployment. But as profits in general proved to be substantial and real wages continued to contract, resistance to the wage squeeze mounted. For the remainder of the year, wages outstripped inflation, as the wage growth tax was relaxed from July onwards, and enterprises were either content or compelled to award above-inflation pay increases, and in consequence to pay the *popiwek* tax.

3.3.4. Output.

Table 3.7a shows the comparative performance of the overall economy *vis-à-vis* 1989, whilst Table 3.7b gives a sectoral breakdown of industry. GDP (according to SNA methodology) dropped by 12%: the state and co-operative sectors' fall of 21% was partially compensated by an increase in private sector output by 17%. (See below for a discussion of reasons for the poor industrial performance). Investment expenditure contracted by 8%, with new investment projects falling by 35%. Energy output dropped by 16.3% - mainly attributable to a drop in coal production as it increasingly became market determined. Energy consumption of state enterprises fell by 14%; below the decline in overall industrial output.[19]

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[18] My thanks to M.C. Kaser and M.R. Hill for this point.

[19] In spite of this relative success in energy utilisation, Szpilewicz has argued that there was nonetheless 'gross waste and carelessness in managing energy'. A. Szpilewicz, 'Energy Management in 1990: the Market Favours Efficiency', *Rzeczpospolita,* 18/1/1991, in *ER,PNB*, 25/1/91, pp. 5,9.

Table 3.7a: Output in 1990, Various Indicators

	1989=100 (SNA System)
Total GDP	88
Agriculture	99
Industry - Total	76[a]
Industry - Private Sector	108
Construction - Total	91
Construction - Private Sector	98
Transport Services - Total	85
Transport Services - Private Sector	96
Investment Spending - Total	92
Investment Spending - Private Sector	97

Note: [a] Incorrectly given as 77 in the original

Source: as for Table 3.3.

Table 3.7b: Performance and size of Industrial Sectors, 1990

	1989=100	1989 (%)	1990 (%)
Total Industry	76	100	100
Mining	74.1	5	6.1
Total Manufacturing	76.1	95	93.9
Fuel & Power	77.9	11.2	15.9
Metallurgical	80.3	10.1	12.7
Electroengineering	78	25.3	24.1
Chemical	75.4	9.1	9.5
Mineral	78.7	3.9	4.2
Wood & Paper	75.2	5	4.9
Light	66.5	12.2	8.1
Food	76.5	20.9	18.6
Others	67.3	2.3	2

Source: GUS, *Maly Rocznik Statystyczny, 1991.*

Industrial output suffered the most, with all sectors showing substantial contraction. Light industry in particular suffered from a precipitous fall in consumer demand[20], whilst the relative share of the heavy sectors - fuel and power, metallurgical industries - increased.

[20] Food industry did not show a similar decline because of its relative inelasticity.

Continuing emphasis on the heavy sectors was a consequence of their high priority under the command system, not from any comparative advantage emanating from factor endowments. With energy subsidies removed, and trade with the former USSR based on convertible currency, relative prices changed significantly, eroding any rational allocative reason for giving priority to these sectors.

3.3.5. Employment and Unemployment.

As witnessed in chapter 2, a feature of the command economy was labour hoarding which resulted in a perpetually tight labour market. This corresponded well with the official objective of full employment, although as already pointed out, disguised unemployment was a common feature in all command economies. In December 1989, the Solidarity government passed legislation which recognised, and hence authorised, open unemployment as a valid category, and set aside unemployment benefits for registered job seekers. Given this, unemployment rose steadily throughout the year from 10,000 in January to 1.1 million in December, in response to declining output, although not to the same extent - signifying a fall in productivity. Industries geared for the CMEA market were particularly badly affected, as the collapse of this market, provoked by the requirement to settle payments in convertible currency, rendered idle many enterprises. Tables 3.8a, 3.8b and 3.8c give a breakdown of employment details.

Table 3.8a: Employment by major sectors (annual averages - in %)

	1,989	1,990
Total	100	100

State Units[a]	55.7	54.1
Co-operatives	13.2	11.1
Social/Political/Trade Union Organisations	1.4	1
Private Units	29.6	33.8

[a] Until 1990, the economy was divided into socialised and non-socialised sectors. In 1990, the socialised sector became known as the public sector, and the non-socialised, as the private sector. The main difference in the classification is that the new private sector includes co-operatives and social/political/trade union organisations, which had hitherto been part of the socialised sector. The former private sector is recorded in comparison to previous year's.

Source: GUS, *Concise Statistical Yearbook of Poland, 1991.*

Table 3.8b: Employees in the 'Sphere of Material Production' (Annual averages in thousands)[a]

	1989	1990	Percentage	1989=100
Total	8,457	7,495	71.7	88.6
Industry	4,053	3,671	35.1	90.6
Construction	962	824	7.9	85.7
Agriculture	758	665	6.4	87.8
Forestry	136	123	1.2	90.4
Transport	762	690	6.6	90.6
Communications	168	170	1.6	101.3
Trade - Total	1,190	964	9.2	81
Trade - Internal	1,156	929	8.9	80.4
Trade - Foreign	34	35	0.3	103.5
Community Services	320	307	2.9	95.9

[a] For the former 'socialised' sector.

Source: as for table 3.8a.

Table 3.8c: Total Employed and Registered Unemployed (in thousands)

	1985	1989	1990
Registered Unemployed	4.5	9.6	1,126.1
Vacancies	266	254.5	54.1
Total Employed		17,130	16,501

Source: as for table 3.8a.

3.3.6. Monetary Policy

The two main planks of monetary policy were first, the reduction of money supply as a precondition for the reduction of aggregate demand, hence hyperinflation, and second, internal convertibility of the zloty (which was duly set at the market of 9,500 to the US$) as a prerequisite for its stability, augmented by premium returns on zloty deposits in comparison with foreign currency. Real interest rates were planned above the rate of inflation to reduce investment demand, and set it on the basis of 'rational' allocation. In January the refinancing rate was set at 36% per month - clearly well below the inflation rate. But, as inflation rapidly dropped, so did the refinancing rate, until it was fixed at 36% *per annum* in July. However the rate was gradually raised, closing the year at 55.2%. Table 3.9. shows the growth rate in money supply in comparison with retail prices.

Table 3.9.: Growth Rate of Money Supply and Retail Prices in 1990

Month	Money Supply	Total Retail Prices
January	110.9	179.6
February	108	123.8
March	109.8	104.3
April	108	107.5
May	107.3	104.6
June	109.7	103.4
July	111.4	103.6
August	111.4	101.8
September	107.6	104.6
October	107.4	105.7
November	108.5	104.9
December	106.2	105.9

Source: As for table 3.6, p. 86.

In January and February, money supply growth was considerably lower than the inflation rate, reflecting the shortage of money associated with the erosion of real wages. For all the remaining months though, money supply growth was consistently higher; this is consistent with relaxation of the credit squeeze on wages, borrowing and central budget expenditure.

3.3.7. Foreign Trade.

Table 3.10. gives foreign trade figures for 1986-90.

Table 3.10.: Foreign Trade 1986-1990 (absolute figures (000s)

Payments Zone I (TR)	1,986	1,987	1,988	1,989	1,990	1990 (1989=100)
Exports	10,329	10,950	11,938	12,217	11,014	93
Imports	10,830	10,935	10,819	10,106	6,640	65
Balance	-501	15	1,119	2,111	4,374	
Payments Zone II ($)	1,986	1,987	1,988	1,989	1,990	1990 (1989=100)
Exports	6,510	7,079	8,311	8,533	12,020	139.4
Imports	5,437	5,844	7,302	7,766	8,254	104.2
Balance	1,073	1,235	1,009	767	3,766	

Source: GUS: 'Poland's Socio-economic Situation in 1990', in *Rzeczpospolita Statistics Supplement No. 2, 2/2/1991, ER,PNB,* 8/2/1991, p. 14.

The trade surplus proved to be much higher than expected. Exports to the $-zone recorded a phenomenal increase - by 39.4%, but imports rose at a relatively modest rate (4.2%), thereby yielding a trade surplus of $3.8bn. Trade in the transferable rouble (TR)-zone was marked by a collapse in imports (down by 35%), in comparison to a much smaller decline in exports (by 7%), again yielding a large surplus (TR 4.4bn). These results are remarkable given the precipitous fall in output, and are to be explained by a combination of three key

factors: domestic demand constraint, devaluation of the zloty, and favourable situation in EC markets. The first factor necessitated the seeking of export markets, whilst the second made Polish goods far more competitive (particularly in the early part of the year). This was helped by favourable growth rates in the major economies of Western Europe, particularly Germany - where the recession had not yet arrived. There was a shift away from trade with the former CMEA countries, and towards the EEC, (the loss of the former being counteracted to some extent by the gain from the latter), as Germany replaced the former Soviet Union (FSU) as the largest trading partner; an expected outcome given the desire by both Poland and the FSU to trade in hard currency. (See Table 3.11). A further indication of reorientation was the increase in share of private trade from 5% to 17.4%.[21]

Table 3.11.: Poland's Major Trading Partners 1988-1990

	1988	1989	1990	1988	1989	1990
	Exports (%)			Imports (%)		
COUNTRY						
West Germany	12.4	14.1	25.3	13.0	15.7	22.0
USSR	24.5	20.8	15.3	23.3	18.1	18.7
UK	5.0	6.5	7.0	4.2	4.5	5.5
Switzerland	2.6	2.6	4.6	4.5	5.3	5.9
Czechoslovakia	6.0	5.5	4.0	6.4	5.7	3.3
Austria	3.1	3.5	3.9	4.4	6.0	5.7
France	2.3	2.4	3.3	2.5	3.1	2.9
Holland	2.2	2.6	3.2	2.7	3.0	3.0
Italy	2.3	2.3	3.1	3.3	4.1	7.2

Source: As for table 3.7, p. 15.

In terms of a breakdown of the relative causalities, the World Bank has estimated that the demand barrier was the key determinant - specifically, it estimates that a decline of 1% in real monetary balances of households gives rise to a 0.36% increase in exports. The report cautions against the exaggerated effect of devaluation, as enterprises trading in convertible currency areas, had prior to devaluation, been authorised favourable exchange rates via the

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[21] See *Polityka, Export-Import Supplement,* 26/1/91, *ER,PNB*, 25/2/91, p. 3.

granting of 'retention accounts'.[22] Thus the real 'devaluation (or incentive) effect' would not have been so great, but nonetheless enough to raise competitiveness. This was highlighted by the fact that high inflation in conjunction with a fixed exchange rate, undermined export competitiveness in the latter half of 1990, which eventually provoked a further devaluation (by 17%) in May 1991.

3.3.8. Debt.

Table 3.12. shows Poland's hard currency debt in 1989 and 1990:-

Table 3.12.: Poland's Hard Currency Debt 1989-90

	1989	1990
Debt ($bn.)	40.8	46.1
Exports (bn.)	8.3	12
Debt to exports ratio (%)	478.1	387.7
Effective payment of interest and principal ($ bn).	1.79	0.8
Effective debt service ratio (%)[a]	21	7.6

[a] Effective debt service ratio is the ratio of effective (i.e. actual) payments of principal and interest to the export of commodities and services.

Source: Extracted from *ER,PNB* 22/1/1991, p.5.

The trade surplus reduced the convertible currency debt service ratio despite the fact that total debt increased by $5.3bn. This reflected capitalisation of some interest payments and the relative depreciation of the $ *vis-à-vis* the Deutsch Mark, thus increasing the total debt in dollar terms.[23]

3.3.9. Privatisation

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[22] World Bank Resident Mission Report, 'Microeconomic Response to the Economic Transformation Program: Evidence from the Largest Polish SOEs', World Bank, Warsaw, Sept. 1991, mimeo, pp. 3-4.

[23] Only 40% of total debt is dollar denominated. The agreement by Poland with the Paris Club of creditor nations in March 1991, entitled Poland to an initial 50% debt reduction and for the following three years, only required the fulfilment of 20% of the official debt of $30.9bn, accounting for only 5% of exports. See World Economy Research Institute (WERI), *Poland: International Economic Report 1990/91,* Warsaw, 1991, p. 120.

The privatisation process was delayed (mainly for political reasons) by eight months. In September 1990, the Ministry of Ownership Transformation (later changed simply to Ministry of Privatisation), published the privatisation programme. This envisaged three methods of privatisation:-[24]

- "Commercialisation" of SOEs as a precursor to "privatisation proper" (including "mass privatisation", i.e., the selling of large numbers of SOEs in one offering). By commercialisation is meant the transformation of an SOE into a joint-stock, limited liability company, owned and controlled by the treasury.
- "Liquidation" of an SOE as a legal entity, and its assets sold to private buyers.
- "Small-scale" (or "individual") privatisation - predominantly of trade and services activities, where shares are offered to employees, management, and private investors.

By the end of 1990, only 130 of the 7,780 SOEs were qualified for privatisation. The table below gives the details:-

Table 3.13: Privatisation in 1990

SOEs Qualified for Privatisation	Transformed into Treasury-Owned Co.'s	Of which: Individual Privatisation	Received Consent for Liquidation	Of which: Liquidated
130	58	6	72	30

Source: GUS, *Poland: Quarterly Statistics,* Vol. 1 1993, March 1994, Warsaw.

As can be seen, only 36 SOEs were actually privatised: of which 30 were liquidated. It became clear that the privatisation of the remainder would take a considerable period, and as such, only be achieved by 'gradual methods'.

3.3.10. Evaluation of the Economy in 1990

[24] See WERI, *Transforming the Polish Economy,* Warsaw, 1993, p. 179 ff.

The most obvious criteria to evaluate the shock therapy program in 1990 is to compare it to *its own* objectives: were these achieved, and if so, do they provide evidence of the correctness of the reforms? One fundamental factor favouring the Solidarity-led government, denied to most others, was the general goodwill and support it received from the wider public; and practically no organised political opposition.[25] Certainly for the first half of 1990, considering the severity of the shock therapy, criticism and opposition to it remained muted. But as the recession deepened, unemployment rapidly rose, and real wages remained much lower than planned, the favourable consensus began to evaporate, and opposition mounted. This in turn necessitated a relaxation of policies (notably with respect to central expenditure and the *popiwek* tax). Nonetheless, the Balcerowicz Programme did not significantly deviate from its central objectives. Thus, for 1990, the results obtained can be said to directly obtain from the reform programme. Table 3.14. provides a comparison of expected with actual results:-

Table 3.14: Actual versus Expected performance for various indicators, 1990.

	Expected	Actual	Variance (in %)
GNP growth rate (in %)	-3	-11.8	-293
Industry growth rate (in %)	-5	-23.3	-366
Unemployment (absolute figures)	0.4m.	1.13 m.	-183
Inflation(consumer price index in %)	95[a]	249.3[b]	-162
Exports ($)	8.3bn.	11.9 bn.	+43
Imports ($)	6.2bn.	8.1 bn.	-30
Real wages (in %)	-20	-28	-40

Notes: [a] This is taken from the WERI report. Gotz-Kozierkiewicz and Kolodko give an expected figure of 240%, which is clearly far too high, closely approximating the actual inflation rate of 249%.

[b] December 1990 versus December 1989.

Source: D. Gotz-Kozierkiewicz and G. Kolodko, 'Fiscal Adjustment and Stabilisation Policies: the Polish Experience', *Oxford Review of Economic Policy,* 8, 1, 1992. Table 1, p. 21, and World Economy Research Institute (WERI), *Poland: International Economic Report 1990/91,* Warsaw, 1991, pp. 29, 41, 71.

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[25] Note that the ruling Polish Communist Party (PUWP) disbanded itself in January 1990. Indeed it can be argued that the Balcerowicz programme was of a type which the previous regime would itself have liked to implement, but did not do so because of widespread opposition it was likely to generate - an outcome it was not prepared to countenance. Instead, it invited Solidarity to complete the process it had already started, and by so doing, deflect criticism which would inevitably follow as the reform process and economic crisis deepened.

In only one indicator - exports - did the actual performance improve upon the expected; in the remaining, actual figures were much worse. This demonstrates that the expected results were far too optimistic, and as such, the deleterious impact of shock therapy - in the first year at least - was underestimated. The "J-curve" hypothesis suggested that an improvement would be registered by the latter half of the year. This clearly did not materialise. Indeed, output decline continued in 1991 (see 3.4.4.). From this, one can conclude that the costs of the reforms were proving excessive - and that restructuring was taking place at a slower rate than anticipated. In sum, market failures, as analysed in 2.7., were proving difficult to remedy via the medium of shock therapy reforms.

3.4. The Polish Economy: 1991-93

This section updates the impact of reforms for 1991-93, to examine if there has been a "delayed (positive) response". (It should be noted that in 1992, the initial failure of shock therapy witnessed a lessening of the shock - notably in the new government's agreeing to raise the fiscal deficit to 6% of GDP. Fiscal policy was however tightened up in 1993). Where applicable, comparisons with Western Europe are made.

i. Inflation[26]

Table 3.15 provides the data for 1991-1993.

Table 3.15: Inflation Rate: 1991-1993

	1991	1992	1993
Consumer Price Index	170.3	143.0	135.3
Industrial Price Index	148.1	128.5	132.3

[26] All data in this section, unless otherwise stated, is extracted from GUS, *Poland: Quarterly Statistics,* Vol. 1 1993, March 1994, Warsaw.

The rate of inflation has shown a decreasing trend, but in absolute terms has remained very high in comparison with West European levels (less than 5% for the same period). The expectation that shock therapy would lead to price stabilisation - and ultimately West European levels of inflation, has therefore yet to be attained.

ii. Central Budget Balance

Table 3.16 provides central government revenue and expenditure details.

Table 3.16: Central Budget Balance 1991-1993

	1991	1992	1993 [a]
Revenue (trn. zls)	210.9	312.8	458.9
Expenditure (trn. zls)	241.9	381.9	502.8
Balance	(31.0)	(69.1)	(43.9)
% of Revenue	14.7	22.1	9.6

[a] Estimates

After the small surplus in 1990, the central budget plunged rapidly into deficit - peaking in 1992 at 22.1% of revenue. The poor fiscal situation is the direct result of acute recessionary conditions exacerbated by the reform programme, that have evidenced declining tax revenues from SOEs (who have usually experienced losses, or decline in profits), that have not been compensated by the emerging, but lower-taxed private sector (a combination of tax holidays and tax evasion). At the same time, there has been a tremendous drain on revenue by the social insurance fund - to finance unemployment and social security benefits. This phenomenon - a sort of "budget scissors", common to all transforming economies, has been described by Kornai as a "fiscal trap".[27] Although 1992 and 1993 experienced positive growth rates, the deficit remained very large. The task of balancing the budget - excepting 1990 - has not been achieved.

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[27] J. Kornai, 'The Postsocialist Transition and the State: Reflections in the Light of Hungarian Fiscal Problems, *American Economic Review, Papers and Proceedings,* May 1992, pp. 11 and 14.

iii. Wages

Table 3.17 details average real wages for 1989-1993.

Table 3.17: Real Net Wages 1989-1993 (1989=100)

1989	1990	1991	1992	1993
100	75.6	75.4	73.4	72.5

After the precipitous fall in 1990, real wages have continued to decline - albeit at a rate of approximately 1% per annum. Thus, the promise of increases in real wages made at the beginning of the reform programme, have yet to materialise. By the end of 1993, real wages were still 27.5% below those of 1989.

iv. Output

Table 3.18 provides GDP growth rates for 1989-1993.

Table 3.18: GDP Growth Rates 1989-1993 (in percent)

	1989	1990	1991	1992	1993
1989=100	100	88.5	81.8	83	86.7
Growth Rates		(11.5)	(7.6)	1.5	4.4

After a further substantial drop in GDP in 1991 (7.6%), Poland became the first transforming economy to register a break in the recession in 1992 - when the economy grew by a modest 1.5%. The recovery continued during 1993, when a more substantial (4.4%) increase in GDP materialised. The cause of this upturn is uncertain. Shock therapists could argue that this demonstrates that there was indeed a delayed reaction to the reform programme, perhaps in conjunction with the fact that Poland was the first to instigate thoroughgoing market reforms. But this is not very convincing, and does not undermine the thesis presented in this work: of the excessive costs engendered under shock therapy. The

following reasons can be posited. First, the thesis does not rule out the possibility of growth - only that the costs have been unnecessarily high. Second, even if we accept that there has been a "delayed response", the recovery is not as sharp as expected. Moreover, in 1992 - the first year of recovery - 42% of enterprises made a loss.[28] This provides a strong indicator of the severe difficulties in restructuring, under conditions created by the reform measures. Third, output by the end of 1993 was still over 13% below the 1989 level. This supports the view presented in 2.9., that the trend is more akin to an "L-curve", than a "J-curve".

v. Unemployment

Table 3.19 provides unemployment details for 1990-1993.

Table 3.19: Unemployment Levels and Rates 1990-1993

	1990	1991	1992	1993
Absolute (in 000s)	1,126	2,156	2,509	2,990
In Percent	6.1	11.8	13.6	15.7

Unemployment has inexorably risen: the upturn in the economy during 1992 and 1993 did not manifest itself in the absorption of unemployed labour. The rate of increase has declined, but by the end of 1993, the net rate was in excess of the (historically high) EC average of 11%.

vii. Foreign Trade

The foreign trade success of 1990 was not repeated during subsequent years. Indeed the trend was reversed, as exports contracted, whilst imports increased. Table 3.20 provides the details:-

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[28] Cited in UN Economic Commission for Europe, *Economic Survey of Europe 1992-93,* New York, 1993, p. 220.

Table 3.20: Foreign Trade 1991-1993 (current prices in $s)

	1991	1992	1993[a]
Imports	15,756	15,913	13,992
From Developed Countries	10,418	11,516	
From E. Europe	3,093	2,589	
From Developing Countries	2,245	1,808	
Exports	14,903	13,187	10,580
To Developed Countries	9,898	9,475	
To E. Europe	2,865	2,026	
To Developing Countries	2,140	1,686	
Balance	(853)	(2726)	(3412)

[a] First nine months only

According to GUS, weak export performance stemmed from the disintegration of CMEA trade, lower payment ability of the ex-CMEA countries, and recession in Western Europe. Conversely, the slight upturn in economic activity in 1992 and 1993 has resulted in import expansion. The downward trend of trade with the former Eastern bloc countries has continued, as both exports to, and imports from Eastern Europe have inexorably declined. The proportion of exports to, and imports from developed countries has stabilised at over 70%.

The continuing and expanding foreign trade deficit, notwithstanding debt cancellation, adversely affects the ability to service foreign debt. This in turn has resulted in pressure on the exchange rate: leading to a further devaluation of the zloty in August 1993.

viii. Privatisation

Privatisation of SOEs has proved far more intractable than initially imagined, and in consequence, a longer term perspective has been adopted. In January 1991, the government elucidated its objective: privatisation of more than 50% of state assets by 1994, and the achievement of an ownership structure similar to Western Europe's by 1996.[29] Table 3.21 provides details of the number of privatisations of SOEs till the end of 1993.

[29] See the Ministry of Ownership Transformation's 'Privatisation Programme for 1991', in *ER,PNB*,

Table 3.21: Privatisation of SOEs 1990-1993

	SOEs Qualified for Privatisation	Transformed into Treasury-Owned Co.'s	Of which: Individual Privatisation	Received Consent for Liquidation	Of which: Liquidated	State[a] Farming Enterprises
1990	130	58	6	72	30	0
1991	1,128	250	24	878	494	0
1992	795	172	22	618	710	539
1993	632	42	46	430	664	811
Total	**2,685**	**522**	**98**	**1,998**	**1,898**	**1,350**

[a] State farming enterprises taken over by the Agency for State Treasury's Farmland Property.

By the end of 1993, 2685 non-agricultural SOEs had qualified for privatisation - this represented 34.5% of total SOEs. Of these, only 98 had been "individually privatised" - with nearly 2,000 being liquidated. Thus, it is extremely improbable that the above targets will be achieved within the stipulated time. Lack of domestic capital (exacerbated by poor profit rates or losses), lack of interest from foreign investors, inadequate support structures, and the fact that the popularity of privatisation has waned (and consequently, it has become an even more politically sensitive issue), have all restricted the number of privatisations.

ix. Investment Outlays

Table 3.20 provides details for investment expenditure for 1989-1992.

Table 3.20: Investment Outlays 1989-1993 (1989=100)

	1989	1990	1991	1992
Investment Outlays (constant prices)	**100**	**89.9**	**86.2**	**87.1**
of which: Industry	100	92.7	86.0	81.8
Construction	100	72.7	97.9	154.9
Transport	100	100.5	93.2	78.4
Communication	100	173.6	213.9	463.0
Trade	100	97.8	111.5	151.5
Community Services	100	70.0	89.8	96.1

19/2/1991, p. 2.

The trajectory of investment expenditure mirrors that of GDP - a precipitous fall in 1990 gave way to a further decline in 1991, before showing a slight increase in 1992. Figures for 1993 are expected to show a 5% improvement over 1992. This would mean that by the end of 1993, overall investment outlay was still 8.5% below the level of 1989. The bulk of the contraction is attributable to the key industrial sector - whose decline has been unabated. Industrial investment expenditure at the end of 1992 was only 81.8% 1989 level. This has been, to some extent, offset by substantial increases in other sectors - notably communications, construction and trade. But the substantial total decline indicates that Poland has not undertaken much modernisation. The severe monetary policies have indubitably hindered the restructuring process: withdrawal of subsidies to SOEs and cutbacks in central expenditure (which as we have seen, stem from declining revenues) have constricted state investment, whilst high interest rates have choked off commercial investment loans. Widespread losses and uncertainty have also contributed to investment retardation. Thus, to quote the *Economic Survey of Europe:-*

'the Polish recovery has a still rather weak and fragile basis...no solid foundations for economic growth and restructuring can be established without new capital formation'[30]

In conclusion, if it were the case that the scenario of significant economic improvements occurring within a year was far too optimistic, it would nonetheless be realistic to expect *some* improvements after four years. But, as seen above, in not one economic indicator have predicted levels been realised. Moreover, with the exception of inflation, all major indicators show a *deterioration since 1989*. Thus, the policy of free markets and tight monetary policies generating the impetus for overcoming market failures and removing structural rigidities, so as to boost factor productivity and economic growth, has not proved successful. In sum, for both the short, and medium term, the forecasts assumed by the Balcerowicz Programme, have proved to be incorrect.

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[30] Op. cit., p. 220.

3.5. Causes of Output Decline

We have seen that the indicators for GNP and industry were considerably worse than expected, and are the primary source for the rapid rise in unemployment. The causes of output decline, particularly of the state sector, have been a key focus for debate, for apart from their inherent significance, they provide important lessons of the Polish transformation strategy. It is therefore important to examine the reasons for the rapid, post-stabilisation, deterioration of the economy. Four main reasons are considered a) tight credit; b) import competition; c) monopoly power; and d) demand barrier:-

3.5.1. Tight credit

The leading proponents of this thesis are Calvo and Coricelli (C&C).[31] Their explanation centres on a tight credit policy being conducted in the context of hyperinflationary costs of producer goods (110% in January), giving rise to an acute shortage of liquidity for working capital payments. They argue that credit/liquidity is essential for current production: without it there is an immediate impact on the ability of enterprises to maintain full capacity output - hence there will be a corresponding and immediate loss of production. Thus liquidity shortage 'magnifies the recessionary impact of supply and demand shocks'.[32]

To support the tight credit argument, C&C show that average stock of bank credit in terms of production costs declined by more than 50% during 1990 in comparison with 1989, stock of working capital credit collapsed by 51% in January (this is the ratio of average stock of working capital credit to average value of sales and costs), real stock of money (M2) also declined in a similar manner to working capital credit, as did interenterprise credit (in

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31 See G. A. Calvo and F. Coricelli, 'Stabilisation in Poland', *Economic Policy*, 14, April 1992, pp. 175-225.

32 Ibid., p. 199.

December 1989, this was twice the volume of bank credit for working capital) which fell by 40% in January.

This 'credit crunch', it is argued, induces a dramatic reduction in production, with inventories being depleted to raise credit, and employment, real wages, productivity, and ultimately household demand for consumer goods, all declining.[33] *Prima facie*, the tight credit argument does not fit reality as the 36% refinancing rate (or borrowing rates between 50-70 %) in January represents a *negative* interest rate in view of producer price inflation being 110%. Conventional theory would suggest, that contrary to the tight credit view, there was considerable incentive to borrow. It could be argued, however, that given Poland's lack of credit markets, enterprises would need to borrow in international markets.

Notwithstanding the unfavourable environment in these markets for what would inevitably be considered high risk loans, there is the problem of lack of expertise in dealing with capital markets. Procuring such expertise in the hope of securing operational (i.e. working capital) loans would necessitate prohibitively high transaction costs; hence the option would be foreclosed to the vast majority of enterprises. But, in any case, it *was* possible to borrow from the government and the central bank, as well as from the few commercial banks in operation. In the event of a credit squeeze, the question remains: why was this policy not pursued? The World Bank points out that the crucial factor in this situation is the enterprise mark-up over variable input costs (i.e. working capital). Where this is below the interest rate, in spite of negative real rate, this represents a disincentive to borrow under conditions of great uncertainty.[34]

The tight credit thesis has been subject to considerable criticisms. The main points of contention can be summarised as follows:-

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33 Ibid., p. 202.
34 The World Bank, Warsaw, op. cit., p. 55.

Kharas has argued that although there was a credit squeeze, this was an *effect* of the fall in output, not its primary cause.[35] In the absence of credit, one would expect credit-saving measures to be introduced, notably the a drastic reduction of investment expenditure (rather than the relatively low 8% in real terms); with investment credits being depleted more quickly than operating credits. Instead, investment credits rose 4-fold in contrast to operating credits, which only rose 3-fold in nominal terms. He further suggests that other expected phenomena following a credit crunch did not materialise: mounting of wage and tax arrears, shedding of employment, explosion of interenterprise credit, and massive increase in real interest rates.

However Kharas overstates his case: first, the first few months' wage increases of below the highly stringent wage-indexation norms can justifiably be considered a *de facto* arrears in wage payment; second, unemployment did rise substantially (from a notional 0% to 6.1% of the state sector at the end of the year; and sharply so in the 'material sphere', i.e., excluding agriculture and public utilities, by approximately 15%);[36] third, real interest rates from February onwards became positive, consistently rising throughout the year; and fourth, interenterprise credit did not 'explode' because as this was already high at the beginning of the reform programme, there was probably a great reluctance on the part of enterprises to allow further expansion of non-interest bearing credit for fear of non-payment. Moreover, enterprises repaid credits to circumvent higher interest charges, and reduce costs. This (fourth) point actually shows that *cost* of credit was a factor in the supply-side response; however it does not, in and of itself, validate the tight credit thesis, rather that certain criticisms of it are misdirected. It could be the case that other factors can better explain the decline in output.

Berg and Sachs dispute C&C's claim by invoking Schaffer's findings that industrial demand fell before industrial output.[37] In other words it was the demand barrier which

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35 H. J. Kharas, 'Restructuring Socialist Industry, Poland's Experience in 1990', World Bank Discussion Paper 142, Washington, 1992.

36 From M.E. Schaffer: 'A Note on The Polish State-Owned Enterprise Sector in 1990', Centre for Economic Performance, LSE, Discussion Paper No. 36, 1991, Table 1, p. 31.

37 A. Berg and J. Sachs: 'Structural Adjustment and International Trade in Eastern Europe: the Case of

ultimately led to the supply-side credit crunch. The surge in exports also suggests that lack of domestic demand was the primary factor. A further weakness of the tight credit thesis is noted by Kharas: the anomaly of enterprises operating under tight credit, yet still managing to export at unprecedented levels. Perhaps this objection could be countered by the possibility of exporting predominantly from hitherto excessive inventory levels. However, Berg and Sachs estimate that inventory reduction could only account for 20% of the export increase to the West, and crucially, that exports remained strong in 1991, suggesting they became increasingly necessary for sustaining output and sales.[38]

The World Bank's findings on interviews with managers of 75 of the largest Polish SOEs confirms the view that *lack* of credit was not a problem, although the cost of credit (interest rates) was deemed restrictive. Presumably, if markets and profits were more secure, even the latter would not present itself as an operational problem.

Although not all criticisms are appropriate or justified, the weight of evidence lends itself to the negation of the tight credit thesis.

3.5.2. Import competition

The argument here is that liberalisation of trade resulted in more competitive imports from the West displacing domestic products from the market, hence forcing a decline in output. However facts would appear to counter this thesis: first, convertible currency imports only increased by 4.2% in nominal terms, which taking into account import inflation (7%)[39], suggests a reduction in real terms. This could not be instrumental in displacing 25% of state

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Poland', *Economic Policy*, 14, April 1992, p. 150. Also, see Schaffer, ibid.

[38] Berg and Sachs, loc. cit.

[39] Figure from GUS, *Concise statistical Yearbook 1991.*

industrial production. Second, sectors showing the severest contraction overall, also exhibited a contraction in imports, contrary to what might be expected if the import competition thesis was correct.[40] The evidence suggests that import competition in the early part of 1990, when output slumped most steeply, was not a critical factor in explaining the generalised downturn in production. Nevertheless, import competition would later prove a considerable threat to certain domestic sectors: in accordance with the government's trade liberalisation policy.

3.5.3. Monopoly power

This is not a complete explanation of industrial decline, but Schaffer and Dabrowski *et al.* have, for instance, suggested it may account for *some* decrease in output.[41] The argument is that the highly concentrated state enterprise sector used its monopoly power to counter increased input costs (including cost of credit), take advantage of liberalisation of prices and greater enterprise autonomy, so as to curtail production and reap super-profits. The thesis does seem to correlate with the high profits experienced in the first half of the year. However, once more, cause and effect are probably mistaken. It has been noted that sale of pre-January 1990 stock would inevitably yield windfall profits, at post-liberalisation prices (this phenomenon is akin to super-normal profits oil companies make on old stocks, in the advent of price increases). It would therefore be unnecessary for enterprises to intentionally restrict output in such an extraordinary situation, for profits are guaranteed from selling normal output at the new prices on existing stock. Moreover, the strategy would be extremely risky in view of the new government's declared aim to *de*-monopolise the economy. In the face of such

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[40] Kharas, op. cit., p. 14.

[41] Schaffer, op. cit., p. 20. J. Dabrowski, M. Federowicz, and A. Levitas, 'Polish State Enterprises and the Properties of Performance: Stabilisation, Marketisation, Privatisation', *Politics and Society*, 19, 4, 1991, n. 41, p. 435. Also see, Q. Fan and M.E. Schaffer, 'Enterprise Reforms in Chinese and Polish State-Owned Industries', World Bank Research Paper Series No. 11, Washington, July 1991, p. 21.

blatant provocation, this objective would have gathered great momentum, to the ultimate detriment of enterprise management. Thus, in view of the irrationality of this option, *at that particular juncture,* combined with a lack of evidence of widespread monopoly practices, the monopoly power explanation cannot be deemed satisfactory.

3.5.4. Demand Barrier

As noted earlier, the demand barrier thesis rests on the immediate contraction of household demand being the prime motive for the slump in output. The argument is that price liberalisation saw an explosion of inflation, which in the context of wage indexation caused a severe cutback in real wages. This reduced spending, and in consequence, sales and production. Demand contraction fits well with the greater decline of the more consumer-demand sensitive light industry. The argument is corroborated by Berg and Sachs (B&S), who claim that the collapse in output of all sub-sectors of industry indicates a macroeconomic factor - the decline in aggregate demand.[42] They further contend that the drop in exports to the USSR led to an equal drop in sales of enterprises, as this loss could not be redirected domestically, because of lack of demand, nor exported elsewhere for reasons of quality.

The demand barrier thesis is in accordance with the declared objective of the government's stabilisation package, which saw the sharp reduction of aggregate demand as the essential device to rein in hyperinflation. This gave rise to the multiplier effects on credit, exports, inventory reduction, and unemployment.

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42 Berg and Sachs, op. cit., pp. 151-153.

Although B&S acknowledge that demand constraints were the dominant factor in output decline, they nonetheless dispute the extent of this decline as well as the extent of decline of living standards indicated by the 37% drop in real wages between June 1989 and June 1990. The thrust of their argument is that between June 1987-June 1989, real wages had *increased* by 42%, but this did not equate to a concomitant increase in living standards. Conversely, a drop in real wages should not be equated with a similar drop in living standards.

On this basis they dispute GUS's estimate of real private consumption contracting by 15.3% in 1990. Relying on alternative household expenditure surveys, they come up with the very different figure of a weighted average real decline in consumption of 4.8%. The difference is accounted for by a supposed underestimation by GUS of private trade. With respect to GDP decline, they estimate this to be, *at most,* 4.9%, in contrast to the official 12%. Once more, the difference is accounted for by an upward adjustment for private sector activity - in this case, output. Elsewhere, Sachs has argued that, when converted to dollars, the nominal average wage increased from $108 to $131; consequently, the average worker was better off. However as has been pointed out (in the Economic Survey of Europe), this ignores the fact that the purchasing power of the $ declined by over half - hence, there was a reduction in living standards.[43]

Clearly, accurate reporting of data is a *sine qua non* for analysis and evaluation of performance. In spite of efforts to improve the method and basis of information collection and collation, no doubt there remain inaccuracies and omissions. But the degree of difference between Berg and Sachs' calculations and official figures is so great that if the former were to be true, then one must presume that the fall in aggregate demand could not have been so great, and hence, the 'big bang' not so big. If this were the case, then much of the discussion

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[43] J. Sachs, 'A Tremor, Not Necessarily an Earthquake for Poland', *International Herald Tribune,* 30/11/1990. UN Economic Commission for Europe, *Economic Survey of Europe 1991-1992*, New York, 1992, n. 81, p. 54.

would appear to be an overreaction to what should have been relatively minor adjustments. But this then runs counter to the various studies highlighting the difficulties enterprises have faced in selling their products[44], of a gradual and increasingly widespread consumer dissatisfaction with the reforms, of workers and trade unions in the latter half of 1990 vociferously opposing and campaigning against wage restraints (and remarkably, of the Solidarity union removing the 'protective umbrella' over the Solidarity government by the Spring of 1991) - a phenomenon quite incompatible with minor social effects, of the surge in exports, which as noted earlier, occurred mainly because of lack of domestic demand, and of the fact that industrial manufacturing is still overwhelmingly state-owned, with the private sector only making significant inroads in trading activities.

Furthermore, the revised GDP figure would be below the unemployment rate of 6.1%, suggesting that productivity had increased - a quite improbable scenario given the decline in investment and lack of restructuring. It could be argued (although B&S do not do so) that the unemployment figure itself is also inaccurate. However, in this case one would expect an *under*estimation of the real rate, for the government would be under enormous political pressure (like its counterparts in the West) to lessen the impact of its reforms, of which the effect on unemployment is probably the most important indicator. Moreover, the calculation of unemployment as only those *registering* for work, does not capture the real rate.

The conclusion to be drawn is that although B&S correctly highlight the weaknesses of the official statistics, notably the under-reporting of private sector activity, the radically revised figures they produce appear to be excessively positive in the light of the aforementioned reasons.

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[44] See Schaffer (1991) and World Bank, Warsaw (1991) studies op. cit. My own survey of the motor vehicle industry indicates a similar problem (see ch. 7).

In contrast to B&S, Felbur has claimed that the official figure for GDP decline is in fact *too low*. He argues that first, GUS's price deflator for 1990 was 22% lower than the retail price index; second, there is a marked difference between the official GDP decline and the volume of cargo traffic.[45] If the deflator were to be equated with the RPI, then the GDP fall would be 29%, rather than 12%, although Felbur acknowledges that the real decline would be lower, owing to the slower growth of export prices, but nonetheless significantly higher than the 12%.

Glyn too is critical of B&S's view. He has argued that only was there a steep fall in real wages, but that this was a key factor for inducing the slump which followed. He further contends that instead of resources generated by falling real wages being used for economic reconstruction, they were squandered by orthodox [strict] fiscal policies in falling output.[46]

3.6. Summary

Of the three key pillars of the reform package, the emphasis in the crucial first year was, to all intents and purposes, on macroeconomic stabilisation, with minimal measures undertaken for microeconomic restructuring and institutional reform. Stabilisation involved a rapid reduction in aggregate demand, which had the contradictory effect of, on the one hand reining in hyperinflation, but on the other, notwithstanding the dispute over official statistics, inducing a severe recession - with the situation at the end of year deteriorating as inflation steadily rose, and the budget surplus rapidly contracted.

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[45] S. Felbur, 'GDP Fall in 1990-91: are GUS Computations Correct'?, *Zycie Gospodarcze*, No. 23, 7/6/1992, *ER,PNB*, 16/6/1992, p. 2. The difference between the decline in GDP and volume change in cargo traffic could be accounted for by the switching from rail to road of private sector cargo, that has not been captured by official (GUS) figures.

[46] See A. Glyn, 'Real Wages and Reconstruction in Eastern Europe', *Applied Economics Discussion Paper Series*, No. 147, Institute of Economics and Statistics, University of Oxford, November 1992.

By the end of 1990, practically all consumer and industrial subsidies had been removed, most prices were market-clearing - ensuing in the dramatic alteration of relative prices, competition encouraged, foreign trade organisations abolished and enterprise budget constraints hardened. Market signals had become the major mechanism for allocating resources - especially so in the product markets, to a lesser extent in the factor markets, with centralised material balancing and supply planning being firmly consigned to desuetude. Enterprises were granted autonomy, implying no state interference with respect to policies concerning pricing, quantity and product mix, nor in regard to investment and foreign trade. Profits rather than plan targets had become the predominant criterion for performance. The mono-bank system was disbanded, foreign and domestic commercial banks were given encouragement, interest rates had become positive, and in April 1991, a stock exchange was established. Small-scale private sector growth mushroomed, particularly in the retail sector.[47] In view of such a transformation, it is probably an accurate assessment to describe Poland at the end of 1990 as having become a *de facto* market economy.[48]

With respect to the crucial policy of privatisation of the SOE sector, progress, as we have seen, was delayed, with the programme not getting started until September. In terms of newly privatised firms being floated on the stock exchange, progress was even slower. By the end of 1990, only five, hitherto successful, industrial enterprises had been partially privatised, in preparation for floatation on the new stock exchange.[49]

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[47] However, Schaffer has argued that this was mainly due to the change of status of the co-operative sector - hitherto part of the 'socialised' sector - to the private sector. Whereas previously, the assets of the co-operative sector were state-owned, their ownership now passed to the employees. See M. Schaffer, 'The Economy of Poland', Centre of Economic Performance, Discussion Paper 67, LSE, 1992, p. 51.

[48] It should be added that the consensus view is also one of Poland no longer being a "shortage economy". The argument used to defend the claim is the disappearance of queues, which, although largely correct, does not take account the existence of a trade-off between queuing and open inflation/reduction in private consumption: the manifestation of moving towards market equilibrium. But, given the drastic decline of GDP, and consequently, a decline in overall supply, the claim is paradoxical. The paradox arises when, as noted in ch 2., the terms "shortage" and "command" are used synonymously. It is removed when this identity is rejected.

[49] The cost of these privatisations was extremely high - $5.7m - equivalent to 17% of their estimated value. In *Gazeta Wyborcza,* 23/1/1991. Cited by I. Grosfeld and P. Hare, 'Privatisation in Hungary, Poland and Czechoslovakia', in *European Economy,* Special Edition No. 2, *The Path of Reform in Central and Eastern*

The sharp decline in industrial output did not result in significant numbers of bankruptcies as might have been expected given the hardening of the budget constraint. During 1990, only a handful of firms were closed; although 59 were placed in receivership and another 548 lost credit worthiness.[50] Moreover, according to Dabrowski *et al.*, little restructuring of production took place. In their study of 50 enterprises of varying sizes, they found that although there was significant change in enterprise behaviour with respect to sales and marketing, *there was almost none regarding product lines, and hence production*; that cost reductions were in general achieved by either closing or leasing out under-utilised plant and equipment.[51] The fear of bankruptcy did provoke enterprises to restrict wages below the wage-index norm: by so doing, they were able to further strengthen profits (already boosted, as noted earlier, by windfall gains on inventories and foreign currency). Thus not only was bankruptcy avoided, but so too was the need for thoroughgoing structural adjustment. This conclusion is broadly supported by the enterprise survey, as will be elaborated upon in chapter 7.

Although the status of a market economy could be conferred, it was nonetheless one without some of the various institutional supports and regulatory framework common to the advanced economies, as described in Chapter 2. The government's implicit desire for these was not backed up by concerted action to attain them in practice. This was partly due to its overriding concern with macrostabilisation, but also its belief that *laissez-faire* policies, in conjunction with privatisation, would suffice. *This has, however, made the task of fostering industrial competitiveness more difficult.* There is of course a paradox here: considerable and effective intervention is necessary to establish the structural features of a regulated market

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Europe, Commission of the European Communities, Brussels, 1991, p. 145.

[50] Figures from *Tygodnik Solidarnosc,* no. 39, Sept. 1990. Cited in Dabrowski *et al.*, op. cit., n. 41, p. 435.

[51] They did however find some improvement in product quality and mix. Ibid., p. 424.

economy, especially under conditions of market failures. The necessary measures were stipulated in 2.7. It is worthwhile examining to what extent Poland achieved these.

3.6.1. Incentive Framework.

a) Increased competition: the groundwork was laid down by trade liberalisation, the removal of barriers to entry, and the passing of legislation against monopolistic practices (in February 1990). However scarcity and cost of capital restricted new entrants exclusively to the small scale sector. *De-monopolisation* did not proceed, as it is closely tied to the privatisation programme: because the latter has been slow to materialise, so too has the former. The absence of a systematic restructuring programme has also hindered de-monopolisation.

b) Low inflation: although hyperinflation was eradicated, strong inflationary pressures persisted, with the rate far in excess of desired OECD levels.

c) Stable exchange rate: this was partially achieved with the use of the nominal anchor of a fixed exchange until May 1991, whereupon a 14% devaluation was instigated. Later, a trade-weighted exchange rate anchored to a basket of currencies was introduced. Trade and budget balances showed healthy surpluses in 1990, but as we have seen, both accounts moved into deficit in 1991, and have remained so since.

d) Price liberalisation: this was achieved for 95% of goods and services; those subsidies still in existence were considerably reduced.

e) Open export market: trade liberalisation made exporting easier for Polish enterprises, with private firms particularly taking advantage of this. However, protectionism, notably on the

part of the EEC was in evidence in a number of sectors, especially in agriculture and raw materials: two of Poland's major exporting industries. Until full EEC membership is conferred (not until the end of the century), Polish exporters will experience export restrictions in the form of quotas - thereby restricting production, or punitive tariffs, which will undermine their competitiveness. (Also see 5.5. on the EC's "rules of origin" clause).

f) Low and stable interest rates: this was contrary to the policy of high real interest rates, which had the expected effect of curtailing investment spending.

g) Selective taxation: although progress in tax reform was slow, the objectives were to shift the burden of taxation away from enterprises to households, replace in large measure direct taxation with indirect taxation, lower marginal rates, and provide uniform treatment of taxpayers. However, the major function of tax policy remained that of revenue generation. With the exception of foreign investors, there was no clear policy of using tax instruments for incentive purposes; rather surprising given the programme's declared aim of facilitating the private sector.

h) Incentives for foreign firms: the criteria for foreign investment permits were relaxed, as the Foreign Investment Agency granted nearly two thousand permits for joint-ventures (more than twice 1989's figure). The rules on exemption from corporation tax and profit transfers were relaxed in early 1991. (Also, see 5.5. with respect to the motor vehicle sector).

i) Legislation and codes of conduct: basic laws relating to property rights and competition were passed - on bankruptcy, anti-monopoly practices, privatisation - in 1990. Preparation was made for laws on taxation (VAT), foreign investment, banking, and on transformation of old ministries to new ones, e.g., the setting up of a Ministry of Industry and Trade. Codes of

conduct (stipulating the new 'rules of the game') as applied to regulatory and self-regulating bodies were not given due consideration.

3.6.2. Industrial Capability.

a) Physical infrastructure and Investment: in view of the steep decline in central investments, the physical infrastructure deteriorated further. Investments in construction, transportation, municipal utilities, and science/technology/culture all showed marked declines. In 1991 the central budget moved sharply into deficit, further squeezing infrastructural spending. Clearly, the greater the present neglect of infrastructure, the greater will be the future drag on the rest of the economy. Incentives to induce foreign investment were noted in 3.5.1.(h) above. Despite these generous measures, equity capital invested amounted to only $170m - considerably less than the sum required for there to be a significant impact on the creation of multipliers and linkages - so necessary to raising the overall capability. Three factors explain the poor foreign investment: first, German reunification diverted much potential German capital to eastern Germany (although Germany remained the largest investor); second, the perceived instability of Poland's political system in conjunction with the relative instability of the region as a whole gave Poland the stamp of a high risk economy;[52] and third, the slide into economic downturn by the EEC economies meant a generalised cutback in investment on their part. With respect to international institutions, investment credits of $120m and $90m were provided by the World Bank and EBRD respectively, in early 1991, for modernisation of the telecommunications network.

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[52] In spite of popular perceptions of Poland being of a high risk for investors, the Political Risk Yearbook gives Poland the maximum A+ rating for direct investment over the medium term (5 years). See W.D. Coplin and M.K. O' Leary (eds.), *Political Risk Yearbook*, vol. VII, Political Risk Services, New York, 1992.

b) Production, Specialisation and Linkages: these issues were again subsumed within the privatisation/restructuring strategy. As minimal progress was made in regard to the latter, so of consequence was it with respect to the former. Thus SOEs remain highly vertically-integrated, under-specialised, and in consequence under-utilise economies of scale, particularly in consumer goods. Except for those few major Western manufacturing investments, production capabilities have not (and indeed could not have) been significantly enhanced. The breakdown of the 'ministerial autarky' system has however seen a shift to the creation of direct links between suppliers and manufacturers and suppliers and suppliers (See 7.3.3. on the Polish motor industry for an elaboration of this).

c) Skills and training: there is a lack of skills appropriate to running a market economy and market-oriented enterprises. Basic literacy and numeracy levels are high, and there is an extensive state system of vocational schools - this should facilitate the acquisition of more advanced skills. But, just as technology and equipment are backward and outdated, and in need of considerable enhancement, so it is with skills and training. The latter particularly has received very little recognition as an important source of improving capability - being mainly confined to basic 'on-the-job' training with minimal resources provided (see 7.3.1. (vi)).

At the enterprise-level there continues to be a nervousness about the loss of previously guaranteed sales - and the need instead to market goods within the domestic economy - a relatively new phenomenon. This is also true for enterprises involved in foreign trade, which had much of their sales and pricing policies divested to the appropriate foreign trade organisations. In spite of this however, the reform programme does not address the skills deficit as a priority worthy of special interest, involving state-led initiatives.

d) Technological effort: the bulk of current technological effort is still conducted by state centres such as technical institutes, operating in isolation from Western centres, and which had

hitherto been attached to appropriate ministries. This hindered the development and assimilation of new skills and technological improvement at the enterprise production level. Thus it is of compelling importance to see a shift in the technological effort to enterprises themselves, and much closer and greater links with international centres of excellence - a possibility made easier with the collapse of the Warsaw pact. However, there has been little sign of this taking place.

3.6.3. Institutional support.

The major focus here was on reform of the banking sector. Poland had already taken steps towards the creation of a conventional two-tiered banking system with the passing of the Banking Acts of 1989. The mono-bank system was replaced by a central bank (National Bank of Poland), regional banks and commercial banks, with the aim of setting credit and deposit allocation on a commercial footing. The policy was to some degree successful, as the total number of banks proliferated - from 23 in 1989 to 63 at the end of 1990, and rising to 75 by the end of 1991. But the close links between state banks (specially regional) and large state enterprises continued, suggesting that credit allocation at least was not optimal.[53]

With respect to the remaining necessary support structures listed in 2.7.3., no specific set of policies were devised or implemented. This once more betrayed the rigorous *laissez-faire* approach, and indeed reflected the government's view of there already existing far too close links between the state and industry. In sum, in accordance with the shock therapy approach, there has been an absence of purposive government interventions with respect to capability-building measures.

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[53] Amendments to the 1989 Banking Acts, advocating EC-type regulations were initially vetoed, thereby leaving a policy vacuum, but were eventually introduced in 1992. See *OECD Economic Surveys: Poland,* OECD, Paris, 1992, p. 63 ff.

Part II examines the impact of the reform programme on an important industrial sector - the motor vehicle industry.

PART II

CASE STUDY ON THE MOTOR VEHICLE INDUSTRY

Chapter 4: **Key Determinants of Competitiveness in the International Motor Vehicle Industry**

Chapter 5: **The Polish Motor Vehicle Industry: Background, Industry Characteristics, and Trade and Incentive Regime**

Chapter 6: **Enterprise survey: Methodology**

Chapter 7: **Enterprise Survey: Results and Comments**

CHAPTER 4: Key Determinants of Competitiveness in the International Motor Vehicle Industry

4.1. Historical Introduction

The motor vehicle industry is a key component of the world economy. Although countries which mass-produce number only a handful, there are several others which have some elements of the industry, and others still which aspire to acquire one. It is an industry which has had a profound bearing on twentieth century industrial structure. Thus it was the motor industry which spawned mass-production techniques, later termed "Fordism", named after the company which first developed this method of production; it was the industry which in the U.S. and later in other countries gave rise to mass trade unions;[1] it was the industry which spawned a distinctive managerial structure - "Sloanism"- coined after Alfred Sloan, long-time head of General Motors, who in the 1920s instigated a decentralised, 'divisional' style of management where there existed a clear divorce of ownership from control[2] - although the pursuit of acceptable rates of profit was the bottom-line common objective; and it is the industry now firmly associated with Japanese production practices (see 4.4.ff below). These characteristics of the motor industry spread outwards to other industries and were to gradually become the leading industrial practices internationally - in the case of the first three, before World War 2, and in the case of the latter, during the course of the 1970s to the present day.

The period since World War II has seen the motor industry frequently becoming a central plank of development policies for the major newly industrialising countries (NICs).[3]

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1 See the qualification to this generalisation in S. Tolliday and J. Zeitlin (eds), *The Automobile Industry and its Workers*, Polity Press, Cambridge 1986, Introduction, pp 7-8.

2 For a discussion of this, see Alfred Sloane, *My Years with General Motors*, Sidgwick and Jackson, London, 1965.

3 In regard to Latin American NICs, see Rhys Jenkins, *Transnational Corporations and the Latin American Automobile Industry*, Macmillan Press, London, 1987.

Four reasons for this can be postulated: first, the establishment of a domestic motor industry provides links with major multinational corporations (MNCs) and the opportunity to acquire advanced technology and skills; second, the setting up of a supplier network and transport infrastructure aid the development process and boost employment; third, domestic motor production can satisfy internal demand without loss of scarce foreign currency holdings; and fourth, the possibility of earning foreign exchange through export promotion.

In Eastern Europe too, the motor industry after World War II gained increasing prominence as a conduit for rapid industrialisation. Based initially on commercial vehicles, particularly on those countries which had a pre-War manufacturing base, it augmented the rapid drive to enhance the heavy industrial and engineering sectors. As with the NICs, reliance on Western multinationals (MNCs) for technology was crucial and essential. But technology and know-how offered by the MNCs was far from being state-of-the-art; in the main it comprised production and product technology for out-of-date models - although this corresponded with the desire on the part of NIC and East European manufacturers for cheaper, more affordable technology. Hence the MNCs ensured that their 'offspring' in Eastern Europe and in NICs did not provide stringent competition in their (i.e. MNC) markets (see the case of Fiat in Poland in 5.1.). Thus comparative advantage was restricted to lower wage costs in both sets of countries. The history of the motor industry since the 1970s - when a number of these countries launched export drives - has shown that, with the exception of South Korea,[4] this was not sufficient to challenge the complete domination of the multinationals, i.e. none have attained the decisive competitive advantage necessary for a breakthrough in the major (OECD) markets. Indeed the traditional manufacturers of the USA, Germany, France and UK

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[4] For a brief account of the progress of South Korea's motor industry, see A.H. Amsden and L. Kim, 'A Comparative Analysis of Local and Transnational Corporations in the Korean Automobile Industry', pp. 579-596. In D-K Kim and L. Kim (eds.), *Management Behind Industrialisation: Readings in Korean Business*, Korea University Press, 1989.

have been far more concerned during the course of this period with the rapid advances made by the Japanese motor industry: advances which have propelled it to the forefront of motor manufacturing.

Therefore, in discussing the key determinants of competitiveness within the international motor industry, which Polish manufacturers in transition will need to address, it is important to analyse the nature and impact of Japanese manufacturing techniques. Before undertaking this, it is valuable to conduct a brief review of the history of the major changes that have taken place in the motor industry in order to highlight the prevailing situation.

4.2. The Transformations

1984 saw the publication of what was then the most comprehensive survey of the motor industry involving the collaboration of experts from seven of the largest motor-manufacturing nations, under the auspices of the MIT in the USA. The seven were: Japan, USA, West Germany, France, Italy, UK, and Sweden. The project (henceforth, this will be referred to as 'MIT(1)') undertook a detailed analysis of the various factors affecting the motor industry not only in the so-called seven 'Auto-Program' countries but of all producers world wide.[5] In its historical survey, the report argued that during this century the motor industry has undergone three major transformations, and is in the process of passing through a fourth. Each transformation has provided a major breakthrough for the initiator and

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[5] The co-ordinators of the final report were: A. Altshuler, M. Anderson, D. Jones, D. Roos, and J. Womack, *'The Future of the Automobile Industry: Report of Massachusetts Institute of Technology's International Auto Program'*, Allen and Unwin, London, 1984. On the history of the transformations, I have relied heavily on this work.

as a consequence set the international competitive standard. In response, the rest of the industry has had to modify its operations to maintain competitive parity.

First Transformation - US

The first of these transformations spanned the period from 1902 to the 1920s. The breakthrough was made by Ford in 1914 with the development of the standardised product car (as opposed to the prevailing custom-built machines) on a mass-production basis - the assembly line. Ford's production climbed from 10,000 units of the model T in 1908 - the year it was launched - to 300,000 units in 1914. This expansion continued unabated to the 1920s leaving its competitors (particularly European) trailing far behind; although within the US, General Motors quickly adopted Fordism and was eventually to surpass Ford's output. By 1923, when Ford's US production numbered 1.9m units (44% of world output), the American share of the world market was 91%.[6]

Second Transformation - Western Europe

It was not until well after the second World War in the context of recovery and the long boom that Europe's motor industry began to pose a challenge to US dominance. The second transformation was to provide West European manufacturers the plank to do so and was based on their ability to combine Fordist mass production techniques with much stronger product differentiation using more varied technology. Thus the Europeans were to supply the various national markets without loss of economies of scale (except for the top of range luxury models) - a strategy which reaped dividends as Europe liberalised and became more

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6 Figures from Allan Nevins and Frank Ernest Hill, *Ford: Decline and Rebirth*, Scribner, New York, 1953. Cited in MIT(1) p.302 n.5.

economically integrated from the late 1950s onwards when tariff barriers were gradually reduced and removed[7]. Rising real wages in unison with declining real prices boosted demand, catapulting the European motor industry to the leadership of motor manufacturing, so that by the late1960s it had overtaken the US as the world's leading motor manufacturing and exporting region.

Third Transformation - Japan

The late 1960s was also the period which saw the beginnings of the third transformation - which this time emanated from Japan. Japan during the course of the 1960s had, from being relatively insignificant, become a major manufacturing region and by the end of the decade was making serious inroads into export markets. The meteoric rise in production (between 1960 and 1970, output increased by 2225%)[8] did not owe itself to superior technology - indeed in this respect it still lagged behind both Western Europe and the US - but rather on predominantly non-technological factors. These comprised four strands which were crucial to enhanced production, productivity and overall efficiency: first the close co-operation between OEMs and suppliers, many of whom were part of the same group; second, close co-operation between the manufacturers and the state - in the form of MITI - was a key factor in providing aid and protected markets. Indeed MITI operated as a *de facto* umbrella organisation (for a discussion of MITI see 4.10.); third, the setting up of "company unions" after a major strike wave in the mid-1950s had been defeated, backed up by, in the major companies, lifetime employment and other welfare benefits which gave rise to a much more compliant workforce *vis-à-vis* the West's, so that the managerial prerogative prevailed without hindrance; and fourth, a new form of manufacturing system - the 'Just-in -time' or 'kanban'

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7 The birth of the European Economic Community attests to this.

8 MIT(1) op. cit. p.19.

system - incorporating the concept of 'Total Quality'. The fourth factor did have in its implementation, certain technological aspects, particularly in regard to quality control measures to obtain defect-free production - but this was simple technology, requiring only very minor innovations (see s.4.6. re *pokayokes*). To these four can be added two other external factors: first, post-war Japan was spending considerably less on armaments in comparison to other major motor-manufacturing nations such as US, UK and France and even Germany, thereby leaving it proportionality greater amounts for civilian investment;[9] second, Japan's continuing growth throughout the 1970s coincided with a recessionary decade that had seen two major oil price shocks. The net effect of these internationally was to shift demand to cheaper, smaller-sized, fuel-efficient vehicles of which the Japanese had gained complete mastery. Thus, the end of the 1970s witnessed Japanese leadership in both export markets and production, the extent of which was however limited by a resurgence of widespread protectionism. By 1980 Japan had overtaken the USA as the largest manufacturer; a position it was to consolidate throughout the 1980s. Western concern - especially American - and acceptance of Japanese superiority,[10] led to either almost complete protection from Japanese imports (Italy and France), or to voluntary export restraints (US and UK). It also led GM to set up a plant in conjunction with Toyota (NUMMI) at Fremont, California, as a conduit for acquiring Japanese production methods. This was given assent by the US government, despite strict antitrust laws.

A Fourth Transformation?

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[9] Thus, for example, in 1955, US military expenditure (as % of GDP) was 10%; UK 8.1%; France 6.4% and Germany 4.1%. Japan's would have been less than 1% (exact figure not available) - the maximum amount allowed under the peace treaty with the allies. See J. P. Dunne, 'Conversion and Employment: a Comparative Assessment', Department of Applied Economics, University of Cambridge, 1991, mimeo, Table 1.

[10] This superiority enabled the Japanese, by one estimate, to produce a vehicle at 40% lower labour costs, 30% lower material costs, and 25% lower capital costs in comparison with American manufacturers. See W. J. Abernathy, K. B. Clark, and A.M. Kantrow, *Industrial Renaissance*, Basic Books, New York, 1983, pp. 61, 63.

The MIT(1) report argued that although the third transformation had not been 'fully resolved', a fourth transformation was already underway: one which was based on rapid advances in microelectronic technologies in the design, engineering and manufacturing processes, together with research and development of new materials.

The advent of the third and fourth transformations, it was argued, altered the conventional view of the motor industry - a view which had three central elements:-[11]

i. 'Pressure for energy conservation and environmental protection would make the small or light car the standard-size vehicle in all the world's auto markets', allowing it 'to become increasingly commoditised', which in turn would give rise to the "world car";

ii. 'marketplace competition...would be based increasingly on price and that high manufacturing volume would be the key to low cost', resulting in six "megaproducers" out of the twenty final OEMs in the Autoprogram countries leading to a tight world oligopoly for the entire auto industry;[12]

iii. manufacturing would shift from developed countries to developing countries as automakers took advantage of lower wages to reduce costs.

But with the development of the latter two transformations, combined with demand for differing sizes and types of cars, these assumptions no longer held true. The MIT(1) report gave four factors for their rejection:-

i. The reduction in the minimum efficient scale (MES) for individual product lines through the introduction of flexible automation, suggested that low volume manufacturers in particular (niche) product lines, could produce vehicles at a competitive cost; particularly if they procured parts that were mass-produced. However the report did not indicate the extent of reduction possible in MES through use of flexible automation;

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[11] MIT(1) op. cit., p.181 ff.

[12] See for example, K. Bhaskar, *The Future of the World Motor Industry*, Kogan Page, London, 1980, p.366. Also see remarks by Lee Iococca and L.T. Wells re the product lifecycle theory, in, S. Sinclair, *The World Car: The Future of the Automobile Industry*, Euromonitor, London, 1983, pp. 55-56.

ii. New product technologies will enable development of fuel-efficient vehicles with a considerable reduction in emission so that 'large...models will exist side-by-side with small models', suggesting that 'commoditisation is neither evident nor inevitable';

iii. Japanese-style production processes 'significantly reduce labour content', suggesting that lower labour costs could be obtained in the developed regions, thereby obviating the need to shift production to developing countries;

iv. In spite of two energy shocks, demand was not purely confined to small vehicles but to a wide and varied range - a trend which continued throughout the 1980s.

The implications of these conclusions, particularly i and iii, were clearly stated in a follow-up report by two of the co-ordinators of the MIT report.[13] Jones and Womack argued that only a small advantage can be gained presently through low-wage areas and the number of components in which costs can be saved is likely to decline as factors in the OECD countries are more tightly centralised. Thus the future of those plotting a low wage, high labour content strategy is bleak. Of course if this scenario were to be correct, then the effect on the motor industry of Eastern Europe and NICs, in their endeavour to attain competitive motor industries will be profound. The best method to test this hypothesis is to simply ascertain whether in the course of the last decade, NIC/Eastern European OEMs have achieved a 'breakthrough' in the international motor markets. The evidence suggests that Jones and Womack were correct in their analysis - with the possible exception of Hyundai of South Korea, no other NIC/East European OEM has posed even the remotest threat to the multinationals.[14] Even Hyundai's exports, and South Korea's production as a whole are

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[13] D. Jones and J. Womack, 'Developing Countries and the Future of the Automobile Industry' , *World Development*, 13, 3, 1985, p.405.

[14] Although the Brazilian motor industry is the largest amongst the NICs, it is almost entirely owned by foreign MNCs.

comparatively modest; and at the time of writing struggling to retain market share in the US - its most important export market.

The lesson for the Polish motor vehicle industry is clear: in order to expand, indeed in order to survive, it is compelled to compete on an equal basis with the major MNCs, and must therefore adopt through various means (foreign direct investment, licensing, joint ventures etc.) state-of-the art technology and manufacturing systems. The following discussion sets out what this exactly encompasses, i.e., the central elements of current motor manufacturing practices which are crucial for an internationally viable industry.

The Central Policy Review Staff (CPRS) report of 1975[15] had stipulated seven specific (the majority being self-evident) requirements for viability in the volume-car industry: a) competitive product range, and following from this; b) competitive capital and labour costs per car; c) varied designs, utilising a minimum number of different component parts; d) continuity of production at high levels of capacity utilisation; e) effective purchasing and stock control systems; f) high levels of quality and reliability; and g) network of exclusive and efficient distributors. But since the third transformation, the focus of attention has shifted to other factors which were not considered to be of much importance by the CPRS report. Hence in the ensuing discussion, emphasis will be laid upon these factors which are now ubiquitously assumed to be of critical importance for current motor manufacturing practices. Thus points c), d), e) and f) are included in the analysis, as they are crucial for the achievement of a) and b). Point g) however is not included, owing to its relative unimportance.

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[15] Central Policy Review Staff, *The Future of the British Car Industry*, HMSO, London, 1975.

4.3. Economies of scale

Although the MIT(1) report had pointed out that the importance of economies of scale (EOS) had been reduced as a result of the introduction of increased flexibility in motor manufacturing, nonetheless *EOS remain an essential determinant for cost-efficient production.* As a rule, EOS arise from the fact that increase in output (of one or more products) does not give rise to a proportional increase in cost - hence the longer the production run over a period of time, the lower the unit costs will be, until the minimum efficient scale of production (MES) for the product(s) in question has been reached. Most economies are 'internal' to the manufacturer, although 'external' economies also exist (see below). Internal economies - also known as technical economies - relate to production costs and emanate from a variety sources. Pratten and Dean list the following:-[16]

(a) the existence of indivisibilities, (for example of capital equipment), which results in economies accruing from the attainment of full plant capacity;

(b) economies of increased dimension - where 'cost increases less rapidly than capacity', a phenomenon known to engineers as the '0.6 rule'[17] or 'two thirds rule'.[18]Economies arise from the fact that, generally speaking, costs increase with surface area whilst output increases with volume (or capacity) of additional units of plant and equipment - hence, for example, a 100% increase in output will necessitate only a 60% (or 66%, depending on the 'rule' adopted) increase in costs;

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[16] C.F. Pratten and R.M.Dean, 'The Economies of Large Scale Production in British Industry', Dept. of Applied Economics, Occasional Paper No. 3, University of Cambridge, 1965, pp 17-20.

[17] See D.A. Hay and D.J. Morris, *Industrial Economics: Theory and Evidence*, Oxford University Press, 1986, p.42.

[18] See F.M. Scherer and D. Ross, *Industrial Market Structure and Economic Performance,* Houghton Mifflin, Boston, 1990, p.98.

(c) economies of specialisation - whereby higher output provides opportunities for greater division of labour into specialist tasks, together with increasingly more sophisticated equipment which further specialise (hence quicken) and improve quality of tasks;

(d) economies of massed resources - where higher levels of production yield proportional savings in stocks, spare parts, and as Silberston argues, 'larger output per unit of time allows flow production to replace batch production';[19]

(e) superior organisation of production - here economies emanate from the possibility of planning more efficient forms of organisation;

(f) the learning effect - in other words, economies from "learning by doing". Clearly such economies exist for all levels of output, and it is by no means certain that 'long, sustained output of an unchanged product' yields significantly more economies from the learning effect in comparison with shorter runs of output where the full learning effect has taken place. This schema for classifying sources of EOS was elaborated upon by Silberston, who reclassified the categories by their affect on particular types of costs: those affecting unit capital costs (initial fixed cost and working capital); those affecting operating costs (specialisation of labour and vertical linking economies); and those affecting both capital and operating costs (increased size and specialisation of plant).[20] He noted that for the *motor vehicle industry*, those sources emanating from initial fixed costs and specialisation of plant were particularly important.[21]

The existence of EOS implies that those manufacturers not operating at the MES will incur a cost-penalty *vis-à-vis* competitors who are. Pratten defines the MES as:-

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19 A. Silberston, 'Economies of Scale in Theory and Practice', in *Economic Journal* 82 (special issue 1972), p.374.

20 Loc. cit.

21 Ibid., p.380, Table 1.

'the minimum efficient scale above which *any* possible subsequent doubling in scale would reduce *total* average unit costs by less than 5% and above which *any* possible subsequent doubling in scale would reduce value added per unit (total costs less the cost of bought out materials, services, and components) by less than 10%'.[22]

Scherer and Ross, authors of a major work that deals substantively with EOS provide a rather imprecise, circular definition: 'the smallest scale at which minimum unit costs [are] attained'.[23] They in their work list three types of EOS: product-specific, plant-specific and firm-specific. Conventional thinking on the motor industry has limited EOS to only the product-specific type - in other words, output of various processes for either a single product or related products, is considered the most important factor in determining EOS and MES. But, plant size is also an important determinant of product cost.

However, in practice, this need not alter the conventional view of EOS. Firms choosing to expand output (of one or more of their products at one or more of their plants) are obliged to consider the nature and method of expanding capacity in tandem: 'product-scale' is therefore inextricably linked to 'plant-scale'.

What are the levels of volume needed to attain MES in the motor industry? These vary according to the process under consideration. Estimates tend to be notional, so have to be treated with caution, and vary according to year and assumptions made. A clear example of the magnitude of economies possible comes from Ford's production of the model T before and after the use of the assembly line in 1914 - when a cost reduction of 50% accrued over the following five years, in line with a rapid increase in scale.[24] Table 4.1. gives various estimates for MES levels for the major manufacturing processes for volume cars.

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[22] C.F. Pratten, 'Economies of Scale in Manufacturing Industry', Dept. of Applied Economics, Occasional Paper No. 28, University of Cambridge, 1971, p.26.

[23] Scherer and Ross, op. cit., p. 103.

[24] 'Automation and Technological Change', Hearings before the Sub-Committee on Economic Stabilisation of the Joint Committee on the Economic Report, Congress of the US, Oct. 1955, p. 52. Cited in G. Maxcy and A. Silberston, *The Motor Industry*, Allen and Unwin, London, 1959, p.78.

Table 4.1.: MES Estimates (in thousand units p.a.) for Major Manufacturing Operations

Source	Year	Foundry/Forging	Pressing	Powertrain	Final assembly
Maxcy & Silberston	1958	-	1,000	500[a]	100
Toyota	1960	180-360[b]	480-600	120-240[c]	96-180
Pratten	1971	1,000	500	250	300
White	1971	'Variable'	400	260	200-250
Rhys	1972	200	2,000	1,000	200
McGee	1973	2,000	-	-	-
Ford U.K.	1974/5	2,000	-	-	300
CPRS	1975	100	-	500	250
Euroeconomics	1975	2,000	2,000	1,000	250

a This is for machining only; b Forging only; c Machine fabricating

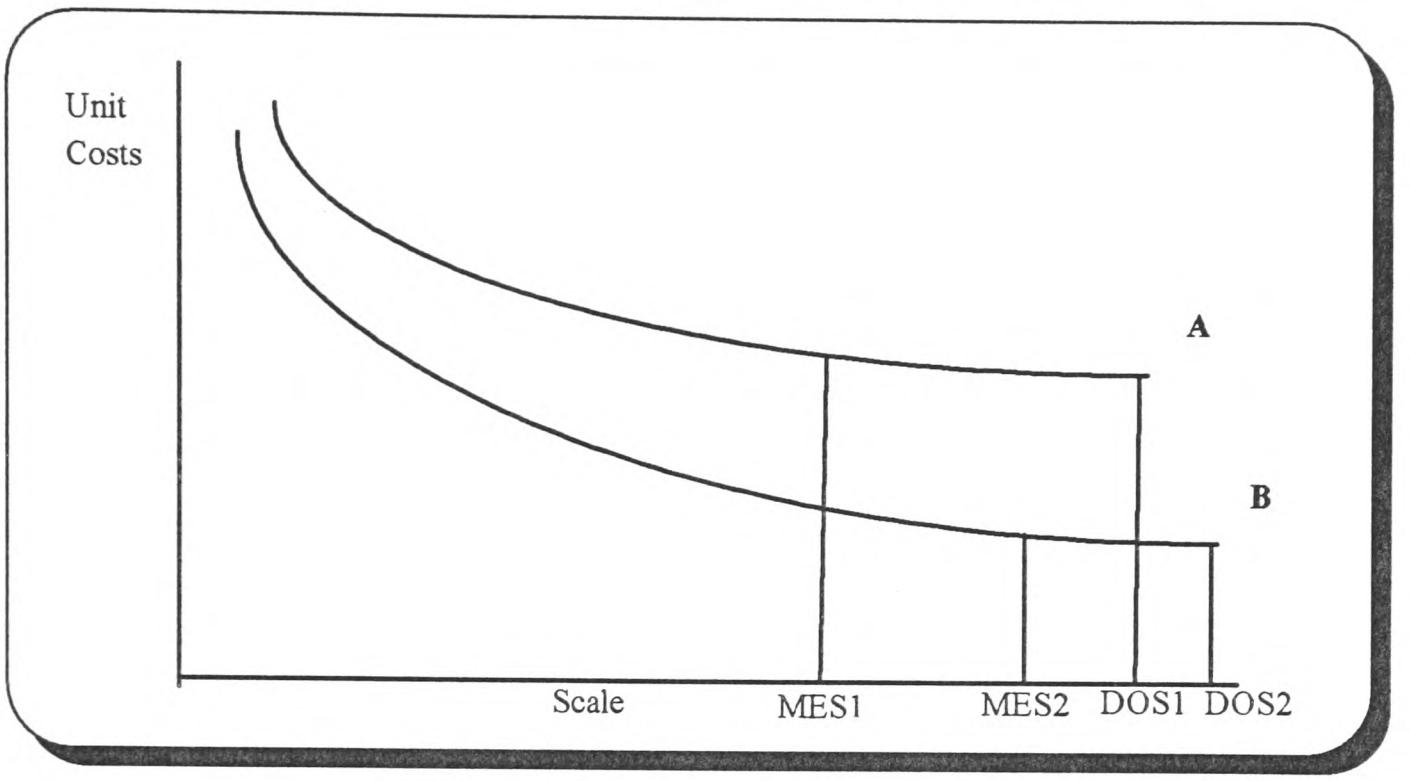
Sources: Adapted from D. Marsden, T. Morris, P. Willman, and S. Wood, *The Car Industry: Labour Relations and Industrial Adjustment,* Tavistock Publications, London and New York, 1985, table 4, p. 43; G. Maxcy and A. Silberston: *The Motor Industry,* Allen & Unwin, London, 1958, pp. 84-86; K. Odaka, K. Ono, and F. Adachi: *The Automobile Industry in Japan, A Study of Ancillary Firm Development,* Kinokuniya, Tokyo, 1988, p. 63; C.F. Pratten: *Economies of Scale in Manufacturing Industry,* Cambridge University Press, 1971, p. 243; Central Policy Review Staff: *The Future of the British Car Industry,* HMSO, London, p. 16, 1975; L. J. White, *The Automobile Industry Since 1945,* Harvard University Press, Cambridge, Mass., 1971, D.G. Rhys, *The Motor Industry, An Economic Survey,* Butterworths, London, 1972; Ford U.K., Evidence to the House of Commons Expenditure Committee Session 1974/5, Minutes of Evidence taken before the Trade and Industry Sub-Committee, Vol. 1, 1975. J.S. McGee, 'Economies of Size in Auto-Body Manufacture', *Journal of Law and Economics*, Vol. XVI(2), March 1975.

The most striking aspect of the table is the large variance in figures for all processes except for final assembly, which is remarkably uniform. Thus generalisations cannot be made with a high degree of validity. But having made these cautionary remarks, the figures do reveal two loose trends worth commenting upon: first, there appears to be a gradual increase in MES levels over time; second, MES levels decline, the further 'downstream' a process is.

The first trend can be attributed to the fact that the constant revolutionising of technology and methods of work organisation yield significant economies beyond the prevailing MES levels: so applying Pratten's definition, total average unit costs would be reduced by more than 5% if

production were to be doubled. Thus there is a shift in the MES. Figure 4.1. demonstrates this.

Figure 4.1: Illustrative MES Cost Curves



Long-run cost-curve A for a motor manufacturer gives MES1 - the point at which the scale curve A becomes horizontal.[25] Improvements in technology and methods of work organisation, *ceteris paribus*, yield cost-surve B, with a shift in MES from MES1 to MES2. DOS1 and DOS2 are respective diseconomies of scale, arising from managerial or bureaucratic 'drag', or what Bain describes as 'red tape in large organisations'. To this can be added two other possible, related, factors giving rise to diseconomies: first, 'imperfect expansibility of the management factor' i.e. management is less efficient in larger firms, and second, diminishing returns of management.[26]

The second trend arises from 'upstream' processes being more capital and material-intensive.[27] Thus they require higher levels of output to ensure economic

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[25] This definition of MES is taken from Silberston, op. cit., p. 376

[26] Joe S. Bain, *Barriers to New Competition,* Harvard University Press, Cambridge, Ma., 1956, p. 61. It must be noted that Bain argued against the existence in practice of significant diseconomies in large-scale firms.

[27] Rhys' much lower figure for the foundry operation stems from his assertion of this being highly labour-intensive. However he later qualified this by stating: 'at present, the optimum size of the foundry is

unit-contribution to plant costs - both fixed and variable. Herein lies a great advantage for the large manufacturers and a major barrier to entry to newcomers. Those manufacturers able to fulfil MES levels for upstream operations, i.e. 2 million plus for foundry, forging and pressing, in conjunction with multiple plants for assembly operations - the 'least common principle'- incur decisive unit-cost savings over smaller manufacturers who are able to achieve MES levels for final assembly operations but not for others. The least common principle is simply the least common denominator for each operation. Thus if MES for assembly is 250,000, for engine and transmission 1m, and for forgings/foundry and pressings 2m, the least common principle suggests that the optimum configuration for a manufacturer would be to have 8 assembly plants and 2 powertrain plants for each pressings and forging/foundry plant.

It is clear that only the largest manufacturers will have resources for this. Such manufacturers are few in the motor industry - just two in the US (GM and Ford); two in Japan (Toyota and Nissan); and possibly three in Europe (VW, Fiat and PSA)[28]. Dunnett provides figures to show that for the pressings operation, between 1947-77, *no* UK manufacturer was anywhere near able to exploit all scale economies, and that for example, in 1977, total production of pressings was only two-thirds of the MES level, whilst that of the largest manufacturer was one-third of the 2m MES level.[29] And no East European manufacturer outside the Soviet Union, has been able to exploit full scale economies for *any* process.

What are the cost penalties associated with sub-MES production? Again, estimates vary. Pratten, in a study of various UK industries (on the basis of interviews and examination

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quite small, but the increased use of machinery plus the need to work with new sophisticated metals may increase the optimum, especially if more specific equipment is used'. G. Rhys, op. cit. (in table 4.1.) pp. 285-286.

[28] Although Fiat's production has declined markedly in the early 1990s. GM Europe, Ford Europe and Renault could also be added to the list.

[29] P.J.S. Dunnett, *The Decline of the British Motor Industry*, Croom Helm, London, 1980, Table 2.4., p. 23.

of the technical literature) estimated that for the passenger car, the percentage increase in cost at 50% MES level was approximately 6% per unit.[30]

White provides the following estimates for *total* production cost penalties at sub-optimal scale of production:-

Table 4.2. :Total Production Cost Penalties from Sub-Optimal Scale (White's estimates)

Level of production	50,000	100,000	200,000	400,000	800,000
Total cost-penalty (%)	20	10-15	3-5	0	-1

Source: L. J. White, *The Automobile Industry Since 1945,* Harvard University Press, Cambridge, Mass., 1971, p.39.

Waverman and Murphy, in a more recent survey, provide the following estimates of cost penalties (in 1984):-

Table 4.3. :Total Production Cost Penalties from Sub-Optimal Scale (Waverman and Murphy's estimates)

Size of plant (% of MES)	100	80	60	30	10
Cost penalty	0	3	6.8	19.5	34.5

Source: L. Waverman and S. Murphy, 'Total Factor Productivity in Automobile Production in Argentina, Mexico, Korea and Canada: the Impacts of Protection', in G. K. Helleiner, *Industrialisation and Development,* Clarendon, Oxford, 1990, p. 295.

It should be noted that Waverman and Murphy assume assembly plant MES of 400,000. They mistakenly attribute this to White; but White's estimate for assembly MES was between 200-250,000 (see table 4.1.) - he had, as can be seen from table 4.2., estimated *total* production economies could be utilised at 400,000 units p.a.

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[30] Pratten, op. cit. p. 271.

White's estimates are the least penalty incurring, whilst Pratten's and Waverman and Murphy's, assuming MES of 250,000, are similar, at approximately 6%; a significant sum, given the highly competitive nature of the international market, and an explanatory factor in the difficulty of smaller manufacturers to remain independent. For manufacturers operating at below 50% MES, which includes most from Eastern Europe and developing countries, cost penalties increase exponentially. (See 7.4. for Polish OEMs). *This corroborates a commonly observed phenomenon in these countries: that despite lower labour costs, average unit costs tend to be substantially higher for similar vehicles in comparison with those produced by MES manufacturers.*

With respect to the CV sector, Rhys provides the following MES estimates, based on interviews with CV manufacturers, for heavy commercial vehicles:-

Table 4.4: MES Estimates for CV Processes

Process	MES
Cabs	200,000
Chassis Frames	40,000+
Axles	40,000+
Engines	200,000+
Final Assembly	100,000+

Source: G. Rhys, 'Heavy Commercial Vehicles: a Decade of Change', *National Westminster Bank Quarterly Review,* August 1984, table I, p. 25.

Unit costs associated with various levels of output are given in the table below:-

Table 4.5.: Unit Cost of CV Production and Assembly at Various Output Levels

Level of output	Index of average unit cost of production	Index of average unit cost of assembly

1,000	150	140
10,000	132	120
25,000	120	112
50,000	110	106
100,000	100	100
200,000	85	97

Source: as above, table III, p. 27

The estimates indicate that doubling of assembly MES production from 100,000 to 200,000, yields assembly economies of just 3%, but total production economies of 15%. Given that only a handful of CV manufacturers produce at or above MES level (Rhys gives five), and the vast majority produce less than 25,000 units p.a., total sub-scale cost penalties of over 20% are the norm for most manufacturers, placing them at a significant cost disadvantage to their large competitors.

EOS also accrue in just the same way for component manufacturers and other suppliers. If all these operate at their respective MES levels, then *ceteris paribus*, costs to OEMs will be optimal. Whether suppliers are able to achieve MES levels will, above all, depend on levels of demand from the OEMs. It is therefore clear that there exist national/regional economies which emanate from the existence of high demand, high output, and large firms which augment the purely product, plant or firm-specific economies. This reinforces the disadvantage experienced by relatively small manufacturers in 'low-demand, low-output regions', as is the case in Eastern Europe.

Alongside EOS arise various other related economies. These are: economies from vertical integration; capital-raising economies; economies of large-scale promotion; economies of research and development - which become more important as technology change increases - and so are particularly relevant for the motor industry; and 'economies of scope' - where

economies accrue from transfer of knowledge across different, but related, product lines. The principle remains the same for these as for EOS, i.e. the larger the manufacturer, the greater the ability and opportunities to achieve economies. Indeed, under the prevailing situation of rapid technological change, economies derived from R and D and from promotion have become increasingly important. So, in spite of there existing greater flexibility of manufacturing (the topic of the next section), EOS and related economies are crucial for competitive production. Reduction in MES levels for a single model through increased flexibility nonetheless assumes the existence - indeed requires it - of other models for the attainment of overall line or plant MES. Therefore implementation of flexibility in the manufacturing system does not constitute a substitute for EOS (as the MIT(1) report to a degree suggested), but rather is incremental to it.

4.4. Flexibility in Manufacturing - an Overview

Despite the continued importance of EOS, it is indubitable that flexible manufacturing has, with the dominance of the Japanese motor vehicle industry, become a vital determinant for competitive vehicle manufacturing. This section examines why this so. It is useful however, prior to examining the "Japanese Production System", to undertake a brief historical introduction.

The rigid Fordist methods had elements of flexibility introduced in them from the 1920s onwards - although not by Ford. The main reason for GM's success and its overtaking of Ford in 1927 as the world's largest vehicle manufacturer was its ability to produce model variations geared for different market segments, ('a car for every purse and purpose'),[31]

without costly dislocation in production - in contrast to the static - until a complete model change - model T of Ford's. This necessitated some flexibility in GM's tooling and production methods. So, whereas Ford used dedicated, model-specific equipment for its only product, GM's tooling was, *mutatis mutandis*, adaptable for a variety of derivatives. And unlike the fixed day-wage system of Ford's, GM adopted piecework and bonuses to introduce flexibility into the workforce.

Similarly, the rise of the European motor industry was, as already noted, based on the ability to manufacture much more differentiated products than the Americans at ever-increasing volumes - so benefiting from EOS. This too entailed flexibility in the manufacturing system as a whole.[32] Indeed, owing to the specificity of the European market - in comparison with the North American market it was exceedingly differentiated and considerably smaller - classical Fordism was never feasible in Europe *in toto*, although the overall system was unmistakably Fordist. The market could not absorb the level of output needed to optimise scale economy - until the mid/late 1950s, protectionism often limited the market to national boundaries - and therefore exports were rendered a difficult route to enhancing volume.

The long boom after the war saw a massive increase in motor vehicle output in both the US and Western Europe. In the US, just three companies - GM, Ford and Chrysler - dominated the market. Their market position and immediate future secure, they became increasingly less innovative.[33] High volumes, high economies, in combination with minor facial

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[31] See Sloan, op. cit., ch. 4 on 'product policy and its origins', p. 58ff, for GM's contrasting policy on product differentiation *vis-à-vis* Ford.

[32] It also spawned the prevalence of 'badge engineering', i.e., production of very similar cars, but sold under different brand names ('badges').

[33] Thus, Donald Frey, Vice-President of Ford Motor Company publicly stated in 1964: '[T]he last significant innovation in the auto industry was the automatic transmission, which went into mass production in the late 1930s'. Cited by W.J. Abernathy, *The Productivity Dilemma: Roadblock to Innovation in the Automobile*

changes, became the norm. The elements of flexibility GM had introduced in the 1920s were not improved, nor expanded, to any great extent, as there was no immediate compulsion to do so. The Europeans on the other hand were compelled to produce genuinely differentiated products, but their rapid expansion was centred on standardised, small utility models (Renault 4 and Citroen 2CV in France, VW Beetle in West Germany, Fiat 500 and 600 in Italy, Morris Minor and BMC Mini in UK)[34] that did not require significant levels of manufacturing flexibility. Hence the international motor industry was, until the late 1960s and early 1970s, characterised by a diminishing number of expanding giants using Fordist methods with some elements of flexibility and automation.

Automation in the motor industry has been a key factor in raising productivity since mass-production techniques replaced craft methods early this century. The breaking down of the production process into thousands of short, repetitive tasks, facilitated manufacturers to mechanise, automate and robotise many such discrete operations. This has enabled complex components /sub-assemblies (particularly in the engine, pressing and welding plants) to be built at high levels of output (hence achieving scale economies) and productivity, with relatively high accuracy, speed, quality, and cost-efficiency.[35]

Currently, for volume manufacturers, a substantial degree of overall automation (approaching 40%), has become a *sine qua non* for competitive production. (In the case of assembly plant automation, see 7.3.2.(i). Hitherto, much automation has been centred on dedicated (i.e., for one model), inflexible equipment, designed for long product runs, with little room for variation. In the American industry, this had become a great disincentive for

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Industry, John Hopkins Press, Baltimore, 1978, p.3.

[34] See Tolliday and Zeitlin (eds.), op. cit., p.6.

[35] For further discussion, see OECD, *Long Term Outlook for the World Automobile Industry,* OECD, Paris, 1983, p. 96ff.

innovation during the post-War years, and ultimately had a deleterious effect on productivity. The Japanese manufacturers, in contrast, as part of their strong product diversity strategy, had increasingly used flexible manufacturing techniques, including flexible automation, i.e., robotics. In the wake of their dominance, there has been a gradual shift towards flexible automation, and away from dedicated equipment, by all the major manufacturers.

What became known as "flexible manufacture system" has its origins in the way Japanese motor manufacturers, of whom Toyota in particular, developed their motor industry from the mid-1950s onwards. This term is synonymous with a number of others: "Toyota Production System"; "Toyotism"; "Just-in-time"; and of late, "lean production". These definitions not only relate to how the production process is more flexible than classical Fordism, but also to other factors which have contributed to the Japanese OEM's overall competitive advantage. It is on this wider definition that the following discussion will dwell upon.

The second report conducted by the MIT International Motor Vehicle Program (henceforth this will be referred to as MIT(2)) - the most extensive survey of any industry - sets out the superiority of 'lean production' in unequivocal terms:-

[lean production] ...'combines the advantages of craft and mass production while avoiding the high cost of the former and the rigidity of the latter. Toward this end, lean producers employ teams of multiskilled workers at all levels of the organisation and use highly flexible, increasingly automated machines to produce volumes of products in enormous variety. Lean production...is "lean" because it uses less of everything compared with mass production - half the human effort in the factory, half the manufacturing space, half the investment in tools, half the engineering hours to develop a new product in half the time. Also it requires keeping far less than half the needed inventory on site, results in many fewer defects, and produces a greater than ever growing variety of products'.[36]

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[36] J. Womack, D. Jones and D. Roos, *The Machine that Changed the World,* Rawson Associates, New York, p.13.

It is not surprising then, that given this decisive competitive edge, Japan has become not only the largest but also the most efficient motor vehicle producing nation - producing vehicles of the highest quality at any given price - although, as the MIT(2) report points out, variations of efficiency within the Japanese industry are substantial. The rest of this chapter will focus on a discussion of those determinants which have given rise to Japanese dominance and which therefore, *ipso facto*, must also be considered 'key determinants of competitiveness' in the international motor industry - and which the East European motor manufacturers must address, as they strive to restructure and raise their competitiveness, under the new liberalised trading regime they are confronted with.

The key determinants to be considered are: Management-Labour relations (4.5.); The 'Just-in-Time Production' (4.6.); Work Organisation (4.7.); OEM-Supplier relations (4.8.); Technology (including manufacturing capability) - 4.9.; and the Role of the State (4.10). Chapter 7 will examine their significance *vis-à-vis* Polish OEMs.

4.5. Management - Labour Relations

The general relationship between management and representatives of labour - the unions - is markedly different in Japan in comparison to its counterpart in the West. In the latter, unions are strictly independent from the companies, i.e. there is a clear division between management and labour, and unions negotiate on all aspects of the work situation: from pay and fringe benefits, to work organisation and redundancies. Of course, there are variations within each country and between countries: in US and Germany, unions have for historico-specific reasons concentrated predominantly on 'macro' aspects (pay, hours, seniority

rights etc.) whilst in the UK and Italy, unions have managed to negotiate on both macro (by full-time officials) and 'micro' aspects (plant-level issues such as work-speed, job allocations, sectional disputes etc., by shop stewards and convenors).[37]

In Japan, there exist 'enterprise unions' which are characterised by the following distinguishing features: company or group-based, as opposed to industry-based or according to worktype/craft as in the West; close dealings between management and labour on the principle of perceived commonality of interest; unions comprise both white-collar and blue-collar workers; negotiations on behalf of workers often conducted by low-tier managers;[38] and no union involvement on issues of work-control. These form the basis of management-labour relations in the major Japanese motor companies. The development of enterprise unions, with their unique features, is a product of a specific set of circumstances after World War II.[39]

The consequence of these factors has resulted in enterprise unions collaborating, or working as junior partners, with senior management to undertake policies which improve company efficiency, output and profitability; and conversely to avoid actions which damage these objectives, even if these are contrary to the interests of workers. This relationship has been kept intact without any great ructions. The reason for this lies in the remarkable and sustained expansion of the Japanese motor industry - an expansion which has resulted in high

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[37] Although in both U.K. and Italy, unions have had their grip on 'micro' affairs weakened during the course of the 1970s and '80s. For the U.K., see D. Marsden, T. Morris, P. Willman, and S. Wood, *The Car Industry: Labour Relations and Industrial Adjustment,* Tavistock, London and New York, 1985, ch. 7; for Italy see, G. Contini, 'The Rise and Fall of Shop-Floor Bargaining at Fiat, 1945-80', in Tolliday and Zeitlin (eds), op. cit., pp. 144-167.

[38] Many such low-tier managers go on to become senior executives. Thus in the 1981 Nikkeren Report, one out of six Japanese executives had served as a leader of an employees' union. Cited in O.L. Crocker, C. Charney, and J.S.L. Chiu, *Quality Circles: a Guide to Participation and Productivity,* Methuen, US, 1984, p. 23.

[39] Whilst interesting, a historical analysis is however beyond the scope of this work. For one account, see R. Okayama, 'Industrial Relations in the Japanese Automobile Industry 1945-70: the Case of Toyota', in Tolliday and Zeitlin (eds), op. cit.

profitability, which in turn has enabled companies to pay from the early 1960s substantial, real wage increases, in combination with job security.[40]

4.6. Just-in-Time Production

Having briefly examined the overall nature of management-labour relations, it is now appropriate to examine the specific organisational forms the Japanese manufacturers have implemented, and why these have, in efficiency terms at least, proved an advancement over conventional Fordist methods.

The prime exponent of the Japanese method of production is Toyota. The origins of the system lie primarily with insights of Taiichi Ohno, Toyota's Chief Production Engineer, in the 1940s and '50s. Ohno's main objective was to *eliminate or minimise all forms of waste in the production system - be it work effort, materials, or time - so that "value-added" could be maximised, productivity increased, and costs minimised.*[41] Given the shattered nature of the Japanese economy after the war, and the precarious financial position of Toyota, the *raison d'être* of Ohno's ideas are understandable, if not unanimously acclaimed.[42]

The key concepts of the 'Toyota Production System'(TPS) were laid down by Monden in a work he wrote with Ohno's advice:-

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[40] The period immediately after the defeat of the independent unions saw real wages actually decline or remaining stagnant, e.g., Nissan workers saw their annual wages decline by 2.9% between 1954-59, whilst Toyota workers saw a rise of a mere 0.1%. See M. A. Cusumano, *The Japanese Automobile Industry: Technology and Management at Nissan and Toyota,* Harvard University Press, Cambridge, Ma., Table 2, p.169.

[41] See MIT(2) p.56. Also see Cusumano, ibid., p. 267ff for a history and elaboration of Ohno's ideas.

[42] For a damning indictment, see S. Kamata, *Japan in the Passing Lane*, George Allen and Unwin, London, 1983; for a critical approach, see K. Dohse, U. Jürgens, and T. Malsch, 'From "Fordism" to "Toyotism"? The Social Organisation of the Labour Process in the Japanese Automobile Industry', *Politics and Society* 14, No. 2, 1985, pp 115-146.

'The basic idea of the Toyota Production System is to maintain a continuous flow of products in factories in order to flexibly adapt to demand changes. The realisation of such production is Just-in-time production ...which means producing only necessary items in a necessary quantity at a necessary time. As a result, the excess inventories and the excess workforce will be naturally diminished, thereby achieving the purposes of increased productivity, and cost reduction'.[43]

The system is realised through the implementation of a key method Monden mentions, not found under Fordism: Just-in-Time Production (JIT). This therefore needs to be examined.

The aim of the JIT system is to:-

'produce and deliver finished goods just in time to be sold, subassemblies just in time to be assembled into finished goods, fabricated parts just in time to go into subassemblies, and purchased materials just in time to be transformed into fabricated parts'.[44]

This is described as a "pull" system, i.e., each process "demands" or withdraws parts from the process immediately preceding it; this latter process therefore only produces sufficient quantities to replace the withdrawn amount. In other words, it is a production-to-order system.[45] This contrasts with the conventional "push" system where each process produces to a pre-planned production schedule - usually of a month's duration - whereby each preceding process "pushes" the parts to the process following it.

It is easy to see how in such a pull system, stocks are kept at low levels - indeed the ideal production lot would be the amount of parts needed for the following process: which is usually only one unit.[46] In reality though, this ideal is, for mass-volume production, almost impossible to achieve. *But the aim of JIT production is to minimise the size of each production lot by thorough reduction of set up times.* Thus lead times are cut as well as stocks.[47] The mechanism for achieving JIT production is through the use of *kanbans* (a

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43 Y. Monden, *Toyota Production System,* Institute of Industrial Engineers, Atlanta, 1983, p. vi.

44 From R.J. Schonberger, *Japanese Manufacturing Techniques: Nine Hidden Lessons in Simplicity,* The Free Press, New York, 1982, p.16.

45 See Monden, op. cit., p.14.

46 This is why JIT is also known as "stockless production". Schonberger, op. cit., p.17.

Japanese term meaning "card" or "visible record") of which there are two basic types: 'withdrawal' *kanban* and 'production-ordering' (or 'work-in-process') *kanban*. Shingo describes how the system operates as follows:-[48]

i. When the parts next to the assembly line are first used, a withdrawal *kanban* is removed and put in a specified place.

ii. A worker takes this withdrawal *kanban* to the previous process to get processed items. He removes a work-in-process *kanban* from the pallet and puts it in a specified place. The withdrawal *kanban* is used on the pallet and the pallet is transported to the line.

iii. The work-in-process *kanban* removed from the pallet at the previous process serves as a job instruction tag to prompt the processing of semiprocessed items fed from the preceding process.

iv. When this happens, the work-in-process *kanban* from the process before the previous one is removed and replaced by a withdrawal *kanban*.

Toyota has managed to extend the *kanban* system to its suppliers - thus its whole production is carried out on a JIT basis. It is helped in this by the fact that all its plants and the majority of supplier plants are located in or near Toyota city. This geographic proximity of suppliers is absolutely essential for JIT to work, as several daily deliveries are required. This is highly advantageous to Toyota as no other OEM in the world is so closely served by suppliers.

Because the JIT system minimises inventory levels, it modifies the conventional methods of calculating optimum inventories as set out by the formula for "economic order

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[47] See S. Shingo, *A Study of the Toyota Production System from an Industrial Engineering Viewpoint,* Productivity Press, Cambridge, MA, 1989, p.181.

[48] Ibid., p. 182.

quantity" (EOQ). Savings made from negligible inventories - no need for buffer stock means there is no requirement for warehouses and only a minimal one for factory space; also, there is less need for operating capital[49] - more than offset the initial, incremental set-up costs for small-lot production - as the latter begin to decline with experience of small lot production. This has the effect of reducing S in the formula for calculating EOQ: $EOQ = (2SD/I)^{1/2}$ (where EOQ is the optimal ordering - or producing - quantity of components; S is fixed cost of ordering (or producing) the components; D is demand (units per period); and I is the cost per unit of holding inventory).[50] Consequently EOQ levels decline.

Shingo provides a striking example of the sort of reductions in set-up time, and hence costs, that have been achieved by Toyota. Thus in 1970, die changeover times on a 1,000-ton press were reduced from four hours to initially one and a half hours, and then to a mere three minutes by simple modifications.[51]

The implementation of the JIT system triggers off other quality-improving and cost-reducing effects. The first of these is scrap-reduction and quality improvement. As production is in small lots, defects are quickly detected. Unlike the conventional system, where, because of the existence of large stocks, defective parts are simply thrown in the bin, the JIT system requires an immediate plan of action for the eradication of the fault that has given rise to the defective part and therefore a move towards 'zero-defects' production. Ohno devised a procedure - 'The Five-Whys'- to achieve this. It operates by asking 'why?' to each

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[49] As Eiji Toyoda explains: 'If once this production system got underway, we were able to sell our finished product before payments were due on our materials and parts, we would no longer have any need for operating capital'. Toyoda, op. cit., p.57.

[50] See Cusumano, op. cit., p.427, n.37. For a derivation of the EOQ formula, see W.J. Baumol, *Economic Theory and Operational Analysis,* Prentice-Hall, Englewood Cliffs, 1977, p.9. The effect of JIT, *vis-à-vis* the EOQ formula, has been to reduce set-up costs, and therefore S, which has the *effect* of increasing the impact of I. In other words, there is a shift in the stock ordering (producing) cost curve to the left.

[51] Shingo, op. cit., p.xxvi.

problem in the production chain, until the ultimate cause is discovered, which is then rectified to ensure that future output is defect-free.[52] This process of continuous improvement (including minor innovations) is known as *kaizen.* In order to further ensure that the overall production schedule does not suffer because of 'defect-solving exercises' - which of necessity entail down-time in production - Toyota has a policy of extensive use of overtime.

Under JIT production, each worker does his/her own inspection of all parts, often with the help of devices such as the *poka-yoke* (mistake-proofing).[53] There is therefore "self-inspection" instead of quality control experts undertaking checks on a sample-basis as in the West. Hence quality control departments and rework areas, so central to Western firms are almost made redundant. Each worker becomes his/her own quality control expert, carrying out rework, whenever necessary, on the line.

In order for the Five-Whys system to operate, it was necessary for each worker to be given the option of stopping the line on discovery of defects. Initially, as was to be expected, the line stopped constantly to iron out problems; but over time, with a continuous process of rectification, the defect-rate dropped, until, as in the case of Toyota today, they approach zero.[54]

Schonberger, following other proponents of the JIT system, argues that there are 'motivational effects' on workers from the use of this system.[55] The argument is that learning from the effects (i.e. mistakes) of his/her own workmanship will result in the worker becoming 'naturally motivated to improve'.[56] But there is nothing natural in this. As the system is

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52 See MIT(2), op. cit., p.57.
53 Shingo, op. cit., p.20. Shingo terms the use of mechanical devices to detect defects as 'autonomation' (p. 58ff). Also see Monden, op. cit., p.10.
54 MIT(2), op. cit., p.57.
55 Op. cit. Also see Monden, op. cit., Fig. 9.1, p.118.
56 Schonberger, op. cit., p.27.

designed to ensure defect-free production, there is pressure to comply - from both management as well as fellow workers. Thus, any worker allowing defective parts to slip through will be penalised when these are discovered further down the line: so either the worker improves or is removed. Consequently, there is great incentive for workers to co-operate with one another; for with minimal inventory buffers, problems at one point of the productive chain have an immediate impact on the succeeding stages - with the likelihood of failure to meet requisite production quotas. Failure to meet these quotas results in enforced overtime, withheld praise, or reprimands.[57] Responsibility for self-inspection is therefore attached with penalties for any (perceived) 'irresponsibility'. So it is clear that the favourable indirect benefits for the company from this system do not accrue from any natural motivational factor, but rather from the elaborate and all-pervasive incentive-structure inherent under JIT.

4.7. Work Organisation

4.7.1 Quality Circles

Because the work of one worker is so inextricably linked with another - particularly with those working in the same work area - there is group pressure to ensure that production is smooth and defect-free. Under JIT, this has been formulated by the setting up of "quality circles".[58] Hutchins defines a quality circle as:-

'A small group of between three and twelve people who do the same or similar work, voluntarily meeting together regularly for about an hour per week in paid time, usually under

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[57] Ibid., p. 29..

[58] This is a contraction of 'Quality Control Circles'.

the leadership of their own supervisor, and trained to identify, analyse and solve some of the problems in their work, presenting solutions to management, and where possible, implementing the solutions themselves'.[59]

Every worker (both blue and white collar) is encouraged to put forward ideas - not just on product quality, but on all aspects of the work situation - productivity, cost, safety, morale, housekeeping, environment, etc. It is therefore more than a glorified version of Western-style 'suggestion schemes' (although these exist too). The distinction is highlighted by the use of the term 'total quality' to emphasise the importance of quality in all areas of a firm's activities.[60] Having stated this, it is nonetheless the case that the principle focus of total quality and its achievement through quality circles is the shopfloor, i.e., the manufacture of the final product and its constituent parts on the most efficient, defect-free basis. As Abernathy *et al.* point out:-

'one of the principle thrusts of quality circles in Japan is to achieve a full sixty minutes of work each hour by each worker'.[61]

In the process of achieving this, areas of overmanning will be discovered by the workers themselves: but the reality of employment security (for regular workers at least) ensures that they do not do themselves out of jobs. Dohse *et al.* provide an overall conclusion of the JIT system from this fact, which tends to be ignored in the mainstream literature:-

'"Toyotism" is therefore...not an alternative to Taylorism [i.e. Fordism], but rather a solution to its classic problem of the resistance of the workers to placing their knowledge of production in the service of rationalisation'.[62]

The success of quality circles in Japan has, like all other aspects of the Japanese production system, began to diffuse to Western companies as they have come to appreciate the competitive advantage it has given Japanese manufactures in innovating all aspects of the

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[59] D. Hutchins, *Quality Circles Handbook,* Pitman, London, 1985, p.1.

[60] 'Total Quality' is an expression that was actually coined by an American, A.V. Feigenbaum in, *Total Quality Control: Engineering and Management,* New York, McGraw Hill, 1961, p. 17. Cited by Schonberger, op. cit., p. 47.

[61] Cited by Dohse et. al., op. cit., p. 128.

[62] Loc. cit.

work situation. Although potential cost savings obtained from quality circles are difficult to estimate, Nissan, for example, has *claimed* quality circles activity saved the company $160m between 1978 and 1984 - which, at $5,000 per circle - is a highly significant amount.[63]

4.7.2. Labour Flexibility

As was noted earlier, and as might be expected, a key component of the JIT system is the flexibility of the labour process. Unlike Western plants, where workers are assigned specific job tasks with the agreement of unions, under JIT, workers do a number of jobs involving the use of different machinery and equipment, for which training is provided, sometimes simultaneously, and frequently during the course of a working day. In Toyota for example, workers operating in a parallel or U-shaped line can be expected to do as many as five different closely-linked operations, as part of a normal, daily routine.[64] Such workers are therefore described as "multiskilled" or "multifunctional" and are essential for the production of the enormous array of model derivatives and types which the major Japanese OEMs produce. Shingo attributes two further advantages of multifunctional workers: first, improvement of the flow process and raising of worker productivity through absorbing processing time disparities between processes; second, the elimination of temporary 'storage' (i.e., waiting time).[65] Shingo describes this as 'multi-process handling', which he defines as the performance of multiple machine handling operations in accordance with the flow of operations.[66] Toyota takes multi-skilling one step further, by operating a vigorous job-rotation

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[63] Figures from Cusumano, op. cit., p. 334.

[64] The operating of several machines at once, contrary to the impression given by Shingo and Monden, was actually thoroughly disliked by the workers when introduced in the 1950s, according to Ohno, the instigator of the idea. Interview with Cusumano, op. cit., p. 306.

[65] Shingo, op. cit., p.157.

system. The advantages of this according to Monden are: 'freshing' of workers' attitudes and prevention of muscular fatigue resulting in a decreasing rate of shop accidents;[67] sharing of more heavy work; possibility of conversation between workers at the beginning of the cycle; know-how of all the standard operations of the shop; worker sense of responsibility for all the goals of the shop.[68]

Flexibility of the workforce is also advantageous when it comes to discovering "superfluous" workers as noted in the previous section, for such workers are simply pulled out and located elsewhere, and in the case of "peripheral" workers, made redundant. So what in effect amounts to a *de facto* "speedup" for the workers remaining, is masked and presented as a virtue - a fact which workers, because of their dependence on the company, readily seem to accept. Dohse *et al.* note that this invariably leads to greater work effort. Using an unpublished study by a US motor manufacturer, they estimate that the work *intensity* of a Japanese plant is 15% greater than that of an American plant - a reasonable assumption given that the *raison d'être* of multiskilling is to reduce slack time.[69]

If the flexible nature of the JIT labour process provides a competitive advantage over conventional "rigid" methods, then so too does the fact that in Japan, workers on average work more hours than their Western counterparts, as we have seen, at a more intensive pace. Thus, for example, in 1986 Toyota production workers worked 1,990 standard hours plus a

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[66] Loc. cit.

[67] Monden refers to the Tsutsumi plant but does not provide statistical evidence. Kamata, writing three years earlier in 1980, on his return to Toyota, where he had previously worked for six months in 1972, asserted that, 'the human costs of Toyota's methods - suicides, injuries, job fatalities, and occupational disease - [were] increasing at a horrifying rate'. But he also does not provide any evidence to back his claim. Kamata, op. cit., p.211.

[68] Monden sums up the various benefits as being 'respect for humans', remarking that this contrasted with mass-production methods with their specialisation of labour, simplification of jobs, and human alienation, op. cit., p.112. These conclusions were echoed by the MIT(2) report. But, again, Kamata's account, which is backed up by first-hand experience, strongly disagrees with this summation.

[69] Dohse et. al.. op. cit., p. 134.

further 370 hours overtime (including 'voluntary' activities). This contrasts with 1,580 hours worked in Germany and 1,500 hours worked in Sweden (including overtime and excluding absences).[70]

4.8. Linkages - the Supplier Network

It was noted in 4.6. that Toyota had extended the JIT system - through the use of the kanban method - to its supplier network which is located in or near Toyota city. This has proved highly advantageous to Toyota and is tantamount to an extension of the production lines to the beginnings of the production process. The method has been adopted to varying degrees by other Japanese OEMs , and in recent years by Western (particularly US) OEMs and Japanese transplants reflecting the now universal importance of this structure of linkages. Simple gravitation of components production, and for that matter final assembly, to low cost, especially low wage-cost areas is no longer the reality.[71] Minimising of unit costs however is still of the highest priority, but the method of achieving it is far more multifold than hitherto perceived by Western manufacturers - Japanese concern with, and demonstration of, the vital importance of 'systemic' factors provides ample evidence. The OEM/Supplier nexus is yet another example of this: thus Cole and Yakushiji cite a US manufacturer who estimated that a substantial proportion (20-30%) of Japanese cost-advantage is 'supplier related'.[72]

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[70] Figures from Christian Berggren, *The Volvo Experience, Alternatives to Lean Production: Work Organisation in the Swedish Auto Industry,* ILR Press, Ithaca, New York, 1992, pp. 34, 35, and 83.

[71] This, as noted earlier, was pointed out by the MIT(1) report in 1984 and contradicts the 'new international division of labour theory' thesis.

[72] R.E. Cole and T. Yakushiji, *The American and Japanese Auto Industries in Transition,* University of Michigan, Ann Arbor, 1984, p. 151.

The origins of the Japanese supplier network, like the production system itself, go back to the late 1940s and '50s. In contradistinction to the Western (especially US) OEMs, the Japanese eschewed extensive vertical integration, but, on the contrary, encouraged the setting up of an independent supplier network. The supplier industry was also promoted by the Ministry for Trade and Industry (MITI) and assisted with loans by the Japanese Development Bank. (see 4.10. on MITI). In addition, many links were established with the most advanced Western (predominantly American and German) parts manufacturers. The policy soon paid dividends as a supplier-base quickly arose, with productivity rapidly increasing. Thus, the number of hours required for operations such casting, forging, stamping, and machine processing fell (by more than 40% between 1956 and 1959)[73] from the use of continually improved technology, through learning-by-doing, and from economies of scale.[74]

What exactly constituted the framework of the Japanese supplier network and how did it contrast with the West's? The MIT(2) report lists the key characteristics of 'supply in lean production'.[75] First, the leading Japanese OEMs have less than 300 suppliers for each project, compared to 1000-2,500 for Western OEMs. These are easy to 'designate' as they supply similar parts for other models and are invariably long-term members of the OEMs' supplier group. They are not selected on the basis of bids, but rather on the basis of past relationship and proven record of performance. Second, the supplier network is tiered, with the OEM normally only having direct relationships with 'first tier' suppliers. The latter have direct contacts with 'second-tier' suppliers, who in turn, have their own 'third tier' suppliers, and so on. Thus the network is akin to a pyramid formation, with close co-operation between one tier

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[73] Figure given by Cusumano, ibid., p.245.
[74] Loc. cit.
[75] MIT(2), op. cit., p. 146ff.

and the next, and within a tier; particularly between the OEM and its first-tier suppliers, and between suppliers of the first tier.

For major parts such as transaxles, electronic fuel injection systems etc., which require heavy investments, the OEMs operate a single-sourcing policy, i.e., only one first tier supplier produces the part concerned. For less complex and less expensive parts, usually more than one supplier is used. This network of close co-operation has been institutionalised by the major OEMs through the formation of 'supplier associations' on a regional basis. Thus Toyota has three such associations with 136, 62 and 25 first-tier suppliers, whilst Nissan has two, with 105 and 58 suppliers. The aim of these associations is to cement close co-operation and commonality of interest through cross-fertilisation of ideas and personnel concerning design, technical, organisational and financial matters. This is augmented by the fact that some of the major suppliers are subsidiaries of the OEMs. In other words they are part of a *keiretsu*, the Japanese phenomenon of a diversified business group.[76]

Third, the interchange of sensitive information and the consequent determination of costs, prices, and profits via a 'rational framework'. This encompasses a 'basic contract' between OEM and supplier, and supplier and supplier - a contract which provides rules for price-determination, quality assurance, ordering and delivery, proprietary rights, and materials supply'.[77] Thus the whole tenor of the relationship is purportedly one of co-operation and contrasts with the relatively adversarial form of relationship in the West. But having made this observation, it is interesting to note how the OEM-supplier relationship mirrors the management-labour relationship - in both cases the OEM management is the undisputed dominant partner. Of course, put in an historical context, the analogy could not be more

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[76] Thus for example, Toyota has ten subsidiaries (most of which were established before World II) and Nissan seventeen. From Cusumano op. cit. tables 70 (pp. 250-251) and 71 (pp. 254-255).

[77] MIT (2), op. cit., p.148.

different. Suppliers rather than being rendered impotent in the manner of the unions post-1953 were, as mentioned, actually supported and nurtured by OEMs. Their subservience stems from the nature of suppliers everywhere who are dependent on OEMs for the bulk of their activities. In Japan, this is more the case as suppliers are far more 'dedicated' to motor manufacturing than in the West. Thus in 1980, 87.5% of the production value of most of the largest 400 supplier firms in Japan was dedicated to motor products whilst in the US, in a survey of 78 supplier firms conducted by Cole and Yakushiji, only 6 obtained more than 35% of their sales from motor components.[78] This makes it easier for Japanese OEMs to dictate the terms of reference of any contract - so although there is a partnership, it is heavily geared towards the goals of the OEM rather than those of the supplier. This unequal power relationship is also the norm in the West.[79] In both cases the ultimate consequence is that wage rates (hence costs) of suppliers are driven downwards,[80] and productivity upwards: through the process of competitive price tendering in the West, and 'target cost fixing' in Japan.

Prices are arrived at by the setting of a "target" [i.e., future market] price for the vehicle to be built. Thereafter, both the OEM and its suppliers attempt to determine how the vehicle can be made for this price, whilst allowing a reasonable profit for all parties involved in its construction. Thus, this is a 'market price minus system' rather than a 'supplier cost plus system'.[81] Cole and Yakushiji's definition of price-determination as a 'target-cost' system perhaps gives a truer reflection of the process.[82] As the MIT(2) report itself goes on to note,

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[78] Cole and Yakushiji, op. cit., p.153. The authors add a word of caution - the US figures include suppliers of raw materials whilst the Japanese figures do not.

[79] Although there are major suppliers such as Bosch in Germany and Lucas in the UK who are almost the size (in terms of personnel and turnover) of some of the smaller OEMs, and supply to various manufacturers. As such they possess greater bargaining power.

[80] This can be clearly seen from figure for the Japanese manufacturing industry in 1981. If 100 is the index of average monthly cash savings per regular employee to companies with 500 or more regular employees, then for firms between 100-499 employees, the index is 79.9; for 30-99 employees, 65.1; for 5-29 employees, 56.9. From N.J. Chalmers, *Industrial Relations in Japan: the Peripheral Workforce,* Routledge, London, 1989, Table 2.9, p. 60.

[81] MIT(2), op. cit., p.148.

OEMs and suppliers use the cost-based technique of "value-engineering" to provide a cost-breakdown of each stage of production.[83] The requirement of OEMs is for *reductions* in the prices of parts over the life of the model, as improvements in manufacture are discovered and implemented. (This contrasts with the West, where the norm is for suppliers to continually raise prices). So what we have here is a conscious suppression of the market system in the Japanese supplier industry, whereby the suppliers act, in cases where they are not, as *de facto* subsidiaries of the OEM. However, unlike subsidiaries or divisions of Western OEMs, they desist from operating a transfer-pricing policy; but do have the similarity of being independent profit centres.

It can be argued that this, hitherto unique, situation arose in Japan (see below for how it contrasts with the West) because of the poorly developed nature of the supplier network in the 1950s, with the consequence that close co-operation between OEMs was a necessity for the industry's development. In other words, market imperfections, or 'partial market failure' necessitated what Lall describes as 'extra-market linkages'.[84] These involve direct relationships between firms that stop short of 'complete internalisation', i.e. of vertical integration, whereby a manufacturer either takes over a supplier or sets up new facilities 'in-house' - a situation of complete market failure. Lall lists ten types of 'external linkages' deduced from a study of Indian truck manufacturers.[85] Six of these have been particularly apposite for the Japanese paradigm: establishment linkage, i.e. direct assistance to prospective suppliers; locational linkage, i.e. assistance to suppliers to locate near the OEM - so necessary for the JIT system; technical linkage - provision and exchange of technical information; financial linkage -

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82 Cole and Yakushiji, op. cit., p.156.

83 Loc. cit.

84 S. Lall, 'Vertical Inter-Firm Linkages in LDCs: an Empirical Study', *Oxford Bulletin of Economics and Statistics*, 42, 3, 1980, p.203.

85 These being: establishment, locational, informational, technical, financial, raw material, managerial, pricing, other distributional, and diversification. Lall, ibid., p.208.

provisional of grants and concessional loans for current and future plans (contrasts with financial aid under establishment linkage); managerial linkage - managerial and training assistance - usually precedes technical or financial linkages;[86] pricing linkage, i.e. formulation of a negotiation procedure to determine prices. Did these linkages emanate from the widespread existence of partial market failures? The post-War history of the supplier industry suggests to a limited extent yes, but the fact that much of the supplier network had to be systematically created with assistance from both OEMs and the government, points to, *ipso facto,* the existence of 'complete' market failure. This should therefore have prompted extensive backward vertical integration, predominantly through the setting up of in-house operations.

As already noted, Japanese OEMs consciously shunned this strategy, and in retrospect were shown to be correct in doing so. But, was this at the time, (i.e., from the late 1940s to late 1950s), a rational decision? What could have explained it as such? The transaction-cost approach, as developed by Williamson, is one method that attempts to provide an explanation for the creation of linkages and vertical integration; although for Williamson, it does more than this - 'the transaction is the ultimate unit of microeconomic analysis'.[87] Williamson argues that for recurrent transactions, as assets become more specific (i.e. more specialised to a particular transaction), exchange takes on a 'progressively stronger bilateral character'.[88] Thus, if assets (physical, human or 'site') are 'non-specific', then classical market relationships will be efficacious; if assets are 'semispecific', then 'bilateral market contracting will appear' (i.e.,

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[86] See Cusumano op. cit. p.242.

[87] O.E. Williamson, *Markets and Hierarchies: Analysis and Antitrust Implications,* The Free Press, New York and London (Collier Macmillan), 1975, p.xi.

[88] O.E. Williamson, 'The Economics of Organisation: the Transaction Cost Approach', *American Journal of Sociology,* Vol. 87, 1981-82, p.558. For further discussion on asset specificity, see O.E. Williamson, 'Vertical Integration and Related Variations on a Transaction-Cost Economics Theme', in J.E. Stiglitz and G.F. Mathewson (eds), *New Developments in the Analysis of Market Structure,* Macmillan, London and Basingskoke, 1986, pp 149-174.

external linkage); and if assets are highly specific, then 'internal organisation will displace markets' (i.e. vertical integration will arise). The transaction-cost analysis would suggest that the reason for the Japanese motor industry being dominated by 'bilateral market contracting' is because on the one hand, there is some degree of speciality of parts, and on the other, the existence of hazards (from uncertainty or opportunistic behaviour) in conducting transactions on the open market. Was this the case in reality? The evidence is unclear. Cusumano quotes an ex-production planning manager of Nissan citing three reasons as to why subcontracting [of the bilateral market type] was preferred to vertical integration:-

> first, 'to avoid the capital expenditures necessary to produce a wider variety of components in large quantities; second, 'to reduce risk by maintaining low factor capacity in case sales for the industry slumped; and third, 'to take advantage of [low] wage scales in smaller firms'.[89]

The reasoning here appears to contradict the transaction-cost thesis. First, rather than integration being an exercise in risk-aversion - through prevention of opportunistic hazards that market contracting would pose,[90] it is conceived as a risky enterprise in itself, although risk of a different type, albeit only in degree, rather than substance. The risks under vertical integration can also be reduced to long-term market uncertainties, which internalisation cannot prevent or control.[91] Second, where there exist market failures, assets which would otherwise come under such markets, become 'highly-specific' by default, and hence should either be manufactured in-house through setting up of requisite facilities, or require the take-over of firm(s) producing technologically similar products (and so possessing the technological capability to make the product in question).

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89 Cusumano, op. cit. p.244.

90 Williamson, *Markets and Hierarchies*, op. cit. p.25.

91 For example, a slump in sales of an OEM 's product(s) not only affects suppliers of the firm in question, but also, ultimately, its in-house operations.

But in Japan, there was little by way of complete integration. Indeed, prior to World War II, Toyota, for example, had been vertically *deintegrating* by converting many of its factories into nonconsolidated subsidiaries in order to facilitate fund-raising.[92] Moreover, with the advent of the JIT system in the 1950s, vertical integration became even less attractive, as its purported benefits in terms of production harmonisation were gained without the costs of high inventories, higher wages (no additional 'core' workers), and provision of fringe benefits such as lifetime employment, together with increased capital and equipment costs. Interestingly, Toyota's experience contradicts Stigler's commonsensical view that deintegration will normally occur as an industry matures, but in young industries, firms will [need to] extensively vertically integrate.[93] In contrast though, Nissan created subsidiaries by buying minority shareholdings in a number of suppliers. The net effect of the two strategies was however the same - with a similar situation obtaining with respect to other OEMs: the creation of supplier networks whereby the OEM asserted decisive control over individual suppliers - control that was formalised by shareholdings in regard to subsidiaries, and through close co-operation otherwise.

It may be argued, in support of the transaction-cost approach, that what resulted was *de facto* vertical integration with respect to subsidiaries, and what Blois refers to as 'vertical quasi-integration' with respect to non-subsidiary suppliers, in particular first-tier suppliers.[94] When viewed in these terms, the key concept becomes *control*, i.e. the imposition of the OEM prerogative over suppliers. The overall decision-making-process thus becomes unified in the form of a hierarchy of tiered relationships between OEM and suppliers. This hierarchy acts as an extended commercial entity, whose combined effect is to increase concentration, and curb

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92 See Cusumano, op. cit. p.248.
93 See G.J. Stigler, *The Organisation of Industry,* R.D. Irwin, Homewood, Ill., 1968, pp. 135-136.
94 See K. Blois, 'Vertical Quasi-Integration', *Journal of Industrial Economics,* 20, 3, July, 1972, p.20.

the uncertainties and opportunism of market contracting. This paradigm has served the Japanese motor industry so well, that after two decades of maturity and a decade of leadership, there are few signs of change. Vertical deintegration, or a diminution of external linkages, as theorised by Stigler for mature industries, is therefore a highly improbable scenario.

The Western supplier network is characterised by a balance between 'arms-length, market-based, short-term transactions with independent businesses',[95] and a high level of vertical integration of all the major manufacturing processes - split into relatively autonomous division or subsidiaries. The former was the preferred method of Ford pre-1913 and post-1950s, whilst the latter was the method instigated by GM in the 1920s. The arms-length, strictly commercial nature of the OEM-supplier relationship has meant that negotiations only begin once the OEM has finalised designs for the parts required and puts them out to tender to various suppliers - with the appropriate conditions of quality, quantity, delivery schedules and time-period of contract attached. So in contradistinction to Japanese target-costing, the play of market forces determines the price. It would thus appear that in many respects, the canons of neoclassical economics, subject to certain provisos, are satisfied in the price-determination of the supplier industry: reasonable mobility of factors, technology (although subject to patents) is readily available, there exist similar levels of technology in the industry as a whole (although larger suppliers have better technological capability owing to their higher expenditure on research and development - they also gain economies of scale in contradiction to a neo-classical assumption); little external interference; and increasing substitution between domestic and foreign markets. Given all this, neoclassical theory would suggest that prices would tend towards 'efficiency'. And yet, as the MIT(2) report so vehemently points out, they

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[95] MIT(2), op. cit., p.139.

are by no means efficient when compared with the Japanese method - the addition of systemic factors, and suppression of the market mechanism, appear to contradict neoclassical analysis.

With respect to the suppression of the market through use of transfer-pricing amongst subsidiaries and divisions, the resultant pricing of parts cannot be labelled efficient as no systemic factors are called into play. For the MIT(2) report: 'whether the supplier comes from inside the company or out makes surprisingly little difference'.[96] For neo-classical theory though, there is a critical difference: with internalised prices tending to be less efficient.

The 1980s saw a gradual shift of both American and European supply system towards the Japanese type, with Japanese transplants in America at the forefront of this transition. (e.g. NUMMI). Thus there has been a reduction in suppliers, both in terms of total numbers from 2000-2,500 in the early 1980s to 1000-1,500 at the end of the 1980s; and for each plant, to between 400-500. There has also been a tendency to reduce in-house operations - this might appear to be a contradictory process, but what is happening is similar to Japan, i.e., a smaller number of suppliers are doing a greater amount of work. There are more stringent quality control measures which have ensured higher quality; there are also more frequent deliveries; and costs have been reduced. But on the key question of close co-operation, there has been little advancement - 'arms-length' relationships remain prevalent.

4.9. Technology

So far it has been argued that the major competitive factors in the international motor industry stem from Japanese motor manufacturing practices and structures. Little reference

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[96] Ibid., p.140.

has been made with respect to any Japanese superiority emanating from decisive competitive advances made in the sphere of technology. This is because, the rise of Japan to the position of the world's largest motor producer was not based on any overall competitive advantage in technology.[97] The rapid rise in productivity and output was based on strong innovation and adaptation of prevailing technology, as developed by the major Western manufacturers.

The fact that much of the economy had been destroyed during the War paradoxically proved beneficial in terms of reconstruction and expansion - the regeneration of industry was based almost entirely on new plant and equipment - a factor which was to enormously aid the catching-up process, and ultimately, the gaining of a competitive advantage. Initially, the technology gap was closed with respect to basic motor technology (relating to small 'utility' vehicles), and was later closed with respect to more advanced vehicle-types. This was done by importing Western technology, by learning how to use it (its "mastery"), and then improving it through minor innovations ("reverse engineering") - the cumulative effect of which resulted in, as already seen, the acquisition of capability to manufacture high volume production, at unprecedented levels of quality, at relatively low unit costs. The Japanese thus rejected the more prevalent forms of technical transfer - from either the setting up of multinational subsidiaries or from importing of "turnkey plants".[98] But they were able to do this because, unlike developing countries endeavouring to develop rapidly after World War II and independence, Japan had been a major industrial power, and as such, possessed a reservoir of skilled labour, engineers, and manufacturing know-how. Thus, in regard to motor

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[97] This is corroborated by the MIT(2) report - it does not list technology as a key factor in Japanese superiority. Note however that some definitions of 'technological change' are 'catch-all', and include factors such as those discussed in sections 4.6-4.8 above. See for example, M. Fuss and L. Waverman, *Costs and Productivity in Automobile Production, The Challenge of Japanese Efficiency,* Cambridge University Press, Cambridge, 1992, p. 11.

[98] See C. Freeman, *Technology Policy and Economic Performance: Lessons from Japan,* Printer Publishers, London and New York, 1987, pp. 40-43.

manufacturing, all the major firms with the exception of Honda, were established in a variety of manufacturing activities, prior to the War. Therefore the post-War climb up the industrial curve, through learning-by-doing, was made that much easier - the climb was shorter and quicker in comparison to developing countries. By the 1980s, Japanese technology was at the forefront, with the major manufacturers posing a real threat to in the highest class of the car market: the luxury sector - hitherto dominated primarily by German companies such as Mercedes Benz and BMW.[99]

With the advent of the fourth transformation - the microelectronics revolution - innovation in the international motor industry gathered apace, propelled above all by the Japanese. As competition is intense, significant 'competition-generated' technological advances are inevitable. But on top of these are two sets of others which emanate from external factors: from government-imposed requirements and restrictions, e.g., in regard to emission controls, fuel economy, safety, etc. and from technological developments in other industries which can be applied to the motor industry (the most important of which was of course the development of the microprocessor in the defence industry, which is now ubiquitously used in the motor industry, and indeed practically every other industry).[100]

4.10. The Role of the State - the Case of MITI

The early development of the motor industry in the US and Western Europe on the whole took place without a helping hand from the state. State intervention has occurred in

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[99] The launch of the Accura, Lexus and Infiniti luxury models by Honda, Toyota, and Nissan respectively, represents the culmination of this strategy.

[100] These three stimuli for technical development are based on MIT(1), op. cit., p.87.

recent years, but only when major companies faced the threat of bankruptcy, as in the famous examples of Chrysler in the US and British Leyland in the UK. In sharp distinction, the Japanese motor industry, from its near state of collapse after World War II until its maturity in the early 1970s, received continuous and extensive guidance and assistance from the state - most notably from the trade and industry arm MITI (Ministry for International Trade and Industry). It was a relationship which proved to be of the utmost importance in enabling it to attain international competitiveness. This section will examine the nature of this relationship and lessons which can be drawn from it for the transforming economies of Eastern Europe.

The core of MITI's strategy was a policy of vigorous import-substitution industrialisation in a number of key "strategic" (or priority) industries that included the motor vehicle industry. This constituted a systematic industrial policy. Prior to the Korean War in 1950, MITI was instrumental in saving the major motor manufacturers from bankruptcy. Without this support these companies would (and in accordance with free market principles, should) have been bankrupted, which would have resulted in practically no indigenous motor manufacturing capability remaining. Important sections of the state were quite prepared for this scenario.[101] But, thankfully for the motor companies, MITI strongly demurred, putting forward interventionist arguments which were later to be echoed by advocates of motor industry development and expansion in developing and newly industrialising countries:-

'[S]ince development of the automobile industry to a high level will lead to the modernisation of the machinery and, consequently, all other industries, it is desirable to concentrate all possible efforts on raising its productivity and international competitiveness so that it can catch up with other advanced countries and can contribute to the growth of our national economy'.[102]

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[101] Thus Ichimada, governor of the Bank of Japan, applied the law of comparative advantage in this following assertion: '[S]ince Japan should develop its foreign trade on the basis of the international division of labour, efforts to develop the automobile industry will be futile'. Cited by H.Ueno and H.Muto, 'The Automobile Industry of Japan', in K.Sato (ed.), *Industry and Business in Japan,* M.E. Sharpe, New York and Croom Helm, London, 1980, p.148.

[102] Ueno and Muto, Loc. cit.

MITI's industrial policy for the motor industry involved three major sets of measures: funding, protection, and rationalisation. In combination, they amounted to a classic exercise in "infant industry" import-substitution. Each will be dealt with briefly.

i. Funding

These included direct and indirect methods. Direct funding entailed the provision of low-cost loans from public financial institutions, notably the Japan Development Bank, which was under the aegis of MITI, between 1951-1955 for reconstruction purposes; and direct government subsidies (which during the 1950s amounted to $1m).[103] This was later followed by the provision of funding for the parts industry. Indirect forms of funding included: accelerated depreciation rates (up to 50% in the first year), which was tantamount to a tax subsidy; exemption of import duties on necessary machinery and equipment and authorisation for essential technology imports;[104] assistance for exports in the form of preferential export borrowing terms; and indirect financial incentives.[105]

ii. Protection

These encompassed tariffs, buttressed by an excise tax; import reductions through the operation of strict foreign exchange allocation; and prevention of foreign investment. This was augmented by state procurement of domestically-produced vehicles. The stated aim of these measures was to prevent foreign firms from directly investing in, and exporting finished vehicles to Japan. So the policy was designed to restrict imports to technology only. For this,

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[103] From I.C. Magaziner and T.M. Hout, *Japanese Industrial Policy,* Policy Studies Institute, No. 585, Jan 1980, p.57.
[104] Ueno and Muto, op. cit., pp 151-152.
[105] Magaziner and Hout, op. cit., p.64.

foreign exchange allocations were increased to allow the import of knocked-down assembly parts on the basis of the technical co-operation agreements between Nissan and Austin, Isuzu and Rootes, Hino and Renault, and Mitsubishi and Willys Jeep.[106] Toyota, the largest OEM, relied solely on domestic technology and therefore did not enter into any technological agreements with Western companies.[107] These agreements, formed during 1952 and 1953 were to last only until 1957 when domestic parts production replaced reliance on foreign companies.

iii. Rationalisation

If the first two sets of measures were an exercise in establishing the motor industry as a viable, independent entity, then the third - of rationalisation - was to ensure that once the protective barriers came down, the industry would be able to compete with the most efficient and advanced in the world - a key criterion for which was large-scale production to achieve scale economies. MITI sought to do this by reducing both the numbers of supplier and OEM firms.

Insofar as the supplier industry was concerned, MITI's policy was reasonably successful. It set up an Auto Parts Committee in 1956 to co-ordinate the rationalisation programme. Financial assistance was provided for the larger companies, particularly exporters, in the form of long-term credits from the Japanese Development Bank and the Small Business Finance Corporation. During the period 1956-1966, this amounted to almost $50m. The net result was an increasingly concentrated and efficient supplier industry that was well prepared for the export assault which was to occur in earnest in the latter half of the 1960s.

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[106] See Ueno and Muto, op. cit., p.151.

[107] A proposed agreement with Ford was aborted.

MITI adopted a similar approach to the OEMs, but with much less success. Its ultimate objective was to reduce the industry to two giant OEMs centred on Toyota and Nissan. Indirect, rather than coercive, methods were used. In 1955 it asked all the OEMs to submit prototypes for a 'Peoples Car' from which MITI would authorise and assist just one OEM to manufacture the selected model. This was, of course, in line with MITI's desire for large-scale production in a small-model market in which Japan would be able to compete with the most efficient Western manufacturers on the international market. The project quickly foundered as all the manufacturers rejected and resisted the proposal. In spite of this setback, MITI continued to pursue its aims. In some ways its thinking was justified and, arguably, far-sighted. It expected that the opening up of the world economy, and Japan's membership of GATT (in 1955) would intensify pressures on Japan to liberalise its economy. MITI's concern was that once protective barriers were removed, the Japanese motor industry would not be able to cope with competition from imports, if there were too many manufacturers producing in relatively small, uneconomic quantities. Moreover, the size of the domestic market was insufficient to absorb the levels of output needed for the realisation of optimal scale economies; therefore exports would become essential. This further demanded efficient large-scale production. Therefore MITI's initial import-substitution strategy was only the prelude to a future export-oriented expansion strategy.

These concerns were to compel MITI throughout the 1960s to bring about increased concentration in the OEM sector. Thus, in 1961, it attempted to prompt manufacturers to specialise in only one type of vehicle, out of four general types: minicars, sports cars, other speciality cars, or passenger cars above 500cc engines.[108] This policy was clearly designed to benefit Toyota and Nissan, the bulk of whose output was of subcompact and compact

[108] See Cusumano, op. cit., p.23. This classification is unorthodox in that minicars are normally considered to have engine capacity of less than 1 litre; whereas 1-2 litre PCs are subcompacts and compacts.

passenger cars, and neither of whom built mini cars. Again the proposal met with resistance - from the smaller manufacturers - and had to be dropped. From the mid-1960s onwards, MITI encouraged mergers to take place as liberalisation of the economy duly gathered pace. Here some success was achieved, but not nearly to the extent hoped for.[109] The difficulty for MITI was that, with the exception of Honda, the smaller OEMs were members of large *keiretsus* that were unwilling to relinquish their vehicle-manufacturing affiliates; which was understandable given that they were making profits and the industry was granted favoured status. Hence, MITI relented. By the early 1970s, it adopted a less interventionist stance. With liberalisation, foreign companies (Chrysler, Ford and GM) entered Japan. But by now, the Japanese companies had achieved international competitiveness. The infant industry had matured.

In retrospect it can be argued that as MITI was *not successful* in its ultimate aims, particularly in regard to the important OEM sector, and that its role and influence can be, and indeed has been, exaggerated. It can be further argued that, using the example of MITI, to suggest that the state can be an indispensable factor in the attainment of dynamic comparative advantage, is erroneous. A typical example is given by Hugh Patrick, who believes himself to be of:-

'the school which interprets Japanese economic performance as due primarily to the actions and efforts of private individuals and enterprises responding to the opportunities provided in quite free markets for commodities and labour. While the government has been supportive and indeed has done much to create the environment for growth, its role has been exaggerated'.[110]

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[109] Thus in 1966, Nissan and Prince merged; and in the same year Hino affiliated with Toyota. In 1967 Daihatsu also affiliated with Toyota. These were to be the only successes - a number of other merger/affiliation negotiations failed.

[110] H. Patrick, 'The Future of the Japanese Economy: Output and Labour Productivity', in *The Journal of Japanese Studies*, 3, (Summer 1977), p.239. Cited by Chalmers Johnson, *MITI and the Japanese Miracle, the Growth of Industrial Policy,* 1925-1975, Stanford U.P, California, 1982, p. 9.

The school Patrick refers to is course of the neoclassical type, generally inimical to state "interference". However, its conclusions are not tenable given the pivotal role the Japanese state, via MITI, played in helping to establish the Japanese motor industry as well as other "strategic" industries. (e.g. synthetic fibres, petrochemicals, steel and electronics). The following assessment by Chalmers Johnson for the whole post-war Japanese economy is supportive of this view:-

'the particular speed, form, and consequences of Japanese economic growth are not intelligible without reference to the contributions of MITI'.[111]

So without state "interference", there is little doubt that the Japanese motor industry would, if it had survived at all, been small and internationally insignificant. That MITI did not achieve all its objectives is less to do with the failure of its aims, then the fact that the motor companies prospered remarkably quickly. MITI's fears of there being too many OEMs were shown to be unfounded. The booming economy, expanding domestic market, rapid advances in manufacturing techniques, and later, continually expanding export markets, enabled all the manufacturers to increase output, achieve scale economies, and ultimately register high profitability.

The civilian economy was further given a boost by the fact that the Japan, unlike the major Western motor-producing nations, with the exception of Germany, had minimal defence commitments. So personnel and resources which would have otherwise been allocated for armaments, were instead channelled for productive purposes. All this was to greatly benefit the motor industry. Given this healthy state of affairs, there was simply no justification for undue interference - which further obviated the need for punitive measures against those recalcitrant companies who refused to conform to MITI's plans. In this, the role of MITI

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[111] Johnson, ibid., p.vii. He later goes on to show that between 1946-76, the Japanese economy increased 55-fold (p.6).

differed markedly from that of planning agencies in the East European command economies, where directives to state enterprises carried the full force of the law, and therefore were required to be implemented.[112]

Although the circumstances which enabled the meteoric rise of the Japanese motor industry to take place are in many ways exceptional, and unlikely to be repeated, the overall conclusion which needs to be drawn from the role MITI played is one that, certainly for the initial post-reform period, the motor industry of Poland, in endeavouring to attain frontier levels of technology and efficiency, *will require considerable state support, as part of an overall industrial policy.* But having asserted this, the circumstances confronting Poland and the other East European states are, in comparison with the 1950s, extremely inauspicious - a sluggish world economy, intense competition in the international motor industry, high levels of indebtedness, and limited effective domestic demand - suggesting that the transforming states will not be able to provide the level of funding, and quality of support functions, in the manner of MITI, nor for that matter with similar levels of success. This should therefore act as a limit to what in practice can be achieved in terms of government assistance for effective enterprise restructuring.

4.11. Lessons for the Polish Motor vehicle Industry

This section briefly summarises the key lessons that can be distilled from this chapter. The advent of the third and fourth transformations indicates that the assumption of an inexorable shift to low labour-cost regions was largely mistaken. This has made it *more difficult* for companies and industries outside Technology Frontier Areas to survive and

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[112] Johnson makes the distinction between the Japanese economy, which he describes as 'plan rational' and Soviet-type command economies, which he believes to be 'plan ideological'. Ibid., p.18.

expand. In regard to the Polish OEMs, survival and future expansion depends on them adopting and rapidly implementing those factors which have propelled the Japanese OEMs to the forefront of motor manufacturing - factors that are now widely recognised as the key determinants of achieving competitiveness in the international motor market. These have been, in the wake of Japanese dominance, vigorously pursued by every major OEM over the past decade. They can be enumerated as follows:-

- The attainment of sufficient economies of scale - through achieving close to MES production levels at high levels of capacity utilisation.
- Emphasis on flexible manufacturing - requiring significant changes to work organisation and increased levels of automation and high tech equipment in general.
- The Just-in-time production system.
- Close cooperation between OEMs and suppliers.
- Close cooperation between management and labour.

To these can be added two other factors, particularly relevant to Polish OEMs:-

- Appropriate assistance from the state - so as to quickly enhance motor manufacturing capability - in the form of incentives, finance, 'capability enhancing' and institutional support, as part of an overall industrial policy targeted for the motor sector (see 7.7.3.).
- A recognition that exogenous factors at this particular juncture will make restructuring and modernisation fraught with difficulties - to the extent that some OEMs may be unable to survive in the new market-oriented environment.

The following three chapters will examine all these issues.

CHAPTER 5: The Polish Motor Vehicle Industry: Background, Industry Characteristics, and Trade and Incentive Regime

5.1. Historical Introduction

Much of the small Polish motor industry in existence prior to World War II was destroyed during that war.[1] Its rebirth was based under the aegis of, and conditioned by, the political and economic imperatives of the USSR. These required motor vehicle production to be predominantly centred on commercial vehicles (CVs), in order to serve the rapidly expanding heavy-industrial sector; with the corollary that passenger car (PC) and bus production was, until the late 1960s, greatly neglected. Thus a chronic shortage of these two latter types of vehicles was ingrained in the Polish economy. The relatively low levels of production which did take place were based on outdated Soviet technology, which itself had been derived from Western sources before and during the war. (See Table 5.1. for production figures for the period 1953-1970). In 1959, an attempt was made to coordinate the motor industry within CMEA owing to the latter's 'inefficiency and parallelism'.[2] Sobell shows that this was 'aborted' by the mid-1960s, as the programme was resisted by the less developed CMEA countries, in favour of strategies based on East-West industrial cooperation.[3]

In Poland, the period from the mid-1960s to early 1970s saw the launching of substantial expansion and modernisation programmes of the motor industry, particularly of the passenger car sector, based primarily on imported Western technology. In 1965, a licence

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[1] For a history of the pre-war industry, see Z. Podbielski and Z. Walentowicz, *Polish Motor Vehicle Industry*, Pol-Mot, Warsaw, n.d.

[2] See V. Sobell, *The Red Market: Industrial Co-operation and Specialisation in Comecon,* Gower, Aldershot, Hants, 1984, p. 173.

[3] Loc. cit. Indeed, it was said at the time that 'Fiat did more to effect collaboration across CMEA-member frontiers than the organisation itself! My thanks to M.C. Kaser and M.R. Hill for pointing out this fascinating fact.

agreement was signed with the Italian volume car manufacturer, Fiat, for the production of variants of the medium-sized Fiat 125 (known in Poland as the 125P) at the FSO plant in Zeran, Warsaw.[4] As a consequence, output of passenger cars expanded steadily, overtaking commercial vehicle production in 1968. In 1971, a further agreement was negotiated with Fiat - this time for the production of a small car (650 cc.), geared mainly for the domestic market, the 126P. By 1974, Poland had become the largest motor vehicle manufacturer outside the USSR, in the old Eastern bloc. (See Table 5.2.). The rationale for passenger car expansion was partially to reduce the acute shortages prevailing in the domestic market, but more importantly, to generate convertible currency revenues from exports, which would become a key component in the 'dash for growth' strategy (as seen in 3.1.).

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[4] See UN Economic Commission for Europe, *Techno-economic Aspects of the International Division of Labour in the Automotive Industry*, New York, 1983, p. 97.

Table 5.1: Motor Vehicle Production in Poland: 1953-70 (in thousands).

Year	Passenger Cars	Commercial Vehicles[a]	Buses	Total
1953	2	11	0.1	13.1
1954	2	13	0.3	15.3
1955	4	12.1	0.4	16.5
1956	6	13	0.4	19.4
1957	8	15	0.5	23.5
1958	12	13.2	0.7	25.9
1959	14	16.6	1.5	32.1
1960	13.1	21.9	2.1	37.1
1961	14	22.2	2.3	38.5
1962	16	16.1	2.6	34.7
1963	18	30.8	3.4	52.2
1964	21	30.7	3.5	55.2
1965	25.5	29.2	5.1	59.8
1966	28	32.3	5.6	65.9
1967	27	35	5.2	67.2
1968	39	37.9	6.6	83.5
1969	48	44.1	7.8	99.9
1970	65.2	43.8	7.9	116.9

Note: [a] Commercial vehicles normally include vans (light CVs), trucks (medium and heavy CVs) and buses. Where buses are given separately, as in this table, CVs refer only to LCVs and MHCVs.
Source: Economist Intelligence Unit, Special Report No. 1167, *The East European Motor Industry,* London, 1989, Tables 33 and 36.

This export-oriented strategy sharply broke with the hitherto strong import-substitutionist policy where production had solely been for the Eastern bloc. This change stemmed from Fiat's stipulation that repayment of credits be in convertible currency. Indeed this was the main reason why Fiat sanctioned the use of its trade mark (hence the sobriquet 'Polski Fiat') - which would clearly facilitate exports. To ensure satisfactory quality levels, the technology used for these vehicles was, although basic, relatively up-to-date, as is indicated by the fact that the 125P - which was scheduled to be launched simultaneously with Fiat's new 125 model - used the same body shell. (The power train unit was that of the older Fiat 1300 and 1500). But the obligation and desire to export led to a continuing chronic shortage in the domestic market, which necessitated the importing of similar (usually Fiat

licenced, such as the Lada from USSR and the Zastava from Yugoslavia) vehicles from other East European countries (albeit insufficiently) to compensate for this loss.

Table 5.2: Total Motor Vehicle Output of Major East European Countries: 1965-1975 (in thousands.)

Year	USSR	Czechoslovak	Romania	Poland	GDR	Yugoslavia
1965	618	91	21	60	119	48
1966	677	113	24	66	127	46
1967	730	133	29	67	135	56
1968	803	150	34	84	140	74
1969	846	158	39	100	148	95
1970	918	169	61	117	153	131
1971	1145	175	68	146	163	132
1972	1381	181	78	158	170	126
1973	1603	194	99	192	180	144
1974	1848	197	103	223	192	199
1975	1966	208	107	258	197	206

Source: As for table 5.1, Tables 21-26,29,30,32,33,35,36.

Like some of the other East European manufacturing nations (notably the USSR, Czechoslovakia and Yugoslavia), Poland did gain some success in exporting to the Western passenger car market, and there seemed the possibility of its (and indeed the region as a whole) becoming a major force in the international motor industry, centred on the development of a comparative advantage in the compact and mini passenger car sector. That this subsequently proved not to be the case, can be attributed to three primary factors:

- First, during the course of the 1970s, particularly in the aftermath of the oil price hikes of 1973 - which greatly boosted the popularity of small, fuel-efficient cars, Japanese manufacturers successfully penetrated the lower end of the volume car market in

Western Europe and North America with relatively cheap and high quality cars that none of the East European manufacturers were able to match.

- Second, in the period 1979-82, there was a further rise in oil prices, in conjunction with a deteriorating world economy, which made it increasingly difficult to expand exports to stagnating and highly competitive markets. This in turn hindered the imports of more advanced forms of technology and know-how - and consequently, the move towards competitive parity.
- Third, by the late 1970s, the Polish economy had itself begun to stagnate and contract. This had a similar effect to the second factor, i.e., it impeded the generation of sufficient surplus to enable investments for modernisation to take place. Thus by the 1980s, when Poland wished to export in substantial numbers to the West, in order to gain convertible currency for investment purposes and servicing of the burgeoning debt, competition had intensified enormously, dashing these export ambitions.

Poland's export intensity, as with other East European countries, has been very high - frequently over 30% of total production. The bulk of passenger cars are exported to the West, whilst all commercial vehicles are exported to other East European countries, or the third world. Despite the high priority given to exports, these declined in the first half of the 1980s (along with output), as the gap in competitiveness between Polish and the Far East manufacturers inexorably grew. Between 1985 and 1988, there was a recovery in exports - which once more exceeded 30% - but declined again in 1989, before slumping in 1990. (See Table 5.3.).

Table 5.3: Poland's Motor Vehicle Exports 1980-1990 (in 000s units)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total Passenger Cars	**112.8**	**91.9**	**67.8**	**54.1**	**59.5**	**89.4**	**82.4**	**96.5**	**112.8**	**90.9**	**58.1**

East Europe	12.4	17	16.6	4.6	6.3	11.1	11.3				
Non-E. Europe (mainly West)	100.4	74.9	51.2	49.5	53.2	78.3	71.3				
Total CVs	**14.6**	**8.9**	**10.2**	**8.7**	**9.1**	**14.1**	**12.9**	**10.5**	**10**	**10.1**	**6.7**
East Europe	11.7	7.9	9.9	8.7	8.9	10.1	9.4				
Third World	2.9	1	0.3	0	0.3	4	3.5				
Total Buses	**6.2**	**5.2**	**4.8**	**3.2**	**2.6**	**3.1**	**3.3**	**3.4**	**3.8**	**3.8**	**3.3**
East Europe	6	5.2	4.8	2.7	2.5	2.8	3				
Third World	0.2	-	-	0.5	0.1	0.3	0.3				
Total Exports	**133.6**	**106**	**82.8**	**66**	**71.2**	**106.6**	**98.6**	**110.4**	**126.6**	**104.8**	**68.1**
Exports as % of Production	30.9	36	30	19.8	20.9	31.3	28.5	31.7	36.2	31	22

Source: As for table 5.1, Tables 68, 71 and 72; Economist Intelligence Unit, *The Motor Industry of Eastern Europe: Prospects to 2000 and Beyond,* EIU, Special Report No. 2142, London, 1991, Table 65 and *Concise Statistical Yearbook of Poland 1991*, GUS, Warsaw, 1992.

Whereas the agreements with Fiat could be considered successful, the same could not be said for the licence agreement between the CV and bus OEM Jelcz and its French counterpart, Berliet, for the production of large-capacity buses. Total completed units had been planned to reach 19,000 by 1980. However, there were numerous difficulties with the contract - e.g., over foreign currency shortages, buyback agreement, design and technical problems - so that the actual figure was only 4,500. Moreover, the model was not considered suitable for Polish conditions.[5] In sum, this was a highly unsatisfactory contract, and as such, provides useful lessons for today in the drive by Polish enterprises to establish close and lasting links with Western manufacturers.

Total vehicle output peaked in 1979 (435,000 units), after the expansion programme had been completed, but thereafter experienced a dramatic decline (to 276,000 in 1982) - reflecting the economic crisis and social convulsions of the period. Production never attained the levels of 1979: stabilising at a significantly lower figure of about 350,000 in the late 1980s, before falling again in 1990. (See Table 5.4.).

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[5] UN ECE, Ibid., pp. 108-109.

Table 5.4: Motor Vehicle Production in Poland: 1971-90 (in thousands).

Year	Passenger Cars[a]	Commercial Vehicles[b]	Buses[c]	Total
1971	86	49.7	9.9	145.7
1972	91	55.4	11.6	158
1973	115	64.2	12.8	192.4
1974	143	67.9	12.2	223
1975	173	71.3	13.8	258.3
1976	229	68.1	15	312.1
1977	294	64.3	15.8	374.1
1978	340	65.1	13.5	418.6
1979	363	58.9	13.5	435.4
1980	364	54.7	13.1	431.8
1981	240	42.7	11.5	294.2
1982	228	38.2	9.7	275.9
1983	269	42.9	9	320.9
1984	278	46.9	8.3	333.2
1985	289	56.2	4.5	349.7
1986	295	55.4	5.1	355.8
1987	303	56.9	5.4	365.3
1988	305	55.8	5.5	366.3
1989	305	46.8	5	356.8
1990	289	31.6	4.5	322.1

Notes: [a] ISIC code 3843-10 (Passenger Cars produced); [b] ISIC code 3843-16 (Trucks and Articulated Vehicles. - Polish figures also include Specialised Vehicles); [c] ISIC Code 3843-13 (Buses And Motor Coaches Produced).
Source: For 1971-84, *UN Industrial Statistics Yearbooks, 1980, Vol. II* and *1986, Vol. II*; for 1985-90, see table 5.9.

After the licence agreements with Fiat and Berliet, no major contracts were concluded with Western manufacturers.[6] So, although the Polish motor industry had become largely self-sufficient in most types of vehicle manufacturing, and some modernisation did ensue (for example the continuous process of minor developments by FSO of the 125P,[7] and the launch of its variant - the Polonez - in 1978), over time, it became insulated from modern technological advances. Whereas in the late 1960s and the early 1970s, the passenger car

[6] Negotiations between GM and the government for the production of vans and trucks at the Lublin plant collapsed in the mid-1970s.
[7] Although the engine and body remained the same during its entire 23 year history. Production of the 125P ceased in 1991.

sector was only one product-run behind Fiat's,[8] by the late 1980s it was at least 3 product runs behind (assuming a product cycle of 6-7 years): in sum the 'technology gap' had inexorably widened, and in the export markets of Western Europe, Polish cars (as with other East European), became known as "new second hand vehicles", as they suffered a loss in competitiveness in comparison to the more fuel-efficient and better quality vehicles from the Far-East. Exports collapsed in the early 1980s - in part caused by the economic and political crisis before and after the imposition of martial law, in conjunction with the contraction of export markets - but thereafter picked up, to reach their 1980 levels by 1988; only to plummet once more in 1989.

5.2. Industry Characteristics

The following are the original equipment manufacturers (OEMs), manufacturing complete vehicles (following motor industry convention, motorcycles, tractors and specialised vehicles such as tippers, are excluded from the analysis):-[9]

Passenger Cars:	FSM, Bielsko Biala:	('Minis' - 650cc, 700cc, 900cc);
	FSO, Warsaw:	(Sub-compacts and Compacts- 1300cc, 1500cc, 2000c).

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[8] In 1975, the *Autocar* magazine made the follwing comment about the Russian equivalent of the 125P - the Lada 1200 - based on the Fiat 124: 'we must congratulate the Russians on catching up so quickly (albeit with Italian advice and assistance) with the rest of the world's motor industry. The Lada 1200 is a thoroughly sound car, let down perhaps by sticking steering and dead brakes'. Although "catching up" may have been an exaggeration, similar comments could have been made about the 125P. Cited in M.R. Hill and R. McKay, *Soviet Product Quality,* Macmillan Press, Basingstoke and London, 1988, p. 76.

[9] Apart from FSO and FSM, the enterprises will in general, throughout the survey, be referred to by the their town or city names, *viz.* Lublin, Starachowice (or simply as Star), Jelcz, Sanok, Poznan, and Nysa.

Commercial vehicles:	FSC, Starachowice:	(Medium-Sized Trucks);
	FS, Lublin:	(Delivery vans);
	FSD, Nysa:	(Delivery Vans and Special Vehicles - note that Nysa is Part of FSO);
	FSR, Poznan:	(Agricultural Pick-Ups);
	JZS, Jelcz:	(Heavy Trucks).
Buses:	FSA, Sanok:	(City and Long-Distance Buses);
	JZS, Jelcz:	(City and Long-Distance Buses).

The manufacturing enterprises, on the whole, display the common characteristic of a high degree of vertical integration, with each undertaking a substantial amount of pre-final assembly operations.[10] (See 7.3.2. iv. for vertical integration levels). But contrary to another normal characteristic (admittedly more representative of FMCG enterprises) of a command economy enterprise, the industry displays a high degree of specialisation, and consequently, low levels of horizontal integration. Thus, each enterprise specialises in just one or two product types, e.g., FSM only produces the small mini passenger car, FSO only the medium-sized passenger cars, and Sanok only buses. This is quite different to the product mix of the largest motor manufacturers such as GM, Ford, Toyota etc., who manufacture the full array of motor vehicles.

Previously, under the highly protected trading regime, there was little domestic competition: the motor industry was very much a monopolised, supplier's market, with little product choice for customers. Liberalisation resulted, in 1991, in an upsurge of imported,

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[10] It is interesting to note that some of the major Western manufacturers are even more backwardly integrated than their much smaller counterparts in Poland. Thus, for example, both Ford and Fiat are major steel producers, and Fiat is also a major glass producer. See G. Bloomfield, *The World Automotive Industry*, David and Charles, Vancouver, 1978, p. 34.

Western vehicles, competing strongly with the domestic enterprises (see 7.5.). The sudden increase in supply, on the one hand rapidly reduced chronic shortage, but on the other, simultaneously transformed the monopolistic market to a demand constrained one, so that all the domestic enterprises experienced difficulties in selling their products, i.e., they were unable to effectively compete in the new environment.

Tables 5.5. provides some salient features of the Polish motor vehicle industry.

The average size of enterprises is very large in comparison with Western OEMs - a feature of command economy enterprises in general as noted in chapter 2. A corollary to this is the relatively small number of enterprises devoted to motor vehicle production; with 85% of employment concentrated in the seven OEMs (including their subsidiaries).Up to the period of transition, the great bulk of the industry was state-owned, with private sector employment constituting less than 5% of total industry employment. The sector employs 3% of the manufacturing workforce, and accounts for 4% of output and value-added (state sector only - in 1990).

Table 5.5: Some Characteristics of the Polish Motor Vehicle Industry[a]

	1983	1984	1985	1986	1987	1988	1989	1990
No. of Enterprises	85	86	85	85	86	87	87	86
Total Average Employment (in 000s)	134	124	125	124	123	115	114	106
Average Employees/Enterprise	1576	1441	1471	1459	1430	1322	1310	1233
Hours Worked by Operatives (Ave. Per Mth.)	166	163	160	156	155	151	147	124
Average No. of Operatives (in 000s)	91	89	86	85	83	81	81	82
Output (Bn. Zls)	245[b]	260[c]	308	325	343	364	350	242
Electricity Consumed (mn. Kwh)	-	1087	1108	1115	1145	1134	1076	557
Gross Fixed Capital Formation (Bn. Zls.)	5.1	7.6	8.7	16.7	39	62	285	4442
GFCF - Machines & Equipment (Bn.. Zls).	2.3	4	0.9	9.5	27.6	35	127	3736

Notes: [a] See note in table 5.4.. Data is for 'socialised industry' only.

[b] 1982 price; [c]1984 price for 1984-1990.

Source: UN, *Industrial Statistics Yearbooks*, Vol. I 1987 and Vol. I 1990, UN, New York , 1989 and 1992.

Table 5.6: Key Characteristics of the Seven Polish OEMs in 1989.

Name	Sales Position (1989 & 1988)	Sales (bn. zls)	Exports (%)	Gross Surplus (bn. zls)[1]	Gross Profit (bn. zls)[2]	Total Taxes (bn. zls)	Net Profit (bn. zls)[3]	Profit (%)[4]	Profit (position)	Average Employment	Position	Net Sales /Employee (mn. zls)[5]	Position	Average Wage (ooos zls)	Position
FSM, Bielsko Biala	7/6	788	22.7	213	194	157	125	31.2	386	27,587	4	10.1	267	238	172
FSO, Warsaw	6/7	834	11.4	366	208	284	105	49.3	258	24,302	7	14.7	129	260	96
FSC, Lublin	21/25	272	10.9	150	96	110	50	70.4	127	8,361	25	11.6	211	220	254
JZS, Jelcz	25/21	259	18.3	99	75	55	48	44.5	299	8,630	23	11	233	212	306
FSC, Starachowice	37/24	231	4.9	86	42	63	29	28.4	400	13,832	12	5.6	433	183	471
Autosan, Sanok	68/58	169	18.2	47	40	26	25	32.8	370	6,189	54	9.8	285	239	168
FSR, Poznan	265/232	56	5.1	21	13	14	8	33.6	364	2,678	198	7.6	371	233	193

[1] Definitions follow Polish conventions - these do not necessarily coincide with Western conventions. Gross Surplus is Sales of goods and services- Cost of production (COP), adjusted for Extraordinary Gains/Losses.

[2] Gross Profit is Gross Surplus - (Subsidies) - (Turnover Tax) + (Balance on Foreign Trade Subsidies)

[3] Net Profit is Gross Profit - Profit Tax - Dividends - Wage Growth Tax.

[4] Profit % is Gross Profit/Cost of sales.

[5] Net Sales is Sales - COP - Turnover Tax.

Source: *Lista 500, Zarzadzanie, 6/7/1990,* Warsaw, pp. 46-63.

Table 5.7: Key Characteristics of the Seven Polish OEMs in 1990.

Name	Sales Position (1990 & 1989)	Sales (bn. zls)	Exports (%)	Gross Surplus (bn. zls)[1]	Gross Profit (bn. zls)[2]	Total taxes (bn. zls)	Net Profit (bn. zls)[3]	Profit (%)[4]	Profit (position)	Average Employment	Position	Net Sales /Employee (mn. zls)[5]	Position	Average Wage (ooos zls)	Position
FSM, Bielsko Biala	6/7	4597	26.4	1093	823	385	n/a	21.1	345	25868	3	n/a	n/a	1119	234
FSO, Warsaw	7/6	4193	6.2	850	328	859	92	10.2	450	24124	4	41	372	1162	205
FSC, Lublin	.45/21	1177	8.1	201	133	231	59	14.4	416	8,012	21	33	422	933	421
JZS, Jelcz	60/25	972	8.3	246	181	182	87	27.1	288	7668	22	46	355	1034	315
FSC, Starachowice	80/37	780	9	147	69	177	17	10.8	445	12465	10	15	483	823	486
Autosan, Sanok	187/68	387	7.3	40	33	40	14	10.5	447	5538	47	31	429	958	394
FSR, Poznan	264/265	312	3.2	53	18	57	4	7	480	2567	174	16	480	993	356

[1] Definitions follow Polish conventions - these do not necessarily coincide with Western conventions. Gross Surplus is Sales of goods and services- Cost of production (COP), adjusted for Extraordinary Gains/Losses.

[2] Gross Profit is Gross Surplus - (Subsidies) - (Turnover Tax) + (Balance on Foreign Trade Subsidies)

[3] Net Profit is Gross Profit - Profit Tax - Dividends - Wage Growth Tax.

[4] Profit % is Gross Profit/Cost of sales.

[5] Net Sales is Sales - COP - Turnover Tax.

Source: *Lista 500, Zarzadzanie, 6/7/1991,* Warsaw, pp. 46-66.

There was a sharp decline in sold output in 1990 - by 31% - which was considerably more than the 9% fall in production, and greater than the total state sector industrial decline of 25%. This resulted in short-time working, as can be seen by the 16% drop in average hours worked. Employment had been consistently declining since 1988, so that by 1990, total motor industry employment was only 75% of the 1983 figure. The drop in 1990 of 7% was less than the fall in production, resulting in a fall in productivity. The steep decline in electricity consumption (by 48%) highlights the stringent economising enterprises undertook after the price liberalisation of 1990.

A surprising finding, given the tight squeeze on finances, is the surge in capital investment, especially of machine and equipment: with gross fixed capital formation 16-times higher in absolute terms over 1989 (when inflation was less than 700 per cent); the relevant figure for capital and equipment being 29-times the 1989 figure. However the levels give a distorted impression as the great majority of this expenditure (88%) was attributable to FSM; in particular its outlays on the development of the Cinquecento model (73%).[11]

5.3. Basic Profile and Performance of OEMs in 1989 and 1990

Tables 5.6 and 5.7 provide some basic characteristics of the seven OEMs in 1989 and 1990. The following brief comments provide a summary of the salient features.

- Sales: the enterprises are relatively large: in 1989, all except Poznan were in the top 100 in sales terms - with FSM and FSO being in the top 10. However, with the exception of the latter two, their relative sales positions declined in 1990 (although Sanok's position remained almost exactly the same). This suggests that the pressure on the CV sector in

[11] Data from enterprise survey.

the first year of reform was greater than in the PC sector. All showed a fall in the net sales per employee positions - an indication that sales declined relatively greater than employment in comparison to the top 500 average.

- Exports: all, except FSM, experienced a decline in export intensity (i.e., exports as a percentage of sales). As already seen, total exports, in absolute terms, contracted by 35% in 1990 -which is greater than output.
- Profits: Gross profits of all enterprises markedly decline in percentage terms (from 28-70% in 1989 to 7-27% in 1990). Thus the best profit rate in 1990 (Jelcz's) was less than the worst profit rate in 1989 (Star's). All, except FSM and Jelcz, also registered a decline in relative positions - with positions being near the bottom of the top 500 list. Interestingly, none of the enterprises made a loss - remarkable given the severity of sales decline. Rather than monopoly pricing being the factor for this (see below for the case of FSO), the fundamental reason was probably severe cost cutting, particularly of wages - which,as we saw in chapter 3 - were pegged back by the Excessive Wage-Growth Tax.
- Employment: the OEMs are very large in terms of employment. All except Poznan are in the top 50; two (FSM and FSO) being in the top 5 and 1 in the top 10 (Star). All enterprises experienced a contraction in employment in 1990, as can be seen from the following table:-

Table: 5.8: Employment Contraction of OEMs in 1990 (in per cent)

FSM	FSO	JELCZ	LUBLIN	POZNAN	SANOK	STAR
6.2	1	4.8	10.5	9.4	11.3	4.1

Source: tables 5.6 and 5.7

Overall contraction for the seven enterprises was 5.8% - below the overall industry contraction in employment of 7%. This is also much lower than output contraction - consequently, productivity declined (see 7.2.).

- Wages: all enterprises' relative wages position showed a decline. Wages paid to CV enterprise employees are lower than those for the two PC OEMs, and are near the bottom of the top 500 list. Even FSM and FSO's positions are relatively low (234 and 205 respectively), somewhat surprising, given their size.

5.4. Output and Capacity Utilisation of the OEMs

Table 5.9 provides a breakdown of enterprise output since 1985, assembly capacity and percentage capacity utilisation rate. Note that apart from the capacity expansion for the Cinquecento by FSM, there has been no significant change in plant capacity for any of the other enterprises. Thus, current capacity figures for these enterprises can be deemed applicable for previous years also. For FSM, pre-1992 capacity was 210,000; hence utilisation rates are based on this figure.

Prior to 1990, total average utilisation frequently exceeded 90% - comparable to the best industry average - and sufficient to sustain prevailing levels of employment. This is a surprising finding, as it demonstrates the achievement of high levels of technical efficiency (i.e., the utilisation rate at existing levels of technology). It therefore contradicts the conventional view that command economy enterprises are inherently inefficient (as noted in 2.3). So either the conventional view is erroneous, or at the least, exaggerates the level of inefficiency; or the full-rated capacity figures given by the OEMs are underestimates. The truth

probably lies somewhere between these two positions. First, for the first two decades of the post-war period, when command economies were rapidly expanding, it would be clearly inaccurate to assert that the performance of enterprises during this period was highly inefficient. On the other hand, there is ample evidence to demonstrate the systematic underestimation of enterprise capabilities (particularly during the period of plan bargaining - see 2.2.(g)) - giving credence to the view that the capacity figures provided here may indeed be too low.

The figures indicate that there was a lagged effect upon output reduction in the motor vehicles sector. Total output in 1990 declined by 9.4% - significantly lower than the state industrial sector's decline of 25% (in sales terms).

In 1990, the two passenger car enterprises attained a higher utilisation rate than the CV manufacturers (with the exception of FSO's subsidiary Nysa), although all experienced a fall in *sales* in real terms. Hence there was a build-up of unsold stocks. In the autumn of 1990, the Anti-Monopoly Office took an unprecedented decision when it ordered FSO to cut prices as it believed FSO was exercising monopoly pricing by intentionally cutting back production. However, this was probably not justified as it contradicted the various causes and symptoms of sluggish sales, *viz.*, the demand barrier, increased competition, high stocks, and the fact that in February 1991, FSO stopped production for 7 weeks and *cut* prices to clear stocks.

Production slumped by 43% in 1991, as enterprises stopped production for prolonged periods, and accelerated layoffs and redundancies. (Note that the overall decline is exaggerated by the fall in FSM production - of approximately 70, 000 units - due to the downtime at its Z2 plant in preparation for the Cinquecento - its new Fiat developed model - start-up. The collapse in production was a delayed reaction to the acute recessionary

conditions prevailing in the economy. Whereas in 1990, enterprises had minimised layoffs and downtime, by holding large stocks; in 1991 they earnestly began to equate supply to demand, leading to all enterprises, except FSM to achieve less than 50% utilisation.

The two bus manufacturers, Jelcz and Sanok, and Star suffered additional difficulties. Jelcz's and Sanok's output was predominantly geared for state and city transport authorities, which began to sharply cut back on expenditure, thereby curtailing purchases. Furthermore, the collapse of the Soviet market also greatly reduced their sales. Star had been extremely reliant on the Chinese market, but this rapidly dwindled to nothing, as the Chinese switched to more advanced and reliable products.

It became strikingly clear that the survival of the Polish motor industry would involve thoroughgoing restructuring, with the objective of markedly improving efficiency and quality, in conjunction with an upturn in domestic market conditions. By the end of 1991, with the sole exception of FSM's new Italian-designed model, no enterprise produced products able to sufficiently withstand the severe competition in both the domestic and international markets.

Table: 5.9.: Plant Capacity Utilisation (output in 000s; utilisation in %)

Enterprise	Capacity	1992 Output	1992 utilisation	1991 output	1991 utilisation	1990 output	1990 utilisation	1989 output	1989 utilisation	1988 output	1988 utilisation	1987 output	1987 utilisation	1986 output	1986 utilisation	1985 output	1985[a] utilisation
FSM[b]	210	145	63	128	61	192	91	206	98	205	98	205	98	200	95	197	94
FSO	120	78	65	40	33	94	78	99	83	100	83	98	82	95	79	92	77
JELCZ	8.2	1	12	2.1	26	4.6	56	7.4	90	7.3	89	7.1	87	6.9	84	6	73
LUBLIN	22	11.2	51	10	45	7.9	36	12.7	58	19.8	90	21.4	97	21.2	96	22.5	102
POZNAN	5.5	0	0	2.5	45	4.5	82	4.5	82	4.7	85	5.5	100	5	91	5	91
SANOK[c]	3.2	0.7	22	0.8	25	1	31	3.2	100	3.2	100	3.2	100	3.2	100	3.2	100
STAR	12	1.5	13	2.4	20	6	50	9.5	79	11.3	94	12.5	104	12	100	12	100
NYSA	15	5.2	35	5.1	36	12.7	85	14.5	97	15	100	12.6	84	12.5	83	12	80
TOTAL	395.9	242.6	58.3	190.9	48.2	322.7	81.2	356.8	90.1	366.3	92.5	365.3	92.3	355.8	89.9	349.7	88.3

Notes: [a] The figures for 1985-89 are from EIU, 1989 and 1991 (see tables 5.1 and 5.3); 1990 and 1991 figure are from the enterprise survey; 1992 figures are from *Auto Technika Motoryzacyjna*, May 1993, p. 13.

[b] FSM capacity in 1992 was 230,000, and is anticipated to be 270,000 in 1993 after the complete commissioning of the Z2 plant at Tychy for Cinquecento production. For 1991 output, see the text.

[c] Sanok capacity and output figures are for buses only and exclude wagon and military production.

5.5. Trade and Incentive Regime before and after the Reform Programme

Prior to the reform programme, the trade and incentive regime facing enterprises can be characterised as follows (this section examines those aspects particularly relevant to the motor vehicle industry. It also draws upon some points made earlier in this chapter. An overall examination of the post-reform incentive regime was undertaken in 3.5.1.):-

- For CV enterprises, production was geared entirely for the domestic and CMEA market; for the PC sector, production was geared for domestic and CMEA markets, but also for the West European market. Trade with CMEA partners was conducted either as part of CMEA commodity exchange agreements (essentially barter arrangements), or in transferable roubles or convertible currency. Trade with the West was conducted in convertible currency, except for the "repurchase" agreement with Fiat (i.e., completed units shipped to Italy as part of the contractual arrangement).
- There was chronic shortage for most types of vehicles, particularly of passenger cars (as 30-40 per cent were earmarked for export). Consequently, the market confronting suppliers was guaranteed and stable.
- Despite the exporting of a significant proportion of PCs to Western markets, the government adhered to a strong import substitution policy, protecting the OEMs from external competition through the erection of stiff trade barriers. Imports from the West were permitted throughout the 1980s - but these necessitated a licence, and payment with convertible currency. As these imports were considerably more expensive than domestically produced vehicles, demand for them was confined to only a small section

of the population. Accordingly, Western vehicles did not provide any competition to the domestic OEMs.

- Given the chronic shortage (and as a corollary, a permanent demand overhang) in conjunction with the absence of external and internal competition, there was little incentive to innovate in any aspect of the manufacturing process or of the product; or to develop many derivatives - with vehicles being very occasionally upgraded or changed; and little attention was paid to cost, productivity and quality.
- Responsibility for trade rested with Foreign Trade Organisations - enterprises were not permitted to conduct foreign trade transactions themselves.
- Exports of passenger cars to the West were encouraged as a means to obtaining convertible currency - which in turn was necessary to obtain more advanced technology, and products unobtainable in CMEA markets. However, vehicles produced for Western markets were not of significantly better quality than those for domestic markets. These competed solely on the basis of very low prices - being far inferior to similar category vehicles produced by leading OEMs. Tax privileges were granted to exporting enterprises.
- Foreign investment was encouraged, but foreign ownership was proscribed. The aim was to retain 100% state ownership, and completely indigenise imported technology.

The effect of the pre-reform trade and incentive regime was the creation of a motor vehicle industry with very high levels of manufacturing capability (see 7.3.2. for details). But the high level of protection afforded to it hindered technological advancement. Thus the industry was essentially restricted to assimilating and adapting already dated technology from (mainly) Western licensors. This legacy has resulted in the Polish motor enterprises being quite unable to compete in most international product markets.

The fundamental aim of the shock therapy programme with respect to microecoomic policy, was to remedy this situation - through stimulating rapid and thoroughgoing restructuring of state-owned enterprises. This was to be conducted by far-reaching changes to the trade and incentive regime. These changes can be summarised as follows:-

- Tariff reform - through the passing of a Customs Law (implemented in January 1990), in line with GATT recommendations and EC requirements. As noted in 3.3., this resulted in Poland becoming the most liberal economy in Europe.[12] The key measures under this law were substantial reductions in tariffs on Western imports (on imports of motor vehicles, this was 10-10.5%; this contrasts with average import tariffs of 5%), removal of quotas, and reduction in the role of import and export licences and permits. The objective was to provide direct and significant import competition to domestic enterprises. (This was the "instant" competition advocated by Lipton and Sachs - see 2.8.1. (b)). Tariffs were, however, exempt on imports of components.
- The removal of state monopoly in foreign trade activities - enterprises to conduct their own foreign trade transactions. This was a corollary to finding markets in the domestic economy.
- Foreign trade made easier by making the zloty internally convertible. Consequently, bureaucratic hurdles to obtaining convertible currency necessary for imports were removed. Tax privileges on exports were withdrawn. Thus, the exchange rate became a key incentive for exports.
- Investment decisions became the responsibility of enterprises. Bank credits, internally-generated funds, or foreign partners were to become the predominant means for raising investment finance.

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[12] Cited in World Economy Research Institute, *Transforming the Polish Economy,* Warsaw, 1993, p. 222.

- Foreign investment actively encouraged - in particular, foreign investors being allowed to wholly own SOEs (a key element of the privatisation strategy), establish new companies, or set up joint-ventures with Polish OEMs. A key feature of the foreign investment regime is the absence of any "local content" requirements - a policy that has been hitherto common to many less developed and newly industrialised countries. In so doing, the government has firmly rejected import substitution, and signalled its intention to adopt a policy of minimal interference in regard to foreign investors. The rationale is that not only will this maximise the inflow of investment, but that FDI will, in an environment of free markets, generate multiplier effects in the rest of the economy, especially the components sector, thereby serving as a conduit for transferring skills, technology, and business acumen, in the overall development and modernisation of the industry.

The rapid liberalisation of the economy, rather than leading to meaningful restructuring, had instead a deleterious effect on the motor vehicle sector (chapter 7 provides evidence for this). This led to pressure from the OEMs for stiffer protection - which in turn prompted the government to amend the customs law in August 1991. The measures taken were:-

- Tariff duty on motor vehicles was raised from 10.5% to 35%. A minimum duty of $1,500 was imposed on PCs between 1-4 years old; on PCs more than 4 years old, this was $3,000; whilst PCs more than 10 years old were banned, along with 2-stroke cars and engines (see 7.6. for details of tariffs).

- Anti-dumping measures were introduced (in the form of additional duties) against "excessive competition".

In mid-1991, a new foreign investment law was passed as a further incentive for foreign direct investment - a law particularly apposite to OEMs. This had four principal elements:-[13]

- Freedom of transfer of profits, i.e., no minimum requirements on profit retention;
- Abolition of the requirement for minimum capital contribution from foreign investors (this had been $50,000);
- Income tax exemptions to various categories of investments: to investments over 2m Ecu; to investments in high unemployment areas; to investments deploying modern technology; and to investments where exports would account for more than 20% of (planned) output.
- Foreign investment insured against appropriation.

In December 1991, the Polish government became an associate member of the EC after its signing of the 'Association Agreement' - the prelude to obtaining full membership. The key benefit of this is purportedly freer access of Polish goods into EC markets. However, one aspect of this agreement may jeopardise inward FDI (and in doing so, provide a partial explanation as to the hesitancy and delay of so many Western OEMs in finalising agreements with their Polish counterparts - for this see 7.7). This is the so-called "rules of origin" clause for exports to the EC. It has a direct bearing on prospective investment - especially of components production and final assembly. The clause states that products originating in a

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[13] From ibid., p. 214.

"Partners in Transition" (PIT) country (these are Poland, Hungary, Czechia and Slovakia - all of whom are signatories to Association Agreements) are those (i) *wholly* obtained in that country, and (ii) can be those obtained in the PIT country in the manufacture of which inputs (not wholly obtained in the country and not obtained in the EC) are used, with the proviso that they have undergone 'sufficient working or processing'.[14] Specifically, inputs from non-EC sources should not constitute more than 40 or 50% of the value of production, i.e., there is a *de facto* local content stipulation of 50-60%. This will obviously affect non-EC investors (and some EC investors wishing to rely on non-EC supplies). Such high levels of local content will preclude from the scope of the Association Agreement joint-ventures and agreements by non-EC investors, i.e., access of their products to EC markets will be restricted. Given that the a key objective of motor industry investors seeking to invest in Poland is to use it as a low-cost base for exporting to EC markets, the impact of this clause will be deleterious in attracting FDI.[15]

The following two chapters examine how the OEMs have responded to the new incentive and trading regime under the shock therapy programme, and what impact this has had on enterprise restructuring.

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[14] See P.A. Messerlin, 'The Association Agreements between the EC and Central Europe: Trade Liberalisation vs. Constitutional Failure'?, in J. Fleming and J.M.C. Rollo (eds.), *Trade, Payments and Adjustments in Central and Eastern Europe,* Royal Institute of International Affairs and EBRD, London, 1992, pp. 128-131.

[15] It is interesting to note, in regard to non-EC investors, the lack of interest expressed by the Japanese OEMs in the Polish motor industry. Arguably, the 'rules of origin' clause can be considered one factor in their absence. However, the reality is more likely to be of the Japanese voluntarily by-passing Eastern Europe as a whole (excepting Suzuki's investment in Hungary) - at least over the medium term - and instead continuing to inject significant investments in Western Europe - notably in Britain. But there is no doubting that over the longer term, the clause may well hinder Japanese interest.

CHAPTER 6: Enterprise Survey: Methodology

6.1. Overall Approach and Sample Used: Advantages and Limitations

The enterprise survey of the eight original equipment manufacturers (OEMs)[1] was primarily conducted through the use of a questionnaire - with some modifications and additions - designed by the International Motor Vehicle Program (IMVP), MIT, for their major study of the international motor vehicle industry.[2] The IMVP Productivity Analysis - the method used to determine assembly plant productivity - has become widely recognised as the norm for calculating relative plant efficiency. It was therefore appropriate to use it for the Polish enterprises - all the more so, as Eastern Europe had been completely ignored by the IMVP study. Furthermore, its merit for the present work is that it is not dependent on detailed cost analysis - which for reasons of *data availability and accuracy,* cannot be undertaken at present for the Polish motor vehicle industry[3] - and allows direct comparisons to be made between different plants.

Thus, the methodology used for this case study enables the *accurate calculation of relative plant efficiency*, allowing direct comparisons to be made with leading international manufacturers, in combination with the determination of the *nature and extent of actual (i.e., physical) plant restructuring*, under the new incentive regime brought about by the shock therapy reform programme. It therefore enables conclusions to be drawn as to the *efficacy of*

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[1] For the purposes of the enterprise survey, Nysa, which is part of FSO, was considered as a separate enterprise.

[2] The results of which were published in J. Womack, D. Jones, and D. Roos, *The Machine that Changed the World*, Rawson Assocs., New York, 1990.

[3] Detailed statistics of unit labour costs (including fringe benefits), unit material costs and cost of capital services are generally not available. Even the broad financial indicators of the type provided by *Lista 500* in *Zarzadzanie* (as seen in tables 5.6 and 5.7) are no longer available from 1991 onwards, when this publication was terminated. Its replacement, the *Lista 300* (published in *Gazeta Bankowa)* is not very useful, as enterprises are no longer obliged to disclose data. The motor sector enterprises in particular have been extremely reluctant to disclose detailed cost and financial data.

the shock therapy programme with respect to industrial enterprise restructuring. This, as stressed in chapter 1, forms the ultimate *raison d'être* of the enterprise survey.

What is however not possible with this methodology is - for lack of data - the type of overall cost decomposition analysis conducted by several researchers and manufacturers in the early 1980s - mainly in an attempt to determine the productivity and cost differences between Japanese and North American motor manufacturers.[4] But all these studies were problematic. The problems stemmed from their failure to consistently equalise the variables contributing to manufacturing cost difference - given by Cole and Yakushiji as capacity utilisation, vertical integration, product mix, cost allocation of labour-content difference (i.e., to productivity difference and wage rate difference), and exchange rates.[5] Given these variations in assumptions, it was not surprising that there were considerable fluctuations in the results. The IMVP approach accurately takes account of vertical integration and product mix, but ignores capacity utilisation, labour-content allocation and exchange rates, (the latter two being cost-related).

Fuss and Waverman in a major econometric cost function study of American, Japanese, German and Canadian motor industries attempt to avoid the pitfalls of these studies

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[4] R.E. Cole and T. Yakushiji (eds.) provide a list of the various studies in *The American and Japanese Auto Industries in Transition,* Center for Japanese Studies, University of Michigan, Ann Arbor, 1984, pp. 113-115: W.J. Abernathy, K.B. Clark, and A.M. Kantrow, 'The New Industrial Competition', *Harvard Business Review,* Sept.-Oct. 1981, pp. 68-81; J.E. Harbour, 'Comparison and Analysis of Automotive Manufacturing in the Japanese and North American Automotive Industry for the Manufacture of Subcompact and Compact Cars', Harbour and Assocs. Inc., 1980, 1981; W.J. Abernathy, J.E. Harbour, I.M. Henn, 'Productivity and Comparative Cost Advantages: Some Estimates for Major Automotive producers', Harvard Business School Working Paper, 1981; Chrysler Corporation, 'US Tax Policy Gives Japan an Unfair Tax Break', n.d.; J.A. Mateyka, 'Productivity: The Automotive Industry Worldwide'. Paper presented at Annual Meeting , Society of Automotive Engineers, Detroit, 23rd. Feb. 1982; Jack Barnes, 'Meeting the Japanese Automotive Challenge: An American Progress Report', paper delivered to Manufacturing Council, American Management Association, Tucson, Arizona, March 1982; General motors Corporation, Public Interest Report, March 1982; J.F. Smith Jr., 'Prospects and Consequences of American-Japanese Company Cooperation', in R.E. Cole, ed., *Automobiles and the Future: Competition, Cooperation and Change*, Michigan Papers in Japanese Studies No. 10, University of Michigan, Center for Japanese Studies, Ann Arbor, 1983, pp. 19-26. For a breakdown of the various cost differentials, see Cole and Yakushiji (eds.), op. cit., table 8, p. 114.

[5] Ibid., pp. 112-113.

by using methodology which they argue permits the overcoming of two fundamental failures of previous studies: the inability to disentangle factor price effects from efficiency effects, and the inability to account for short run disequilibrium.[6] Consequently, their study presents a more accurate determination of the extent of cost differences, and just as in the earlier surveys, it also demonstrates (for the early 1980s) a substantial overall cost advantage in favour of the Japanese manufacturers. But the study is dependent on considerable and detailed cost data, which as noted, are not available for Polish manufacturers. Moreover, their methodology, as they themselves acknowledge, cannot explain the *reasons* why the Japanese manufacturers had achieved greater technical advance and cost-efficiency superiority.[7] The IMVP approach allows this to be done for the former, and to some extent, for the latter. In any case, cost efficiency is to a significant extent subsumed within productivity differentials, suggesting that the more productive manufacturers will also be more cost efficient. Thus the inability to decompose costs should not be of paramount importance. But this is not to suggest that productivity differentials can be reduced to, or equated with, cost differentials, for the two are clearly not the same.[8]

Fuss and Waverman attribute differences in *unit costs* to six possible causes: factor prices, economies of scale, technical progress, capacity utilisation, 'country-specific efficiency', and exchange rate fluctuation.[9] The broad indicator, 'technical progress', captures all the developments under lean production, i.e., it is simply viewed as being one determinant in unit cost differences. The IMVP approach shows this to be the most important element in explaining *plant productivity* difference. It disaggregates this into what can be described as

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[6] M. Fuss and L. Waverman, *Costs and Productivity in Automobile Production, The Challenge of Japanese Efficiency,* Cambridge University Press, Cambridge, 1992, p. 64.

[7] Ibid., p. 222.

[8] As Fuss and Waverman point out, ibid., p. 5

[9] Ibid., p. 11.

various 'sub-determinants' - the most important ones of which were elaborated upon in chapter 4. The analysis used for this survey is based on the assumption that the bulk of plant productivity differences do indeed emanate from lean production practices - as demonstrated by the IMVP project,[10] but also that economies of scale and capacity utilisation are critical factors. - factors which were ignored by the IMVP study. Thus, the survey is to some extent a synthesis of the two approaches - although on balance, it is heavily biased towards the IMVP methodology. Factor price differences, country-specific efficiency, and exchange rate fluctuations are ignored for this study, as these do not directly affect plant productivity, i.e., are largely beyond the control of enterprise management. (These were broadly discussed in chapter 3).

The methodology also differs from those of recent studies, (by the World Bank and Dabrowski *et al.*)[11] conducted in Poland itself, that have attempted to provide evidence of microeconomic restructuring during the post reform period, These purely confine themselves to using broad economic categories such as output, costs, profits, wages, debts, exports, taxes and ownership structure to examine the restructuring process; in contradistinction to the predominantly narrower, physical categories, indicative of *direct evidence* of *plant* restructuring, used in this survey. Moreover, unlike this survey, they do not attempt to establish the relative efficiency of Polish enterprises.

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[10] These findings have been broadly corroborated by a report produced by the McKinsey Global Institute. This views two factors as fundamental: first, plant organisation and organisation of the supplier network; and second, 'manufacturability', i.e., design of parts for ease of assembly. Mckinsey Global Institute, *Manufacturing Productivity,* Washington, DC, 1993, section on auto assembly: Summary.

[11] Two surveys have been conducted by the World Bank, Poland, using a sample of over 70 industrial enterprises. The results have been presented as two papers: World Bank Resident Mission Report, 'Microeconomic Response to the Economic Transformation Program: Evidence from the Largest Polish SOEs', Warsaw, mimeo, Sept. 1991; B. Pinto, M. Belka, and S. Krajewski, 'Transforming State Enterprises in Poland: Microeconomic Evidence on Adjustment', World Bank, Warsaw, mimeo, December 1992. Also, see the study by J. Dabrowski, M. Federowicz, and A. Levitas, 'Polish State Enterprises and the Properties of Performance: Stabilisation, Marketisation, Privatisation', *Politics and Society*, 19, No. 4, 1991.

But it needs emphasising that in spite of the advantages noted, the methodology adopted here also suffers from certain disadvantages - two of which are important - although, it will be argued, these do not unduly damage the validity of the exercise.

◆ First, the sub-determinants of plant productivity are not (and perhaps cannot exactly be) *disaggregated into their relative weights.* This obviously prevents *specific* policy guidance being given to enterprises, i.e., in what proportions to allocate scarce resources to optimise an increase in productivity. Normally, those contributing most to productivity differentials would (or indeed ought to) be given priority. This is not strictly possible here. A proxy measure is to compare actual performance of a sub-determinant with that of the 'best practice' (usually Japanese). Generally, the closer the rating to best practice, the more positive its impact on productivity will be, and *vice versa.* But note that consideration must be given here to the existence of 'linked effects'. For example, increasing automation of the body welding operations towards best practice levels necessitates simultaneously increasing sufficient, relevant, technical personnel. If the latter is not done, then any breakdown of new automated machinery will severely reduce output and productivity - possibly to the extent that overall productivity may fall from the previous, lower automation, levels.

◆ The second major disadvantage is the *small size of the sample* - with only eight enterprises being covered. This would, *prima facie,* prevent the use of inductive reasoning to take place, and consequently conflict with the claim (in chapter 1) that the findings of the survey will have relevance for other manufacturing industries in Poland and the rest of Eastern Europe. But, given the high level of similarity of industrial enterprise structure in all the former command economies, and a degree of similarity in their start conditions, the sample, though small, is nonetheless *representative* of the *civilian* manufacturing sector as a whole -

particularly of the larger state-owned enterprises. Recognising this enables inductive generalisations to be made with respect to not only the motor vehicle industries of other command economies in transition, but to the manufacturing sector in general - subject to the constraint of their emanating from a specific industry at a specific point in time, which in turn necessitates a degree of caution when making any such generalisations.

It should however be noted that the eight enterprises in question, as seen in chapter 5, do constitute the bulk of the Polish motor vehicle sector; so in regard to *this* sector, the conclusions drawn would be highly valid. Arguably, this makes the exercise worthwhile in and of itself. Subject to resource and data constraints, a small sample does allow an in-depth analysis of an array of determinants of productivity - determinants which, as noted above, would otherwise be reduced to very broad categories. And given that a principal objective of the study is to establish the relative plant productivity of the Polish motor enterprises - which necessitates comparisons with best international practice - an in-depth approach becomes a *sine qua non.*

Although anecdotal evidence has suggested that the Polish motor vehicle industry is highly inefficient *vis-à-vis* the most advanced, no concrete evidence exists for the degree and nature of this backwardness.[12] Therefore, in order to garner this evidence, it is again necessary to conduct a detailed examination of plant operations - so as to enable a disaggregation of the various sub-determinants of productivity that had already been determined by the IMVP study from a much larger sample, representative of the regions covered.

It needs also to be emphasised, that a key advantage of the in-depth, IMVP-type approach (though not necessarily small sample)[13] is the meticulous accuracy with which

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[12] Indeed this may be the first study to establish productivity differences Polish and Western OEMs, for the author was unable to obtain any previous such study.

vertical integration is accounted for (in this case, through use of 'standard' versus 'non-standard' analysis - see below) - which had, as already pointed out, in many previous studies been considered in a somewhat haphazard manner.

So although there are undoubted drawbacks with a small sample methodology, it does nevertheless retain advantages.

Other disadvantages stem from the limited nature of the analysis. Most obviously, because costs are ignored, total factor productivity cannot be determined . As will be seen in the next chapter (section 7.2.), the assembly plant productivity of Polish plants is considerably below international levels. But this does not necessarily imply that Polish enterprises are completely uncompetitive, for in this respect, relative prices and factor availability are crucial. Thus, for example, in the context of abundant and relatively low-cost labour, it becomes cost-efficient to substitute labour for capital, or conversely to postpone replacing labour with capital. Therefore the productivity analysis, by itself, does not establish whether low productivity has a crippling effect on unit costs. But there is evidence from some of the sub-determinants (see especially the section on sub-optimal production) that *low productivity does indeed have a severe impact on costs.* Moreover, the determinants which give rise to low productivity also tend to have an adverse impact on quality - adding considerably to rework and material wastage, and consequently to costs. So, to reiterate the point made earlier, although it is not possible in this study to measure a direct correlation between productivity and costs, it is indubitable that they are strongly linked.

6.2. Fieldwork, and Methodology Underpinning Questionnaire

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[13] Where resources are available, as in the case of the IMVP survey, it is of course possible to conduct an in-depth analysis of a large sample.

Questionnaires were initially sent, and plants visited, in October and November of 1991. The response unfortunately was very poor. The exercise was repeated in the summer of 1992, which yielded better results, enabling a meaningful comparison to be undertaken, which is set out below.

The bulk of the questionnaire concentrates on assembly plant operations. The reasons for this are as follows:[14] first, a large bulk of vehicle manufacturing is undertaken at the assembly stage, accounting for approximately 50 percent of total direct labour in producing a vehicle.[15] Thus it is the largest and most representative productive unit of vehicle manufacturing; second, there is a high degree of similarity between assembly operations of different plants and companies, facilitating comparisons; and third, the breakthrough by the Japanese in lean production techniques, which now dominate the international motor vehicle industry, was predominantly focused on assembly operations.

The IMVP study was based entirely on the passenger car sector - and many of the questions are directed purely at this sector, notably the important productivity analysis. However, the majority of the questions are applicable to all motor vehicle manufacturers (indeed also to non-motor vehicle manufacturers). Where the questions have universal applicability, the results have been presented for all the enterprises.

Before proceeding, it is important to caution about the reliability of the data obtained. Polish enterprises have little tradition of compiling detailed data on operational activities of the type considered normal in Western companies, and requested in the questionnaire. Frequently, information proffered was on the basis of opinions of the individuals interviewed, rather than

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[14] See Womack *et al.*, op. cit. , pp. 76-77.
[15] Estimated by W.J. Abernathy, *The Productivity Dilemma, Roadblock to Innovation in the Automotive Industry,* The John Hopkins Press, Baltimore and London, 1978, p. 27.

on hard facts. Some of the information requested (particularly cost and financial data) was deemed too confidential to be released, whilst other information (e.g., on post-sale defect rates) was simply not available - even to management! It should however be pointed out that there was a general sense of urgency in expanding the enterprise information base - a recognition of reality in the new market-oriented environment. But despite some *lacunae* and unavoidable inaccuracies, the overall thrust of the findings, it appears, does enable valid judgements to be made as to the relative efficiency of the Polish motor vehicle industry.

The measure of productivity used here is *labour productivity*, i.e., output per unit of labour. Arguably this is the most important input in motor manufacturing, and its derivation does not require value-added or sales figures, although of course it can be calculated using these. However, both these measures have drawbacks. For sales figures, there is the problem of ascertaining *accurate vertical integration figures*. This problem does not arise for value-added, but value-added data are particularly difficult to accurately obtain for Polish enterprises. Fundamentally, for both measures, there is the acute problem of converting the resultant (local currency) figures into the international numeraire, the US$. Wide and rapid fluctuations make this task not only burdensome, but prone to inaccuracies. Given this, the *standard measure used here is the physical unit, i.e., a standard (compact) passenger car*.

A valid 'like with like' comparison of plant performance requires comparable data of personnel involved in the various activities of the plant in question - in this case the assembly plant.[16] This therefore necessitates making various adjustments to the raw data in order to manipulate it to a standard format for such a comparison to take place: adjustments which take account of the numerous differences in vertical integration that exist between various

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[16] This follows J.F. Krafcik, 'A Methodology for Assembly Plant Performance Determination', IMVP, Cambridge, Ma., 1988, mimeo.

plants. This is done through the use of the concepts of *"standard"* and *"non-standard"* activities. *Standard activities are the 'core' activities of an assembly plant, which most assembly plants perform*. To measure relative performance between assembly plants, it is necessary to exclude those activities which are deemed to be 'non-standard', i.e., which are not considered core, essential, assembly plant activities. This is done by *removing all personnel associated with these activities from the performance calculation*. Thus all pre-body-welding stages and various subassembly operations[17] are excluded, together with KD (knocked-down) kit production.

Conversely, where an assembly plant does not perform standard activities, then estimates for *personnel necessary to perform these are added to the total.* The standard/non-standard adjustments enable uniform levels of plant vertical integration to be obtained, whereupon it becomes possible to ascertain 'gross' plant productivity - in terms of labour hours per vehicle, which can be used for purposes of direct comparison.

Further adjustments need to be made to the gross figure in order to take account of product mix (i.e., size, complexity) differences. There are three main variables here: Weld Factor, Product Size Factor, and Equipment Content Adjustment.

Following Krafcik, the list below is deemed to comprise of Standard Activities in an average assembly plant:-[18]

i. Welding: all body panels;

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[17] Subassembly production refers to the manufacture of major components ready for the final assembly stage.
[18] Ibid., p. 3, and IMVP questionnaire, p. 2. Frequently, 'assembly' solely refers to final assembly - with welding (body plant) and paint (paintshop) considered separate functions, as these are normally performed in separate production units. Indeed Abernathy describes the latter functions as being more akin to 'manufacture' than 'assembly' *per se*. Abernathy, op. cit ., p. 115. But to enable a valid comparison, the IMVP definition for assembly will be adhered to.

ii. Paint-related activities: body cleaning, electrolytic dip, two coats of paint, all sealing, cavity waxing;

iii. Subassemblies: bumpers, bumper painting, front and rear strut, instrument panel, tyre/wheel assembly and balancing, clutch and brake-pedal subassembly;

iv. Assembly: seat installation, glass installation, interior and exterior trim application, full engine dress;

v. Indirect activities: production control, parts delivery to line, product repair and inspection, maintenance;

vi. Administrative and Support Tasks: direct supervision, plant management, manufacturing and facilities engineering.

Standard Activities need to be contrasted with, and separated from, Non-Standard Activities which an average assembly plant does not perform. Thus non-standard employees in any assembly plant need to be excluded from the productivity analysis. Non-Standard Activities are deemed to be the following:-

i. Welding: knocked-down (KD) kits;

ii. Painting: second coat of primer;

iii. Subassemblies: steering column and its painting, exhaust pipe bending, fuel and brake tube bending, fan-to-fan shroud, seats, axles, engine mounts, window regulator, drive shaft(s), steering gear, lift rail-to-window, AC compressor, door trim panel, wire harness, fuel and brake tube, fuel pump;

iv. Indirect Activities: customs workers, fire workers, security personnel, lease car maintenance, water purification, vehicle delivery, indirect labour to support non-standard activities;

v. Administrative and Support Tasks: engineering design, component purchasing.

The exclusion of Non-Standard Activities employees from the plant total gives the Total Standard Activities Employees (TSAE) 'On-Roll' figure for standard activities. If the total absentee rate (scheduled plus unscheduled) is discounted from this figure, then the

Standard Activities Employees 'Required-to-Operate' (SAE) figure is ascertained. This is the net number of employees necessary for the performance of assembly plant standard activities.

The Gross Standard Activities Productivity (in hours per car) can now be calculated using the formula G = SAE*h/s*v,

where G = Gross Standard Activities Productivity,

SAE = Standard Activity Employees

h = hours worked per shift

s = number of shifts per day

v = number of vehicles produced per shift

Note that h refers to productive time only and so excludes relief time (assumed to apply only to hourly shop-floor workers).[19]

To allow for the fact that plants produce different sizes and complexity of vehicles, the IMVP used a compact vehicle as their standard, which had imputed to it a number of characteristics that act as benchmarks for the industry. To obtain the Net Standard Activities Productivity (N), three major adjustments need to be made. These are:-

i). Weld Factor

The standard vehicle is assumed to have 3,850 body spot welds. (Where brazing or seam welding is undertaken, the assumption is 1 metre = 150 spot welds). This acts as the basis for adjusting the weld workforce, which is derived using the formula,

$$A = 0.5(3850(CWW/W) - CWW)$$

where A = Adjustment to weld workforce

[19] The assumption is open to question, but in the Polish context is correct, for salaried staff do not receive break times *per se*.

CWW = current hourly (i.e., direct and indirect) weld workforce[20]

W = welds per vehicle

For reasons of scale economies, the assumption (based on empirical evidence)[21] here is that additions or reductions in the weld workforce require only half the effort as the numbers required to perform the existing number of welds. The Weld Factor (w) can now be derived,

$$w = SAHE + A/SAHE$$

where SAHE = Standard Activities Hourly Employees

The rationale underpinning the use of a weld factor is that the larger the body shell, the greater the number of spot welds required. But this penalises those vehicles with superior designs which require proportionally fewer welds, and hence lower work effort. Although body design is not, in the strict sense, a *plant* efficiency variable, it nonetheless has direct consequences for determining overall plant productivity. Ignoring it, as in this case, means the possibility of making an upward employee adjustment to build a relatively inefficiently designed body, that has been deemed the standard. The impact can be significant as will be seen below for the cases of FSM (Z1) and (Z2).

ii). Product Size Factor

The assumption is made that the larger the vehicle, the greater the work effort needed for its assembly. Thus a correction is needed to adjust vehicle size to the standard - which as noted above is assumed to be a compact vehicle. From this it follows that FSO, which produces the compact Polonez will have a Product Size Factor (P) of 1, i.e., no adjustment for

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[20] The assumption here of the weld workforce being comprised only of hourly workers is questionable. However, the overall impact of ignoring salaried personnel is negligible.

[21] Krafcik, op. cit., p. 7, n. 3.

P is made. Using the IMVP estimate of P = 1.03 for minis, FSM will be assumed to have this factor, i.e., a 3% upward adjustment to N.

iii). Equipment Content Adjustment (ECA)

This is used to adjust for differences in 'optional equipment'. The reasoning is identical to that made for both weld factor and product size, i.e., the more 'optional extras' a vehicle possesses, the greater the assembly time expended in its manufacture. But this only applies to those options which necessitate additional work effort. Hence, certain options which are simply built from higher quality materials (e.g., seats, steering wheels etc.), do not necessitate additional build-time, and so are excluded. These are therefore not optional *extras per se,* as all vehicles possess them. The options considered are as follows:-

Air Conditioning, Power Steering, Power Windows, Power Seats, Power Door Locks, Cruise Control, Remote LH Mirror, Remote RH Mirror, Sunroof, 4-Wheel Drive, Anti-Lock Braking System.

The standard vehicle is considered to have options which utilise an additional 1.12 hours of net assembly time.[22] If a vehicle has options requiring more/less than 1.12 hours, then the ECA is simply the difference between the actual figure and 1.12 (it will be negative in the former case and positive in the latter). This standard will be used as the basis for adjustments for FSM and FSO, as it was not possible to determine the incremental labour time for options (see below).

After the adjustments have been made, the Net Standard Activities Productivity (N) can be calculated, where

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[22] Ibid., p. 12.

N = G*w*P - ECA (Hours per Car).

Using this methodology, the Net Standard Activities Productivity figures for the PC OEMs, FSM and FSO, can be determined for a comparison with international averages. This is done in the next chapter.

CHAPTER 7: Enterprise Survey: Results and Comments

7.1. Introduction

This chapter presents all the findings of the enterprise survey. It is comprised as follows:-

Section 7.2. provides the *Productivity Analysis of the Passenger Car Sector*. 7.2.1. gives the analysis for FSM, whilst 7.2.2. does the same for FSO. 7.2.3. provides comparisons with international averages, and 7.2.4. provides estimates of productivity in 1989, before the implementation of the reform programme, and, using realistic assumptions, approximations of productivity in 1995.

Section 7.3. provides a breakdown of the *'Sub-Determinants' of Plant Productivity* noted in chapter 6, and elaborated upon in chapter 4. Wherever possible, comparisons with international averages are provided. The following are considered: -

- *Work Organisation* (7.3.1.) - this is further divided into ten components: i. Work Teams; ii. Job Rotation Policies; iii. Suggestion Schemes; iv. Quality and Quality Control; v. Job Classifications; vi. Training of Production Workers; vii. Absenteeism Rate; viii. Production-related tasks; ix. Line Stoppage; and x. Operational Decision-making.
- *Manufacturing Capabilities* (7.3.2.) - this is split into four sections: i. Capital Intensity and Automation Levels of the three assembly processes (Paint, Welding and Final Assembly); ii. Specialist Capabilities; iii. Local Content levels (as a proxy for indigenous capability); and iv. Vertical Integration Levels.

- *Supplier Relationship* (7.3.3.) - divided into three sections: i. Supplier Concentration; ii Price Determination; and iii. Supplier Cooperation.
- *Inventory System* (7.3.4.);
- *Management-labour Relations* (7.3.5.);
- *Summary* (7.3.6).

Section 7.4. entails a discussion of *Cost Penalties Associated with Sub-Minimum Efficient Scale Production and Sub-Capacity Utilisation.* Estimates for total cost penalties are also provided.

Section 7.5. discusses *Labour costs, Prices and Multinationals*

Section 7.6. provides brief comments on the *Future Prospects of the OEMs* considered in the enterprise survey.

Section 7.7. provides a discussion on the *Role of Government.*

Section 7.8. is the concluding section - dealing with *Industrial Policy* for the motor vehicle industry.

7.2. Assembly Plant Productivity Analysis of the Passenger Car Sector

This section uses the methodology described in the previous chapter.

7.2.1. FSM Productivity Analysis

a) Standard Activities *not* Performed:-

Paint-related: cavity waxing: 8 Directs;

Bumper-painting: 2 Directs.

Total Directs for *Inclusion* is therefore 10.

These need to be added to the total. A *pro-rata* number of indirects also needs to be added. This can be approximated from the Direct to Indirect ratio for the plant as a whole (i.e., Total-On-Roll). The Direct:Indirect ratio for Z1 plant is 1:1.36 (1,992:2,709) and for Z2 plant, 1:1.32 (2,372:3,137 - see tables below).

Thus, Indirects for *Inclusion:* Z1: 14

Z2: 13

b) Non-standard Activities *Performed*:-

Subassemblies: steering column, RWD rear axle (Z1), FWD rear axle (Z2), engine mounts, drive shaft, lift rail-to-window, fuel and brake tube, steering column painting, fuel and brake tube bending, seats, window regulator, steering gear (= 58 Directs and 66 Indirects for Z1; 58 Directs and 68 Indirects for Z2.

Indirect Activities: Z1: 464;

Z2: 345.

Thus, Total Indirects for Exclusion: Z1: 530 (464+66)

Z2: 413 (345+68)

c) Administrative and Support:-

Total for Exclusion: Z1: 216(est.)

Z2: 254 (est.)

The adjustments necessary for the calculation of the Total Standard Activities Employees (TSAE) can be shown as follows:-

Table 7.1: Derivation of TSAE for FSM (Z1)Plant

FSM (Z1)	Direct	Indirect	Administrative	Total
Total On-Roll[a]	1992	2709	1105	5806
Add	10	14	0	24
Exclude	-58	-530	-216	-804
TSAE	1944	2193	889	**5026**

[a] Figures for June 1992

Table 7.2: Derivation of TSAE for FSM (Z2) Plant

FSM (Z2)	Direct	Indirect	Administrative	Total
Total On-Roll[a]	2372	3137	1271	6780
Add	10	13	0	23
Exclude	-58	-413	-254	-725
TSAE	2324	2737	1017	**6078**

[a] Figures for June 1992

The Standard Activities Employees RTO (SAE) can be derived by applying the total absenteeism rate. FSM's total absenteeism rate (June 1992) was 17.5%.[1]

So SAE (Z1) = 5026*0.825=4146 (3412 hourly; 734 salaried)

SAE (Z2) = 6078*0.825=5014 (4175 hourly; 839 salaried)

The Gross Standard Activities Productivity (G) is now calculated: -

$$G = SAE*h/s*v$$

Where h = hours worked per shift (production time only); s = no. of shifts per day; and v = no of units produced per shift.

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[1] Separate plant absenteeism rates were not available, so the overall enterprise absenteeism rate is applied to both Z1 and Z2.

For Z1, h = 7.75 for hourly (excludes 0.25 hours relief time) and 8 for salaried; s = 2 and v = 130

$$G(Z1) = (3412(7.75) + 734(8))/2(130)$$

G (Z1) = 124.2 Hours per car.

For Z2, h = 7.75 for hourly and 8 for salaried; s = 2 and v = 348[2]

$$G(Z2) = (4175(7.75) + 839(8)/2(348)$$

G (Z2) = 56.1 Hours per car.

The three adjustments can now be made to determine the Net Standard Activities Productivity (N):-

◆ (i) Product Size Factor (P): this was imputed to be 1.03 for both FSM plants - as these produce 'mini' passenger cars.

◆ (ii) Equipment Content Adjustment (ECA):

In the list of options, the model assembled at Z1, the 126P, only has LH and RH mirrors (on 100% of output). In view of the fact that wing mirrors are virtually standard on all vehicles (and therefore should not have been categorised as optional), Z1 plant has an ECA of -1.12 hours (in other words, it does not produce any vehicle with options). The Cinquecento, assembled at Z2 plant has LH and RH mirrors (100% output), plus power windows (20%) and sunroof (5%). This is only marginally more than Z1, so Z2's ECA will be estimated as -1 hour.

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[2] This figure is based on capacity output of 160,000 for the Cinquecento, which was planned for 1992. Actual average v was only 183: thus G (Z2) was 103.5. Clearly this figure has been grossly distorted by commissioning problems and the fact of a seven week long strike.

◆ (iii) Weld Factor (w)

For Z1: W (Welds/Vehicle) = 3600

CWW (Current Hourly Weld Workforce) = 596

A (Adjustment to Weld Workforce) = 0.5*(3850(CWW/W) - CWW)

A = 0.5(3850(596/3600) - 596

A = 21

w (Z1) = SAHE + A/SAHE, where SAHE is Standard Activities Hourly Employees

w (Z1) = (3412 + 21)/3412

<u>w (Z1) = 1.006</u>

For Z2: W = 2500 + 1.2 metres laser welding[3]

W = 2680

CWW = 698

A = 0.5(3850(698/2680) - 698)

A = 152

w (Z2) = (4175 + 152)/4175

<u>w (Z2) = 1.04</u>

The potentially perverse nature of the weld factor can be seen here. Z2's vehicle, the Cinquecento, is of a modern design, hence requires less spotwelds for its manufacture, but is penalised in comparison with Z1's obsolete 126P, which has more panels and consequently requires more spotwelds.

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[3] 1 metre laser welding is equivalent to 150 spot welds.

Net Standard Activities Productivity (N) for both FSM plants can now be calculated using the formula N = G*w*P - ECA as shown in chapter 6:-

N (Z1) = 124.2 (1.006)(1.03) -(- 1.12)

N (Z1) = 129.8 Hours per car

N (Z2) = 56.1(1.04)(1.03) -(- 1)

N (Z2) = 61.1 Hours per car

7.2.2. FSO Productivity Analysis[4]

Applying the same procedure, the adjustments for the calculation of the Total Standard Activities Employees is given in the table below:-

Table 7.3: Derivation of TSAE for FSO Plant

FSO	Direct	Indirect[b]	Aministrative[c]	Total
Total On-Roll[a]	3150	4517	2835	10502
Add	42	60	0	102
Exclude	-204	-1024	-1134	-2362
TSAE	2988	3553	1701	**8242**

Notes: [a] June 1992; [b] The ROR Direct/Indirect ratio is 1:1.43; [c] Estimates for Zeran plant only (Zeran is also FSO's Headquarters - consequently all HQ staffs are excluded)

Total absenteeism rate (June 1992) was 18%.

Thus SAE (RTO) = 8242*0.82= 6758 (5364 hourly; 1394 salaried)

The Gross Standard Activities Productivity (G) is as follows:-

h = 7.75 for hourly; 8 for salaried

[4] Data is for Zeran plant, Warsaw.

s = 2; v = 165

Hence G = 5364(7.75) + 1394(8)/2(165)

G = 159.8 Hours per car

Adjustments for Net Standard Activities Productivity:-

◆ (i) Product Size Factor: this was imputed to be 1 for FSO, as it manufactures a compact vehicle, the Polonez.

◆ (ii) Equipment Content Adjustment: The options are RH and LH mirrors (100%), air conditioning and sun roof (% not available). The ECA for FSO will be estimated as the same as FSM (Z2), i.e., -1 hour.[5]

◆ (iii) Weld Factor.

Spot welds = 7230

Mig brazing = 1.62m (= 243 spot welds)

Total welds = 7473

CWW = 793

ATWW = 0.5(3850(793)/7473 - 793)

ATWW = -192

w = (5364 - 192)/5364

w = 0.96

Net Standard Activities Productivity (N) = 159.8(0.96)(1) + 1

N (FSO) = 154.4 Hours per car

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[5] FSO also assembles LCVs based on Polonez and Nysa models. Options for these are not available, but it is assumed they are similar to the Polonez.

7.2.3. Comparisons with International Averages

The figures for the Polish enterprises can now be compared to international averages:-[6]

Table 7.4:FSM and FSO Productivity versus International Averages (1989) - in Hours Per Car

Japanese in Japan	Japanese in N. America	Americans in N. America	All West European	NICs	FSM (Z1)	FSM (Z2)	FSO
16.8	21.2	25.1	36.2	41	129.8	61.1	154.4

In comparison with world best average, productivity for FSM (Z1) and FSO is abysmally low: FSM (Z1)'s is 13%, whilst FSO's is a mere 11%. FSM (Z2), which it will be remembered is the most modern plant in Poland, has potentially a far better productivity performance, on achievement of full capacity.[7] Nonetheless it is significantly worse than both the Japanese (27%) and the West European (59%). It is also 50% lower than the NIC average - which is almost up to West European levels. FSM Z2's productivity is based on a notional output of 160,000 units per annum for 1992, but is anticipated to rise to 240, 000, by use of three shifts. Assuming incremental manning levels are lower than the increase in capacity - which will certainly be the case for administrative activities - N will therefore fall (see 7.2.4 below).

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[6] International figures are from Womack *et al.* op. cit., fig. 4.7, p. 92. Unless otherwise stated, the ensuing figures for international averages are also taken from this source, which is a succinct summary of the results of the IMVP survey. The NIC figures are from ibid., fig. 4.3, p. 85. NICs are Mexico, Brazil, Taiwan and Korea (11 plants in total). ***All figures are for 1989.*** Note that the best NIC figure is 25.7 and the worst, 78.7. Thus FSM (Z1) and FSO productivities are considerably lower than the least productive NIC plants.

[7] I wished to undertake a comparison between FSM (Z2) plant and Fiat's Termini Imerese plant, where the mini Panda is assembled, to establish their relative productivities. Unfortunately, Fiat refused to provide me with the relevant data.

The figures for FSM (Z1) and FSO have deteriorated since 1989; coinciding with the collapse in production. Thus, FSM's total output was 206,000 in 1989, when only the 126P was produced. Assuming that the SAE was the equivalent of current Z1 and Z2 combined, plus 17% (the overall fall in FSM employment since 1989), gives an approximate overall Net Productivity figure of 92 hours per car (this would of course be an average for Z1 and Z2). Similarly, FSO's output was 99, 000 in 1989. Adding 15% for the contraction in employment, yields an approximate N of 101. These results confirm what was noted earlier: the fall in output being greater than the fall in employment, which in turn registered in lower productivity rates. Thus, *the overall efficiency effect of the reform programme in the first two and a half years was to lower productivity in FSM (Z1) and FSO plants*; FSM (Z2's) increase in productivity was due to the introduction of a modern vehicle, the Cinquecento. But agreement for the introduction of this vehicle had been negotiated before the implementation of the reform programme - in 1987.

7.2.4 Future Productivity Scenarios[8]

7.2.4 (a) FSM (Z1)

Production of the 126P will continue, but there are no plans to inject substantial investments. Consequently, improvements in productivity can only occur through plant reorganisation and rationalisation, leading inevitably to a reduction in the workforce. Providing the market situation holds, productivity will accordingly rise. But the rate of employment contraction will slow down in line with Fiat's guarantee to maintain prevailing workforce levels for at least two years.

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[8] Also see 7.6. for future prospects for the OEMs.

Plans are however afoot to assemble two other Fiat models at the Z1 plant: the Uno (20,000 p.a. are scheduled to be assembled by the end of 1995) and Tipo (no firm details are available at the time of writing). When these come on stream, productivity levels will significantly increase. Given these assumptions, an estimate for 1995 can be made of productivity increase of between 5% (assuming the Uno model has not come on stream) and 40% (assuming the Uno has reached full rating output of 20, 000).

7.2.4 (b) FSM (Z2)

As already noted, Z2's capacity is scheduled to rise to 240,000 units by the end of 1994, through the use of a 3-shift system. The will necessitate a *pro-rata* recruitment of additional directs and indirects. However, in line with the norm for the motor industry, there will be economies in Administrative staffs, manifesting itself in productivity gains. One can also assume that improvements in plant organisation and learning effects will further enhance productivity.

A surprising finding for Z2 is the relatively high ratio of indirects to directs - higher than that prevailing at the obsolete Z1 plant, and much higher than what is commonly obtained in the most efficient plants (where Direct:Indirect ratio is usually of the order of 1:0.5). This acts as a drag on Z2's productivity. The table below provides Direct/Indirect and Direct/Administrative staff ratios for FSM and FSO plants.

Table 7.5: Direct:Indirect and Direct:Administrative Staff Ratios for Standard Activities Employees

	Direct:Indirects	Direct:Administrative
FSM (Z1)	1:1.13	1:0.46
FSM (Z2)	1:1.18	1:0.44
FSO	1:1.19	1:0.57

The high Direct:Indirect ratio is an indicator of the relative inefficiency in plant organisation, and especially, a high proportion of rectification staff, to ensure the achievement of acceptable quality levels. However, if "first time" quality rates rise, one can expect a decline in the amount of rework, with a concomitant reduction in rectification indirects. This will register in substantial productivity improvements. Under these assumptions, Z2's productivity range for 1995 can be anticipated to be an improvement of between 15-20% over 1992 figures.

7.2.4 (c) FSO

Two factors are fundamental in determining FSO's future productivity: first, the market situation for the Polonez model; and second, the long-running negotiations with GM for the setting up of a joint venture.

If the market for the Polonez improves, then, without recourse to plant restructuring, so too will productivity - but probably only towards 1989 levels. Improvements will however be greater under the assumption of both an improvement in the market and an element of effective restructuring. Conversely, if the market remains depressed, then so too will productivity, although rationalisation measures may lift it marginally.

With respect to the joint venture with GM, if this proceeds smoothly, then by 1995, the Zeran plant will manufacture 33,000 Astra units p.a. at much higher productivity levels. This will significantly lift the overall plant productivity.

Given these assumptions, FSO's productivity, by 1995, can range from zero improvement (and possibly, even a further decline - assuming deterioration of market

situation, little effective restructuring, and failure of the joint venture with GM to materialise) to an improvement approximating 50% (assuming improvement of market situation, some restructuring, and the coming on stream of Astra production).

Based on the above assumptions, the following table - for the three plants in question - provides estimated productivity ranges for 1995, in comparison with 1992 and estimated 1989 levels.

Table 7.6: Productivity Forecasts for 1995 in Comparison with Actual 1992 and Estimated 1989 Levels

(Hours per car)

	1989	1992	1995
FSM (Z1)	92	129.8	78-104
FSM (Z2)	-[a]	61.1	49-52
FSO	101	154.4	77-154

Note: [a] The Z2 1989 figure has been left out because the plant was completely overhauled for Cinquecento production - consequently, a direct comparison is not possible.

The above forecasts for 1995 reveal that a pessimistic scenario points to productivity levels for Z1 and FSO plants remaining below their 1989 levels, and equal to, or marginally better than 1992 levels. Contrariwise, an optimistic scenario shows productivity improving substantially upon 1989 and 1992 levels. The forecast for Z2 shows significant improvements - approaching average NIC 1989 levels, but still considerably inferior to world best standards.

7.3. 'Sub-Determinants' of Plant Productivity

7.3.1. Work Organisation

7.3.1.(i) Work Teams.

None of the enterprises have 'work teams', i.e., formal groups of workers rotating jobs and holding regular meetings to discuss work-related issues - although FSM, Jelcz, Lublin, and Sanok have work groups which meet regularly. This can be compared to the major manufacturing regions (as per cent of workforce in teams) as follows:-

Table 7.7: Percentage of Workforce in Work Teams: Poland in Comparison with International Averages

Japanese in Japan	Japanese in N. America	Americans in N. America	All West European	Poland
69.3	71.3	17.3	0.6	0

7.3.1.(ii) Job Rotation

Table 7.8: Job Rotation Policies of Polish Enterprises

FSM	FSO	JELCZ	LUBLIN	POZNAN	SANOK	STAR	NYSA
1	1.5	0	1	-	1	1.5	0

Notation: 0=No job rotation;

1=Workers capable of doing other jobs, but generally do not do so;

2=Workers frequently rotate jobs within their group;

3=Workers frequently rotate jobs within and across groups;

4=Workers rotate jobs across departments.

In the main, workers are hired and trained to do one particular job, with minimal job rotation.[9] Some job rotation does occur, but usually this is in response to high absenteeism

[9] The hiring criteria was, prior to 1989, not strict for production workers (although the converse applied to supervisors and engineering staff) - a reflection of the relative labour shortages in combination with low levels

rates, rather than a conscious decision to build the skills base of individual workers. Resistance to job rotation stems from the rigidity of work organisation under the plan system when it was thought disruptive to the smooth flow of work. Given the present situation of substantial shrinkage in the workforce and market-oriented production, this view is gradually being relaxed, but nonetheless remains prevalent. *There is at present no programme to introduce work teams and adopt job rotation policies at any of the enterprises.*

Figures for the international motor industry are given in the following table:-

Table 7.9: Job Rotation Policies: Poland in Comparison with International Averages

Japanese in Japan	Japanese in N. America	Americans in N. America	All West European	Poland
3	2.7	0.9	1.9	0.9

The Polish industry closely resembles the American producers in North America - in accordance with 'classical mass-production' and in stark contrast to the Japanese system of frequent job rotation, multiskilling, and consequently, a high degree of labour flexibility.

7.3.1.(iii) Suggestion Schemes

The table below provides suggestion scheme submission numbers and rates:-

Table 7.10: Suggestion Scheme: Submission Numbers and Rates of Acceptance in 1991

	FSM	FSO	JELCZ	LUBLIN	POZNAN	SANOK	STAR	NYSA
Suggestions /employee	0.03	0.04	-	0.08	n/a[a]	no scheme	n/a	0.02
Total	592	442	10	120	n/a	no scheme	n/a	32
Accepted	341	309	2	60	n/a	-	n/a	18
% accepted	57.6	69.9	20	50	-	-	-	56

Notes: [a] n/a: Question Not Answered

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of skills required. At the time of survey there was a process of labour shedding - consequently, no or insubstantial, hiring was being undertaken.

Suggestions per employee per year for the international motor industry is shown below.

Table 7.11: International Suggestion Scheme Averages

Japanese in Japan	Japanese in N. America	Americans in N. America	All West European	Poland
61.6	1.4	0.4	0.4	0.04

The submission rate is minuscule in comparison with the phenomenally (albeit artificially - as noted in ch. 4) high figures for the Japanese OEMs , and only ten per cent of the American and European rates. This can be attributed to the low priority management attaches to gaining operational information from workers (most clearly demonstrated by Sanok's refusal in setting up a suggestion scheme altogether); the low importance given to constantly implementing minor changes and innovations; and the lack of enthusiasm on the part of the workforce to partake in the scheme - probably a corollary to the widespread low morale pervading Polish industry. In sum, poor incentives restrict the effectiveness of the suggestion schemes. *This suggests that the changed incentive structure brought about by the reform programme has not fully permeated down to the plant workforce.*

Paradoxically, the overall acceptance rate at 61% is high. This indicates that enterprises find suggestions submitted worthwhile and cost-saving, which from the management's point of view indicates that suggestion schemes are worth rigorously developing . This is reinforced by the experience of Starachowice - the only enterprise to volunteer information on the costs and savings of its suggestion scheme (although ironically they did not provide a breakdown of numbers submitted and accepted).

Table 7.12: Starachowice Suggestion Scheme: Costs and Savings (in mn. zls)

	1989	1991	1992 (Jan - July)

Cost	3	136	49
Savings	15	1238	677
% saved	500	910	1382

7.3.1.(iv) Quality and Quality Circles

There are a number of ways of improving quality - by use of higher grade raw materials; by use of more sophisticated, accurate equipment, invariably involving increased automation and robotics; and by changing work organisation. It was shown in chapter 4 that 'quality circles' and 'self-inspection' have greatly contributed to the unprecedented levels of quality achieved by the Japanese OEMs. Enterprises were asked whether these latter two aspects of work organisation had been introduced. The results revealed that only two enterprises have installed quality circles - but in insignificant numbers: FSM has two groups in its Sosnowiec plant (50 employees in total), whilst Jelcz has 5 groups (30 employees in total). Quality is very much the prerogative of dedicated quality control staff, but there is some indication that given the recognition of quality circles as an important determinant of raising quality levels/minimising rectification, and the influence of Western partners, who themselves are gradually implementing them, adoption of quality circle programmes can be expected. But there is as yet no indication of self-inspection being introduced.

This suggests that, on the one hand, contact with Western OEMs is bringing about *knowledge* of current work practices, but, on the other, has not led to any systematic effort (surprisingly, not even in FSM (Z2)) for their rapid implementation. The relatively short time-period under consideration offers a partial explanation for this. Another explanation is

that West European and American OEMs themselves have only in the past few years attempted to earnestly introduce these into their domestic operations.

As the data received on quality (defect rates) were very patchy, it is not possible to make a direct comparison with international levels. But it is manifestly the case that, with the exception of FSM (Z2), quality levels are extremely low. There are a number of factors to account for this:[10] a) outdated equipment: in the form of inadequate tooling and presses, low levels of automation, deficiencies in the paint process, and poor material handling; b) inefficient design of parts (i.e., poor manufacturability); c) supplier-related problems, giving rise to poor quality of parts and materials (see section on suppliers); d) weak quality control system, stemming from inadequate procedures and lack of testing equipment; e) poor plant layout - resulting in additional material handling problems.

With respect to FSM (Z2) however, *overall quality levels are high, and comparable to leading competitors.* This favourable judgement is based on road tests conducted for the magazine *What Car?*.[11] These revealed the following comparisons with similar Western passenger cars: the *Citroen AX Debut* and *Seat Marbella Special.*

Table 7.13: Price and Various Ratings of Cinquecento, Citroen Debut and Seat Marbella

	Citroen Debut	Cinquecento 900	Seat Marbella
Price	£5795	£5000 (est.)	£4295
Performance	3	1	1
Driver Appeal	3	2	1
Comfort and Refinement	4	3	1
Safety and Security	2	1	1
Running Costs	4	4	4
Quality and Build	3	2	1

[10] This relies on interviews with enterprises together with the findings of WK & AM International Management and Engineering Consultants (Maidstone, Kent; Dion Valmont, Belgium), 1990. The survey was conducted by WK & AM in October/November 1989, and July 1990, and produced as two reports in 1990. My thanks to them and the British Council for providing me with the data.

[11] *What Car?*, June 1993, pp. 74-77.

Space and Versatility	3	2	2
Verdict	**4**	**3**	**1**

Notes: Ratings and Verdict Marks are based on a maximum of 5.

Source: *What Car?*, June 1993, p. 77.

The assessment of the Cinquecento is given as follows:-

'...overall refinement is surprisingly good for such a small car, both in terms of ride, comfort and noise...In particular, the standard of interior trim is good, the seats the best shaped of this trio by far and, with the optional electrics pack, it's very well equipped'.[12]

So, despite relatively low productivity levels, as seen in 7.2.3., the Cinquecento has proved to be a worthy competitor in Western markets.

7.3.1.(v) Job Classifications

Average number of job classifications for production workers are as follows:-

Table 7.14: Number of Job Classifications in Polish Enterprises for Production Workers

FSM	FSO	JELCZ	LUBLIN	POZNAN	SANOK	STAR	NYSA
50	75	33	132	n/a	31	40	13

The unweighted average for the Polish plants is 53. Comparable international figures are:-

Table 7.14: Poland in Comparison to International Job Classification Averages

Japanese in Japan	Japanese in N. America	Americans in N. America	All West European	Poland
11.9	8.7	67.1	14.8	53

The high Polish average (although if the possibly erroneous figure for Lublin is excluded, along with the rather low figure for Nysa, the average falls to 45), explains why there is

[12] Ibid., p. 76.

generally no job rotation - as with the case of the North American industry. However in one respect, this is surprising. The structure of management-labour relations under the command system was in one crucial respect similar to the Japanese, i.e., the unions were very much part of an enterprise's organisational hierarchy, not as independent entities as in the case of their West European counterparts. From this, one might have expected a greater degree of labour flexibility, and hence fewer job classes.

But the explanation for why this is not the case stems from the differences in management strategy - whereas the Japanese companies were engaged in headlong competition in the international motor market, and so were anxious to extract maximum comparative advantage in all aspects of motor manufacturing, the Polish enterprises were predominantly concerned with fulfilling plan targets - in other words, the existence of a closed, captive market obviated the need for high labour flexibility: on the contrary, as noted in 7.3.2 (ii) above, labour 'immobility' was thought superior as it was assumed to be non-disruptive to production. A further point to note is the high variation amongst enterprises. This indicates that when it came to detailed organisational matters, the centre (in the form of the planning ministries) did not unduly interfere, allowing management to exercise its otherwise restricted prerogative, within the strict guidelines set out for input of resources and quantity of output.

7.3.1.(vi) Training of Production Workers

A key element of effective enterprise restructuring is the training/retraining of the workforce for new jobs, using more advanced production methods, equipment and technology. Thus, a good sign of the restructuring process is if training and retraining is conducted on a systematic and extensive basis. The results of the survey however do not

provide much evidence for this, as can be gleaned from the following table, showing total average training hours given to each new production worker in the first six months :-

Table 7.15: Average Training Hours Devoted to Production Workers in First Six Months

FSM	FSO	JELCZ	LUBLIN	POZNAN	SANOK	STAR	NYSA
24[a]	11	130	11	8	No formal	2	4

Note: [a] Average of Z1 and Z2.

Except in the case of Nysa (where three hours are off-the-job), all training hours are on-the-job. Although on-the-job training is the standard, and indeed crucial method, for instilling the requisite skills for production jobs, on its own, it has the drawback of failing to provide the workforce with wider knowledge of plant operations - which is obviously best explained off-the-job. Lack of off-the-job training can have an adverse impact on quality consciousness and hence contribute to problems further down the production line.

Only Jelcz's training hours approximate to Western levels (at 130, they are 75% of average West European levels). Most surprising is the relatively low average of FSM. Even assuming that the bulk of training is attributable to the Z2 plant (taking its average to approximately 40 hours), this is considerably below West European levels, although it does approach the unusually low North American figures. Comparisons with international averages are as follows:-

Table 7.16: Poland in Comparison with International Averages of Production Worker Training Hours in First Six Months

Japanese in Japan	Japanese in N. America	Americans in N. America	All West European	Poland
380.3	370	46.4	173.3	27

The Polish average of 27 hours (this excludes Sanok) is derisory in comparison with Japanese and European averages, and considerably below the already low American figures. If

the comparatively high Jelcz figure is excluded, and Sanok ascribed as zero hours, the average plummets to a mere 7.5 hours.

The level of training provided to experienced production workers is, on average, even lower - with Sanok and Star not providing any formal training. The following table shows average annual training hours given to workers with at least twelve months work experience.

Table 7.17: Average Annual Training Hours Devoted to Production Workers with at least 12 Months Work Experience

FSM[a]	FSO	JELCZ	LUBLIN	POZNAN	SANOK	STAR	NYSA
21	10	16	11	n/a	0	0	4

Notes: [a] Average of Z1 and Z2

The generally low figures for both new and experienced workers clearly reflects the lack of importance attached to formal training. *As such, this suggests that there has been no major restructuring of work practices at the plant level.* However, a change was detected. Asked to list the most important training topics, quality came out top in the majority of enterprises, (particularly in those enterprises which had negotiated, or were in the process of negotiating, agreements with Western OEMs) - reflecting a strong desire to increase both skills and technology, as a prerequisite to improving competitiveness. But this was not translated into the development of substantive training programmes as a means of attaining these goals.

7.3.1.(vii) Absenteeism Rate

There are two major reasons for the significance of absenteeism rates. First, a persistently high absenteeism rate requires additional personnel as a cushion (i.e., a higher 'ROR' figure), and can therefore add substantially to semi-fixed costs. Second, large

fluctuations in the absentee rate have a disruptive effect on plant production, and consequently are highly problematic for sound production planning.

Total absenteeism rates (in %) for Polish enterprises is shown below:-

Table 7.18: Total Absenteeism Percentage Rates for June 1992

FSM	FSO	JELCZ	LUBLIN	POZNAN	SANOK	STAR	NYSA
17.5	18	13.5	22.8	n/a	21.1	22.5	17.5

Total weighted average is 18.5%, whilst for the two passenger car enterprises, it is 17.7%.

Comparable figures for the international industry are:-

Table 7.19: International Total Absenteeism Rates

Japanese in Japan	Japanese in N. America	Americans in N. America	All West European	Poland
5	4.8	11.7	12.1	18.5

The Polish figures are significantly higher than American (by 58%) and European (by 53%), and more than 300 % higher than the Japanese. Four explanations for these high rates can be postulated:-

i. As with the case of suggestion schemes, low morale and lack of enthusiasm is undoubtedly a critical factor in the poor attendance figures;

ii. The high degree of overmanning implies that relatively high absenteeism rates do not have an unduly disruptive effect on the productive process, i.e., on the 'RTO' figures (this was an important reason for 'labour hoarding' in the past) because they have become tolerated and absorbed in manpower planning. A culture of high absenteeism rates has consequently become the norm.

iii. This follows from the second factor: there is lack of peer pressure to consistently attend work - in marked contrast to Japan - (although there is no evidence to suggest that peer pressure is a significant factor in the European and American industries);

iv. Although there is no hard evidence for this, one can conjecture that relatively low break times may constitute a disincentive to attend work. Production workers in particular may seek to reduce fatigue by registering relatively high absentee rates - outweighing the disincentive of loss of earnings (on occasional days) for non-attendance. The table below shows the total break times for production workers.

Table 7.20: Total Break Periods (in minutes per day).

FSM	FSO	JELCZ	LUBLIN	POZNAN	SANOK	STAR	NYSA
15	15	33	25	n/a	45	45	15

Overall, these are low by Western standards (where break times are, on average, between 60-75 minutes), although there is considerable fluctuation (15-45 minutes). The figures however immediately indicate an anomaly with the above conjecture: Star, which (along with Sanok) provides the highest break period, also registers the second highest absenteeism rate. Thus firm conclusions cannot be drawn as to the precise impact of the factors listed.

Assuming that the absenteeism rate is an indicator of worker attitudes, broadly dependent upon the incentive structure, it consequently points to the relative worker commitment to the enterprise (and obliquely, to the overall reform process). The evidence of still very high rates by international standards surprisingly suggests, as in the case of suggestion schemes noted in section iv. above, that *worker commitment has not, in this respect, experienced a significant change.* But it needs mentioning that the rapid increase in

unemployment, and overall job insecurity pervading the industry, may, in the medium to long run, alter this situation so as to ultimately provoke better attendance figures.

7.3.1.(viii) Production-Related Tasks

These activities are commonly undertaken by Japanese workers, and which companies in Europe and North America also wish their workers to perform as part of their normal duties. This constitutes a significant part of the 'multiskilling' of production workers, i.e., the undertaking of tasks which directly impinge on line jobs. Although basic, these jobs do require substantial on-the-job and off-the-job training. Examples include machine set-up, maintenance (both preventative and minor repair work), and self-inspection of parts - tasks which had hitherto been undertaken by skilled tradesmen, quality control or engineering staff. The advantage to companies is obvious: to minimise the use of higher costing dedicated, specialised staff, and the minimisation of potential down-time. Given the lack of buffer stock in the Just-in-time system, any down-time is extremely costly.

The following table provides a breakdown of the major production-related tasks, apart from actual assembly work itself, between various employee categories. It is especially beneficial in highlighting the extent of non-line work undertaken by production workers.

Table 7.21: Breakdown of Key Production-Related Tasks

	FSM	FSO	JELCZ	LUBLIN	POZNAN	SANOK	STAR	NYSA
Machine set-up	ST	ST	ST	ST/FLS	ST	ST	ST	n/a
Basic maintenance	ST	ST	PW	PW/ST	ST	PW	ST	n/a
Inspection of parts	QCS	QCS	QCS	QCS/FLS/ ST	QCS/FLS/ ES	QCS/FLS/ ES	QCS	n/a

Statistical process Control	QCS	QCS	QCS	QCS/ES	QCS/FLS/ ES	QCS/FLS/ ES	QCS	n/a

Abbreviations: PW: Production Workers; ST: Skilled Trades; QCS: Quality Control Staff; FLS: First-line Supervisor; ES: Engineering Staff.

By and large, production workers do not undertake non-line activities. This, in combination with minimal job rotation, demonstrates the much narrower scope of production jobs. The only non-line work undertaken by any of the enterprises is basic maintenance work at Jelcz, Lublin (alongside skilled tradesmen) and Sanok. Consequently, there is considerable reliance on specialist staff. No quality work is undertaken by production workers - this being predominantly the preserve of quality control staff

7.3.1.(ix) Line Stoppage

Unscheduled line stoppage is permitted in all plants, although only at FSM and Sanok are production workers authorised to stop the line. Generally this is the responsibility of production managers and supervisors, as can be seen from the following table:-

Table 7.22: Authority Levels for Unscheduled Line Stoppage

FSM	FSO	JELCZ	LUBLIN	POZNAN	SANOK	STAR	NYSA
All	PM	FLS/PM	FLS	PM	PW/FLS	FLS	n/a

Abbreviations: PM: Production Manager; FLS: First Line Supervisor; PW: Production Worker.

Thus, in all the other plants, where a defective part is discovered, a loss of time will ensue until authorisation to stop the line is given by the appropriate authority. This can have a disruptive effect further down the line.

Details of stoppages were not available, but all enterprises indicated that line stoppages are not an unusual occurrence. One piece of evidence is obtained from the WK & AM report on FSO. This found the stoppage time at the final assembly stage to be 35%[13] - an extraordinarily high rate - caused principally by supplier-related problems (see 7.3.3. on suppliers). The financial impact of line stoppage is extremely high - the CPRS report on the British motor industry estimated that a one hour interruption to production in an eight hour shift reduces profitability by at least 40% - an indication of the very high fixed cost base of motor plants.[14]

7.3.1.(x) Operational Decision-Making

Historically, just as the enterprise decision-making process has been extremely bureaucratic, so it has been with those concerning plant-level decisions. Authorisation for several day-to-day operational decisions has rested in the upper echelons of the management hierarchy. This stifled initiative, unnecessarily prolonged the communication chain, and delayed the resolution of problems, with the consequence of considerably adding to X-inefficiency. The situation two and a half years after the economic transformation programme has not altered the basic divisions of decision-making, which remain strongly 'top-down'. During its negotiations with FSO, GM did stipulate that it required a change in the decision-making structure - one where more emphasis was based on horizontal links, with a degree of devolving of authority to lower levels. But at the time of the survey, the new proposals had yet to be agreed and implemented - with FSO having one of the most hierarchical decision-making structures. This can be seen from the table below which shows

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[13] Ibid.
[14] See Central Policy Review Staff, *The Future of the British Motor Industry,* HMSO, London, 1975, p. 24.

the authority level for a wide range of operational decisions, including staffing requirements, promotion of production workers, overtime requirements, and training methods.

Table 7.23: Plant Decision-Making Authority Levels for a Variety of Operations

FSM	FSO	JELCZ	LUBLIN	POZNAN	SANOK	STAR	NYSA
DH/PD	DH	FLS	FLS-PD	n/a	DH	MM	n/a

Abbreviations: DH: Department Head; PD: Plant Director; MM: Middle Manager; FLS: First Line Supervisor.

Only at Jelcz and Lublin are first line supervisors involved in the decision-making process - for the remainder, authority lies with middle management, department head, and the plant director. Thus the authority chain remains long, hence time consuming, and potentially costly for the resolution of problems.

7.3.2. Manufacturing Capabilities

Technological capability refers to the summation of knowledge - theoretical and technical - and those resources necessary for the functioning of plants/firms/industries and countries.[15] The relative strength of technological and therefore *manufacturing* capability determines the relative efficiency of the entity in question, and its capacity to compete in a market-oriented environment. This section will examine those capabilities relevant for efficient motor manufacturing, and, where possible, provide comparisons with international levels.

7.3.2.(i) Capital Intensity and Automation

The rise of mass-production techniques associated with the motor vehicle industry has witnessed an increasing use of capital equipment, which in turn has led to increased automation of the productive process. Consequently, the use of advanced technology and

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[15] See S. Lall, *Building Industrial Competitiveness in Developing Countries*, OECD, 1990, for a country-analysis of technological capability.

equipment implies a saving of labour - hence a rise in labour productivity. In general therefore, the higher the capital intensity, the higher the *potential* productivity. It is therefore worthwhile examining capital intensity levels (i.e. capital stock per employee) of Polish plants in comparison with international levels. Unfortunately, owing to lack of data and problems of capital valuation, this is not satisfactorily possible. However, as a proxy, *levels of automation* can be ascertained, although even here, as will be seen, data obtained is not entirely satisfactory.

This sub-section therefore examines and compares the level of automation in the three areas of assembly - welding, paintshop, and final assembly: here, a direct comparison with international levels is only valid for the passenger car sector, so only FSM and FSO are considered.

7.3.2.(i)(a) Welding

Table 7.24: Automated Welding Operations (in per cent)

	Robots	'Hard'[a]	Total
FSM (Z1)	0	10	10
FSM (Z2)	15 (est.)[b]	60	75
FSO	5	52	57

Note: [a] This is all non-robotic automation.

[b] This estimate is based on there being 70 robots in Z2's body plant.

Total weighted average for FSM and FSO equals 56%. This can be compared to international figures :-

Table 7.25: Automated Welding Operations: Poland Versus International Averages (in per cent)

Japanese in Japan	Japanese in N. America	Americans in N. America	All West European	Poland

86.2	85	76.2	76.6	56

The very high proportion of manual welding operations provides graphic illustration of FSM (Z1's) outdatedness. Conversely, the automation rate at Z2 approaches West European levels - this suggests that for the body plant at least, Fiat has invested in close to state-of-the-art technology. FSO's automation rate of 57%, although substantially below best international averages, indicates that its body plant is not obsolete, i.e., it is a reflection of some modernisation of the Polonez model.

7.3.2.(i)(b) Paintshop

Table 7.26: Automated Paintshop Operations (in per cent)

	Primer	Interior	Top coat	Joint-sealer
FSM, Z1	10	n/a	80	n/a
FSM, Z2	80	n/a	80	n/a
FSO	80	50	80	0

Unfortunately as the data is complete, an overall automation rate cannot be ascertained. International paintshop automation rates are as follows:-

Table 7.27: International Averages for Paintshop Automation (in per cent)

Japanese in Japan	Japanese in N. America	Americans in N. America	All West European
54.6	40.7	33.6	38.2

7.3.2.(i)(c) Final Assembly

Automation rates for final assembly are as follows:-

FSM (Z1): 0%

FSM (Z2): 0%

FSO: 5% (?)

The 5% for FSO is almost certainly an error - as is clear when compared to the much lower international averages given below (it is more likely to be 0.5%). Z2's absence of automation is probably an expression of Fiat's use of the law of comparative advantage - and agreement to maintain acceptable (i.e., to trade unions) manning levels. These two factors, in this instance, coincide, i.e., a preference for low-cost labour over relatively high-cost capital-intensive automation. Thus, the absence of automation for this process does not necessarily imply a shortfall in cost competitiveness, although it may deflate productivity. This is because, in direct contrast to welding, final assembly is the most labour-intensive aspect of motor manufacturing. Thus increased automation is, at most, only marginal, as can be seen by the average of 3.1% for the most highly automated final assembly plants of Western Europe.

Table 7.28: International Averages for Final Assembly Automation (in per cent)

Japanese in Japan	Japanese in N. America	Americans in N. America	All West European	Poland
1.7	1.1	1.2	3.1	0.1

Owing to lack of data, an overall automation rate cannot be evaluated, but Poland's average would probably be in the order of 10% - similar to the NIC average of 9%. International overall automation rates are shown in the table below.

Table 7.29: Overall Automation Rates (in per cent): Poland versus International Averages

Japanese in Japan	Japanese in N. America	Americans in N. America	All West European	NICs	Poland
39	35	30	27	9	10 (est.)

Source: Womack *et al.*, fig. 4.9, p. 95.

If we assume Poland and NIC rates to be similar, it is clear that the large variation between their productivities (as seen in 7.2.) are determined by other factors.

On average, it is estimated that automation accounts for approximately one-third of total productivity differences between plants, i.e., there is a negative correlation between automation and work effort.[16] But this does not necessarily imply that the more automated plants will be more productive. Other factors, notably 'manufacturability' (design effectiveness leading to ease of assembly) and plant organisation[17], which account for the bulk of the remaining differential, may outweigh the gains from automation.[18] Hence, at each given level of automation, Japanese plants tend to be more productive than equivalent American and European counterparts (and invariably more efficient than plants with even greater levels of automation), owing to their superior manufacturability and organisation. This is paricularly an important finding for those Polish enterprises unable to conduct thoroughgoing modernisation because of lack of finance. It confirms the fact of *plant reorganisation, in and of itself, being an important determinant of productivity gains.*[19]

7.3.2.(ii) Specialist Capabilities

Table 7.30: Specialist Capability of Polish OEMs

	FSM	FSO	JELCZ	LUBLIN	POZNAN	SANOK	STAR	NYSA
Development of QC Methods	PS	PS	PS/OC	PES/M&E	n/a	PS	Dept. closed	n/a

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[16] Ibid., p. 94. Although an extensive survey of Japanese and UK components manufacturers showed that automation only accounted for approximately 10% of productivity differences. See 'The Lean Enterprise Benchmarking Project', Anderson Consulting, London, 1993, p. 4.

[17] This to include all the sub-determinants listed in 7.3.

[18] This is in accordance with other empirical research which has shown that equivalent inputs/technologies frequently give rise to different levels of output and productivity. See for example, re textile industry, H. Pack, *Productivity, Technology, and Industrial Development, A Case Study in Textiles*, Oxford University Press, Published for the World Bank, 1987.

[19] This is corroborated by the McKinsey Global Institute report on productivity. This found that average capital intensity of US assembly plants was actually 4% *higher* in comparison with Japanese plants, but the latter's productivity was, on average, 16% higher. Obviously, a certain minimum degree of capital intensity is essential for efficient production - but at levels close to those existing in leading OEMs, other determinants - such as plant organisation - seem to take priority. McKinsey Global Institute, *Manufacturing Productivity*, section on Auto Assembly Plants (1987 figures), p. 9, Washington, DC, 1993.

Setting of Production Standards & Methods.	PS	PS	PS/OC	PS/M&E	n/a	PES	PS/M&E	n/a
Programming Robots & Automation	OC/PS	PES/OC	PS/OC	PS/OC/M &E	n/a	PES	Dept. closed	n/a
Installation of New Equipment	PES	PS/M&E	PES	PS/M&E	n/a	PS	PS/ST/M& E	n/a
Technical Training	PS	PS/M&E	PES/OC	PS/M&E	n/a	PS/OC/M &E	Dept. closed	n/a

Abbreviations: PS: Plant Specialists; PES: Plant and Enterprise Specialists; M&E: Managers and Engineers (who also perform other duties); ST: Skilled Trades; OC: Outside Consultants.

The table above shows that there is overall a *high level of indigenous specialist capability across all plants*. This is also an expression of the general absence of market transactions, resulting in, as will be seen in section (iv), high levels of vertical integration. FSM and FSO possess the greatest technological know-how - an indication of their relative superiority over their CV counterparts. Outside specialists are predominantly used for automation and, and where applicable, robotics functions. These are predominantly former ministerial specialists; although in the case of FSM (Z2), they are Italian (mainly Fiat) specialists. However, equipment and technology used is, excepting FSM (Z2), generally old and many years behind state-of-the-art ; thus the Polish motor industry's specialist capability is a reflection of its previous autarkic structure, and weakest in precisely those areas - high-tech/automation etc. - where rapid advances have been made in the international industry, from which it has been isolated.

The situation at Starachowice is truly bleak with the closure of certain key specialist departments - this clearly indicates that it can no longer sustain itself as a competitive going concern without major external assistance. (See 7.6. for a discussion of Star's future prospects).

7.3.2.(iii) Local Content

The stipulation for steadily increasing, and ultimately high, local content levels was an important policy amongst many NICs in their negotiations with the major OEMs, post-World War 2. It was thought that high local content levels were essential for the creation of an independent, viable, motor vehicle industry.[20] The reason for this insistence was, as noted in 4.1., that the establishment of an automotive sector leads to the accruing of other benefits - most importantly, the development of related industries (components - including electronics, steel, glass, plastics, electrical, services etc.), and with this, the creation of a substantial number of high productivity jobs, and the modernisation and expansion of the economy as a whole. The usefulness of ascertaining local content levels, therefore, is that this provides a broad indicator of determining overall manufacturing capability. This is done by calculating the proportion of value-added conducted domestically, in comparison with that of imports. But it needs emphasising that local content levels *per se* do not provide an indicator of relative efficiency and competitiveness.

Unfortunately, as value-added figures are not readily available, the enterprises were asked to provide a cost-breakdown of the percentages of raw materials and components purchased locally and abroad. But this has the drawback of excluding import content in those components purchased locally. Nonetheless, the table below, even allowing for a certain (indeterminate) margin of error which underrepresents imports, highlights the very high domestic motor vehicle capability, particularly with respect to commercial vehicle production, which is almost entirely locally produced.

Table 7.31: Local Content Levels (in per cent)

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[20] For the classic example of the Latin American industry, see R. Jenkins, *Transnational Corporations and the Latin American Automobile Industry*, Macmillan, Basingstoke, 1987, p.58 ff.

%	FSM- Z1	FSM-Z2	FSQ	JELCZ	LUBLIN	POZNAN	SANOK	STAR.	NYSA
LOCAL CONTENT	80	39	92	78	100	80	N/A	100	99
IMPORTS	20	61	8	22	0	20	N/A	0	1

The sales-weighted average for all OEMs is 84% local content and 16% imports; excluding Z2 production, local content rises to 96%. This indicates that the technological transfer of the 1960s has been completely absorbed, and for the industry to advance, *reductions* in local content will be necessary in the short-term, as more advanced technology and components are imported. With the exception of Z2, there has been no switching to foreign suppliers - the bulk of parts are sourced domestically. Z2's imports are almost entirely from Fiat or Italian suppliers. Local content for the Cinquecento is however expected to rise significantly (to over 70%) under Fiat's agreement with FSM, as technology transfer is gradually implemented. This is akin to the gradual rise in local content levels of Japanese transplants in North America and Britain.

7.3.2.(iv) Vertical Integration

The table below shows the percentage of total vehicle manufacturing operations conducted by the enterprises (including subsidiaries - although Nysa is treated here as a distinct enterprise) and the percentage undertaken by other (i.e. external and foreign) suppliers:-

Table 7.32: Vertical Integration Levels (in per cent)

	FSM[a]	FSO	JELCZ	LUBLIN	POZNAN	SANOK	STAR	NYSA	Average PC sector	Average CV sector

Enterprise	60	50	70	n/a	40	48	75	30	56	61
External	40	50	30	n/a	60	52	25	70	44	39

Note: [a] Average of Z1 and Z2 (this includes Fiat-produced parts).

Average (sales weighted) *passenger car sector vertical integration (VI) is 56%,* whilst that of *CVs and buses is 61%.* International figures for some leading PC and CV OEMs are given in the table below. These exclude OEM's majority-holding components divisions:-

Table 7.33: Vertical Integration Levels of Leading OEMs - Home Country Production 1986-87 (value added, divided by total sales value of end product, in per cent).

Passenger Car OEMs	Vertical integration (in per cent)[c]	Commercial Vehicle OEMs	Vertical integration (in per cent)
Ford[a]	40	Daimler Benz	49
G.M.[b]	45	RVI	46
Volkswagen	48	MAN	42
Toyota	32	Iveco Fiat	38
Nissan	30	Nissan Diesel	24
Mazda	23	Hino	22

Notes: [a] Estimate; [b] This is almost certainly an error. The correct figure is approximately 70% - the figure given in both Womack *et al.* and the McKinsey Global Institute report; [c] If components divisions are included, the vertical integration figures for Ford (Europe), GM (Europe) and VW are 55%, 65% and 60% respectively. These figures are from the Motor Industry Research Unit, Norwich, internal data.

Source: J. Wormald, 'Manufacturer Integration and Supplier Relationships', *European Motor Business*, EIU, London, May 1989, p. 145.

For both sectors, VI figures are high. This confirms a characteristic of command economy enterprises noted in chapters 2 and 5. High integration stems from production of many of the major components by the OEMs. Comparisons with leading OEMs provide contrasting reading. With respect to the PC sector, the level of VI is similar to leading European OEMs, when their components divisions are included; but in regard to the CV sector, Polish VI figures are substantially higher - although here it is not possible to make a direct comparison as levels of VI for Western CV OEMs including components divisions are

not available. (Note that the figures for Japanese companies are artificially low as these do not take account of the many minority share-holdings with suppliers, where considerable operational control is exercised - see 4.8.).

7.3.3. Supplier Relationship

It was noted in 4.8. how the nature of the relationship between OEMs and their suppliers was a key determinant both of OEM plant and supplier productivity. Because a substantial proportion of total value added is produced by suppliers, their effect on OEMs is highly significant - having a direct impact on inspection and rework costs, and on the ultimate quality of the final product. Consequently, the type of relationship is of crucial importance. This section examines the nature of OEM-supplier relationship prevailing in Poland.

The table below provides data of OEMs and their suppliers (including suppliers which are part of the enterprise):-

Table 7.34: Various Data on Suppliers

OEM	Total Suppliers	Suppliers for Final Assembly	% (by Value) by one supplier	Price-determination[a]		Contract Period	
				Pre-1989	Post-1989	Pre-1989	Post-1989
FSM	260	n/a	Generally two Suppliers/part	n/a	FSM sets prices	5 yrs	No limit
FSO	500	165	95	Mutually Determined	Mutually Determined	5 yrs	1 yr
JELCZ	400	245	20	Mutual & Suppliers	Suppliers[b]	5 yrs	3-12 mths
LUBLIN	275	200	90	Mutually Determined	Mutually determined	5 yrs	1 yr
POZNAN	400	345	n/a	Mutually Determined	Mutually Determined	3 yrs	3 mths approx.
SANOK	155	135	n/a	Suppliers	Suppliers	1 yr.	1 yr
STAR.	220	130	90	Mutually Determined	Suppliers	5 yrs	1 yr

NYSA	147	100	n/a	Mutually determined	Suppliers	5 yrs	1 yr

Notes: [a] These are overall generalisations; [b] 'Suppliers' refers to prices being predominantly set by suppliers - particularly monopolists such as those listed below.

7.3.3.(i) Supplier Concentration

Given the legacy of the system of ministerial autarky, the components sector is rather undeveloped - there are only 76 suppliers dedicated to motor vehicle production (i.e. motor vehicle components comprise the bulk of their output) and many of these are subsidiaries of OEMs. (Thus FSO, for example, has 16 subsidiaries, whilst FSM had 11 prior to its take-over by Fiat). Cross-supply by subsidiaries and in-house manufacturers to other OEMs is common. The independent sector comprises 28 suppliers - details of these are provided in the table below. As can be seen, some produce for both the passenger and commercial vehicle sectors. Whereas in the major motor vehicle producing economies, the supplier sector is larger than the OEM sector, in Poland, the reverse is the case. There is therefore an extremely high degree of concentration in certain key sections of the components sector, and it is within these that the threat of monopoly practices is greatest. But it is also the case that the uncertain domestic market has put considerable pressure on even these suppliers to seek export markets - resulting in further pressure to improve quality and productivity.[21]

Table 7.35: List of Independent Component Suppliers

	Supplier	Approx. no. of Employees	Sales (1991) bn. zls.	Parts Produced
1	ZEM Swidnica	2700	285	Alternators/Starter Motors for Pcs & Cvs
2	ZEM Duszniki	550	65 (est.)	Motors/Fans/Pressings, Complete Wipe/Wash Systems for Pcs & Cvs
3	ZEM Zelmot	920	144	Ignition Coils/Distributors/Headlights
4	ZEM Kwidzyn	408	54	Lamps (Interior and Rear)
5	ZEM Rzeszow	374	38	Plastic Mouldings

[21] A point stressed in *Privatisation Update*, No. 2, November 1992, Ministry of Privatisation, Warsaw.

6	ZEM Elk	982	73 (1990)	Conductor Clusters & Rear Lamps
7	FWS Lomianki	467	76	Switches & Metal Products
8	FMS Szeczin	1278	174	Steering Gear, Drive Shafts, Steering Shafts for PCs & CVs
9	FPS Tczew	1136	102	Gear Boxes For Heavy & Medium Trucks
10	ZSM Brodnica	850	90 (est.)	Exhausts, Filter Castings and Assemblies
11	Polmo Praszka	1500	401	Pneumatic Brakes, Pumps & Springs
12	FSS Lodz	1480	167	Carburettors, Fuel Pumps and Compressors
13	FAP Krosno	2150	276	Shock Absorbers, Gas Springs, Steering Rods for PCs & CVs
14	ZSM Kalisz	439	39	Pedals, Heat Exchangers
15	ZSM Ursus	n/a	n/a	Engines (for Kielce & Poznan)
16	WSM Gorzyce	n/a	n/a	Pistons
17	WSM Krotoszyn	n/a	n/a	Cylinder Liners
18	WLS Bimet	635	68	Shell Bearings
19	WS Sedziszow	1646	119	Fillers
20	ZSM Gorlice	335	19	Compressors & Receivers
21	WSW Audoria	2650	298	Engines
22	WSK Mielec	n/a	n/a	Engines
23	PZL Hydral	n/a	n/a	N/A
24	FOC Marki	700	84	Brake & Clutch Linings & Pads
25	FPT Lodz	580	n/a	Piston Rings
26	Mera Pafal, Swidnica	2200	274	Instrument Panels
27	Morpak Gdansk	300	40 (est.)	Head Gaskets and Seals
28	ZSM Ostrow Wkp	n/a	80	Radiators

Source: *Privatisation Update,* No. 2, November 1992, Ministry of Privatisation, Warsaw, and Pol-Mot, Warsaw.

Given the few independent suppliers, and high local content levels, the bulk of parts are sourced from only one or two suppliers. Data on the percentage of parts supplied by just one supplier was patchy - with three of the enterprises not providing data. FSO, Lublin and Star do have a policy of just one supplier per major (category 'A') part - which is a legacy of the plan system. Jelcz's figure of only 20% parts-value supplied by one supplier is surprisingly low, and is perhaps explained by its policy of having two suppliers per part (where possible) - which is precisely what FSM advocates.

7.3.3.(ii) Price-Determination

A comparison between the prevailing methods of price-determination and the one prior to 1989 reveals some difference. Overall, whereas pre-1989, prices were mutually negotiated, since 1989, the balance of power has shifted somewhat to the suppliers, as can be seen by the responses of Jelcz, Sanok, Star and Nysa which show suppliers setting prices. This however is an overall response - for in many instances - prices are also negotiated. In some respects, this is surprising in view of the dependence of suppliers on OEMs. But this is an indication of suppliers attempting to set market-clearing (profit-maximising) prices - which in some cases are monopoly prices. In general, prices are mutually negotiated - although FSM's response indicates its monopsonistic power and ability to dominate its suppliers; a situation comparable to the major Western OEMs. One difference is the time period for contracts with suppliers. Whereas before it was generally five years (to tie in with 5-year plans), current practice is to negotiate for a period of 3-12 months. The much shorter period is largely to take account of rapid inflation in Poland, but it also reflects the independence of the negotiating parties - it particularly sends a signal to suppliers that contracts are not guaranteed for an indefinite period; that renewal depends on acceptable fulfilment of existing ones. But this threat is largely without substance, at least in the short run, in regard to monopolists.

In spite of a gradual move away from material balances to price negotiation, the components market is highly incomplete, and the nascent price-mechanism, being distorted by monopolistic pressures, is prone to extensive failures; a situation exacerbated by the fact (as seen in the section on local content) that the great majority of parts and materials remain sourced within Poland, thereby greatly precluding external competition.

7.3.3.(iii) Cooperation

It was seen in 4.8. that the supplier relationship in Japan was characterised by close cooperation between the OEM and 'first tier' supplier, and also by a high degree of inter-supplier cooperation. Suppliers gained from productivity improvements through absorbing skills and know-how, and by implementing manufacturing techniques developed by the OEMs. As a corollary to the Just-in-time system, first tier suppliers closely cooperate with OEMs for the manufacture of larger parts - from the design stage to product development and assembly - with the aim of improving manufacturability and productivity, and ultimately decreasing unit costs. A similar process of cooperation and shared responsibility is evident for first tier and (smaller) second tier suppliers. The efficacy of this system has been widely recognised by all the leading OEMs and suppliers - who in turn are attempting to copy the essential features of this model. It is therefore manifestly the case that the Polish enterprises must attempt to adopt this model too, as an important element in improving quality and productivity.

Pre-1989, under the system of ministerial autarky, close cooperation was confined to the OEMs and their subsidiaries - their generally close proximity to each other assisted this process. With respect to independent suppliers, the relationship was of an arms length nature - this was superficially tantamount to the tiered structure prevailing in Japan - though in reality there was a considerable difference. The greatest concern in Poland was with the achievement of plan targets - consequently attention to costs and productivity was not deemed to be of much importance (in marked contrast to the OEM/supplier nexus in the West). Moreover, stress on productivity was curtailed, owing to the system of plan bargaining and taut planning.

The table below details the nature and level of cooperation between enterprises and their suppliers, including the resolution of problems.

Table 7.36: Enterprise Cooperation with Suppliers

	Degree Of Cooperation With Suppliers	Inter-supplier cooperation	Problem Resolution
FSM	n/a	Seldom	D, T, R
FSO	No Formal Cooperation/Exchange Of Information	Do not know	D, T, R
JELCZ	Discuss PD	Substantial	D, T, R
LUBLIN	Discuss Design, PD, Provide Engineers.	Substantial	D, T, R
POZNAN	No Formal	n/a	D, T, R
SANOK	Exchange Of Info. Post-Contract	n/a	D, T, R
STAR.	Discuss Design, No Longer Provide Assistance	Majority Cooperate With Each Other	D, T, R
NYSA	Discuss PD, Provide Technical Assistance.	10-15 Cooperate	D, T, R

Abbreviations: PD: Product Development; D: Discuss Problems with Suppliers, T: Threaten to Replace supplier; R: Replace Supplier.

The responses indicate a large variation. Thus, FSO and Poznan have no systematic programme of cooperating with their suppliers; conversely, Lublin and Nysa have extensive links - which include product design, product development and in Nysa's case, provision of technical assistance. (It is of course anomalous that Nysa, a subsidiary of FSO behaves in an opposite manner, an explanation resting with the high degree of autonomy afforded to it).

Owing to lack of data, it is not possible to establish the impact of lack of supplier cooperation on key variables such as quality and certainty of supply. But strong evidence is available for FSO which corroborates a causal linkage. In their survey of sections of FSO's Zeran plant, WK & AM Consultants deduced that 83% of time lost in the engine plant stemmed from supplier-related problems, particularly from uncertain and inconsistent supply; and faulty parts accounted for 66% of reworked cars in the final assembly area.[22] *It is indubitable that had FSO adopted a policy of constructive cooperation with its suppliers, and*

[22] WK & AM, op. cit.

a willingness to provide technical assistance, the downtime and rework rates would have been significantly lower.

Responses in regard to inter-supplier cooperation also show a large variation amongst enterprises. However, there must be doubts about the extent of Jelcz, Lublin and Starachowice's replies of 'substantial' cooperation, as no supporting data are provided - although one can reasonably assume that a degree of inter-supplier cooperation does exist for the manufacture of major parts and sub-assemblies.

Overall, for both assembler-supplier and inter-supplier cooperation, the extent of cooperation appears to be *ad hoc* rather than systematic, more akin to those which previously existed in North America and Western Europe, rather than the extremely close links of Japanese OEMs and suppliers. Furthermore, Polish enterprises have poor control over their suppliers, which is exacerbated by poor communication links and information technology. The pressure therefore to maintain prevailing levels of integration is great, thereby delaying the desired process of deintegration and demonopolisation. The low levels of cooperation with respect to the design of parts must have a negative impact on manufacturability - which ultimately registers itself in the extraordinarily high levels of reject rates. Clearly, the OEMs have not appreciated the benefits of devolving the parts design function to suppliers as a method of incremental improvements. Without responsibility for design, there is little incentive for suppliers to undertake systematic minor innovations - i.e., simplification of the productive process, utilising less labour and materials. Consequently, the opportunities for productivity improvements and cost reductions are not grasped over the life time of products.

Supply uncertainty and poor quality of parts was an all-pervasive feature of manufacturing enterprises pre-1989. *It is evident that the initial impact of market reforms has*

not fundamentally altered this. The loose nature of the OEM-supplier relationship must clearly have an adverse impact on quality and delivery levels, as is borne out by high cost, poor quality levels and unreliable delivery.[23]

7.3.4. Inventory System

The table provides details of average operating stock levels in days, and frequency of delivery to line, for a selection of parts for each enterprise.

Table 7.37: Inventory Control System

	SEATS		WHEELS		W.H		S.W.		TYRES		I.C.		H/LTS		ICS		BATTS	
	ST.	**DEL**	ST.	**DEL**	ST.	**DEL**	ST	**DEL**	ST	**DEL**	ST	**DEL**	ST	**DEL**	ST	**DEL**	ST	**DEL**
FSM	5	**1**	10	**2**	10	**5**	10	**5**	10	**n/a**	8	**5**	6	**5**	6	**2**	10	**2**
FSO	5	**1**	5	**1**	7	**2**	4	**2**	10	**1**	4	**2**	4	**2**	4	**2**	5	**2**
JEL	25	**4**	20	**4**	25	**5**	30	**5**	20	**n/a**	25	**5**	30	**5**	20	**5**	30	**5**
LUB	62	**4**	350	**4**	62	**4**	50	**4**	350	**4**	150	**5**	180	**5**	30	**5**	80	**4**
POZ	4	**5**	15	**3**	15	**5**	15	**5**	15	**5**	15	**5**	15	**5**	4	**5**	15	**3**
SAN	25	**2**	25	**2**	25	**5**	25	**5**	25	**2**	25	**5**	25	**5**	25	**3**	25	**3**
STA	n/a	**n/a**	n/a	**n/a**	n/a	**n/a**	n/a	**n/a**	n/a	**n/a**	n/a	**n/a**	n/a	**n/a**	n/a	**n/a**	n/a	**n/a**
NYS	25	**3**	100	**4**	25	**2**	25	**2**	n/a	**n/a**	25	**2**	25	**2**	25	**2**	25	**4**

Abbreviations: WH: Wire harnesses; SW: Steering wheels; IC: Instrument clusters; H/Lts: Head lights; ICS: Interior carpet sets; Batts: Batteries; ST: Average stock level in days; DEL: Frequency of delivery to line.

Notation (to 'DEL' columns): 1=hourly; 2=two to four times per shift; 3=once a shift; 4=once a day; 5=less than once a day.

None of the enterprises operate a Just-in -time inventory system. All are aware of it, but purely as a method of reducing inventories, rather than as a mechanism for improving quality, reducing waste, or exposing slack in the system. *None of the enterprises are*

[23] The crucial finding in ibid.

considering implementing JIT, although, in view of close proximity of many their suppliers, they are actually well suited to do so. Thus, with respect to what is currently, in terms of improving competitiveness, a highly important practice in motor manufacturing, changes to the inventory control system have been unanimously rejected. An explanation as to why this may be so is considered below.

The two passenger car enterprises carry substantially lower relative stock levels than their commercial vehicle counterparts - an expression of their much greater output. Nonetheless, their stock levels are considerably higher than international averages as can be seen from the following table of average plant stock levels in days:-

Table 7.38: Average Stock Levels: FSM & FSO versus International Averages

Japanese	Japanese in N. America	Americans in N. America	All West European	FSM & FSO
0.2	1.6	2.9	2	6.8

Whereas the Japanese, operating under the most advanced JIT techniques, only carry stock for *hours*, the Polish plants hold more than a week's supply.

Average figures for the CV sector are as follows - including comparable figures for Volvo:- [24]

Table 7.39: Average Stock Levels for CV Sector

Jelcz	Lublin	Poznan	Sanok	Star	Nysa	Ave.	VOLVO
25	146	14	25	n/a	41	50.2	20

Most striking is the extraordinarily high figure for Lublin - whose stock levels for all the sample parts are more than a month, and in the case of tyres and wheels, *over a year*. With

[24] Volvo data is from questionnaire sent to Volvo Bus manufacturing plant, Workington, U.K., in February 1992.

respect to the latter however, it should be noted that Lublin is the sole manufacturer of all tyres and wheels in Poland - thus it is probably the case that a substantial proportion of the stock is for other plants. Excluding Lublin, average stock levels for the remaining enterprises falls to 26.3 days - not unduly greater than Volvo's 20 days.

The rate of delivery of parts to the production line is another expression of the level of stock prevailing in the plant. Thus, the greater the frequency of delivery, the lower the existence of buffer stock, and *vice versa.* The 'delivery to line' rate is quicker for the two passenger car OEMs - given the much greater volume of vehicles they produce, this is to be expected. On average, FSO's delivery schedule of 2 (between 1-4 hours) is high and approximates to western (though not Japanese) levels. FSM operates much greater line-side stock and consequently half the sample parts are delivered less than once a day.

The rate for the CV sector is appreciably slower, in accordance with its slower build rate. Jelcz's and Poznan's overall average is approximately 5 (i.e., less than once a day), Lublin's and Sanok's is 4 (once a day), and Nysa's is 3 (once a shift). These rates however are not unduly slow, and can be contrasted with Volvo bus plant's average of 5.

If the JIT system is "inventoryless" production, then the Polish enterprises have a policy of surplus inventory production, akin to that found under classical mass production. To the writer's knowledge, no systematic method of applying Economic Order Quantity formulae is adopted by any of the enterprises to dictate stock-holding levels (see 4.6. on EOQ). But the relatively high stock levels may not necessarily contravene EOQ requirements for least-cost stockholding. This is because, *under conditions of hyper and rapid inflation*, as experienced in Poland, it becomes *cost-effective to hold extraordinarily large stocks at old prices.* Thus savings on purchase price outweigh considerations of increased inventory-holding costs; this

being conditioned by the degree and cost of interenterprise credit given to the manufacturer by its suppliers. One could therefore assert that in the current Polish context, hoarding for reasons of supply uncertainty has been partially replaced by hoarding to reduce purchase costs. *This in turn has precluded any attempt at the introduction of the JIT production system*

7.3.5. Management-Labour Relations

It was emphasised in 4.5. that an unquantifiable, yet crucial aspect to the success of the Japanese motor vehicle industry is the manner in which management-labour relationships are conducted. Just as close cooperation between OEMs and suppliers has been seen to be a productivity and competition-enhancing factor, so it is the case with management-labour cooperation. Notwithstanding the fact of there being specific historical factors to explain the inception of this model, it is one which all the leading international OEMs are assiduously attempting to emulate. It was noted how in Japan, the underlying endurance of this model rested with the remarkable success of the Japanese industry, which allowed significant benefits to be passed on to the OEM workforce; notably the policy of guaranteed lifetime employment.[25] Without this vital incentive, serious doubts exist as to whether this model can be implemented in its totality. On the contrary, the drive to shed labour makes the offering of even medium-term job contracts highly improbable. Nonetheless, close management-labour cooperation remains an important factor in minimising disruption to production, and consequently to the prevention of productivity deterioration.

Prior to 1989, enterprise and plant level negotiations were conducted between management, the official trade union and the works council. The influence of works councils

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[25] Although one needs to take note of the fact that this policy is beginning to wither as the Japanese OEMs face the pressure of declining demand and pressure on profitability.

has however since waned, with many enterprises disbanding them altogether. (This is particularly so for enterprises which have been "commercialised" - such as FSM prior to its take-over by Fiat - for a key requirement of commercialisation of state-owned enterprises is the abolition of works councils).[26] Negotiations now take place predominantly between management and unions.[27] The following table shows the key areas covered for pre- and post-1989 :-

Table 7.40: Nature of Management-Labour relations: pre-1989 versus Post-1989

	FSM		FSO		Jelcz		Lublin		Poznan		Sanok		Star		Nysa	
General Work Conditions	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Job Allocation	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Hiring/Dismissal	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Pay	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Investment decisions	N	N	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N

Notation: Y= Yes; N= No. The first letter in the box refers to pre-1989; the second to post-1989. Changes began in 1989, the year the Solidarity government was elected - hence the use of pre-1989, rather than pre-1990.

The most striking aspect to these findings is that *there appears to have been no change whatsoever for any of the enterprises since 1989. Prima facie,* this is difficult to reconcile with the substantial changes which have taken place since the implementation of the

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[26] Pinto *et al.* believe that the removal of works councils would simplify decision-making for management. Evidence from this survey, however, suggests that the prior responsibilities of works councils have now come under the domain of the trade unions. In any case, the greater simplification stems from the removal of ministerial control rather than less works council involvement - the managerial prerogative over enterprise decision-making has in consequence increased. See B. Pinto, M . Belka, S. Krajewski, 'Transforming State Enterprises in Poland: Evidence on Adjustment by Manufacturing Firms', *Brookings Papers on Economic Activity,* 1: 1993, p. 239.

[27] Note that where works councils are still in existence, they still retain the right to elect the enterprise director.

reform programme. But a rational explanation would suggest that it is not the nature of negotiations which has changed, but their *extent*. As works councils have been gradually disbanded and ministerial 'interference' largely removed, the influence of trade unions has increased concomitantly. But reality has changed in one fundamental way: the 'Solidarity' union has been legalised, whilst the former 'official' union no longer exists. Thus the trade unions are now completely independent bodies. This indicates a movement towards the North American and European model, and firmly away from the Japanese model with whom there had been a close resemblance. A surprising finding, given the increased role of independent unions, is that none of the enterprises show negotiations on job allocation - thus management has retained sole authority for shop floor allocation of work. This would suggest the existence of high labour flexibility; but as has already been seen (in 7.3.1. ii. and iv.), Polish enterprises have not implemented systematic job rotation policies and have a large number of job classifications. Consequently labour flexibility remains low.

Apart from FSO, investment decisions are not discussed - being confined to confidential discussions between management and prospective partners, in combination with consultations with the government.[28] FSO's willingness to discuss investment decisions probably stems from the very strong nature of the unions in Warsaw, together with their current belief of considering themselves to be equal partners with management with respect to decisions concerning the long term future of the enterprise.

Management of each enterprise was asked about the nature of its relationship with the trade unions in comparison with that of pre-1989. The following options were provided:-

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[28] These findings are clearly at variance with Pinto *et al.'s* argument that Polish state enterprises are under the direction of workers councils which 'clear all important strategic and even operating decisions'. Pinto *et. al.*, ibid., p. 215.

Relations, overall, are A) better; B) about the same; and C) worse. They were also asked a question about trade union influence. The following three options were provided:-

Trade union influence is X) 'too much' ; Y) 'about right' and Z) 'too low'. The following table summarises the responses:-

Table 7.41: Enterprise Management View of Trade Union Influence

FSM	FSO	Jelcz	Lublin	Poznan	Sanok	Star	Nysa
n/a	A/X	A/Y	n/a	B/Y	A/Y	B/Y	B/Y

Only FSO management took the view of trade unions having too much influence: the remainder believing it to be about right. But surprisingly, FSO, along with Jelcz, and Sanok, believed that relationship with the unions had improved: the remaining respondents viewing it to be the same. Importantly, none of the enterprises considered relations to have worsened. A key explanation for this is the legalisation of the two Solidarity unions,[29] in combination with greater management autonomy, following the removal of the previous regime.

The Trade Unions were also asked their views of aspects of the post-reform situation. The overall response rate however was not good, making it difficult to make accurate generalisations. The table below provides a summary of responses received to four questions:-

- On the Role of Trade Unions (Too Little, About Right, and Too Great);
- On Commonality of Interest Between Management and Unions (Yes, Partial, No);
- On Preference of Ownership Structure (Privatised, State-Owned, Part Privatised and Part State-Owned);

[29] There is also a smaller, splinter Solidarity union, called Solidarity 80.

- On Foreign Investment (Strongly Approve, Approve, Don't Approve, Strongly Disapprove)

Table 7.42: Trade Unions' View of Management-Labour Relations, Ownership Structure and Foreign Investment

Union	Role of Unions	Commonality of interest		Ownership Structure	Foreign Investment
		Pre-1989	Post-1989		
OPZZ FSM	Too great	Yes	Yes	P	Approve
Solidarity FSO	Too little	Yes	Yes	P/S	Strongly Approve
Solidarity 80 FSO	Too little	No	Yes	n/a	Approve
OPZZ FSO	Too little	Partial	Yes	P/S	Approve
Solidarity Jelcz	About right	n/a	Yes	P	Strongly Approve
Solidarity Lublin	Too little	n/a	No	S	Strongly Approve
Solidarity Sanok	About right	No	No	P/S	n/a
OPZZ Sanok	Too little	Yes	Yes	P	Strongly Approve
Solidarity Nysa	Too little	-	Yes	S	Approve

Abbreviations: P: Privatised; S: State-owned; P/S: Part Privatised and Part State-owned.

Clearly some of the findings are very surprising: OPZZ FSM's view of the role of the unions being 'too great', (note that the OPZZ is the offshoot of the old official union, hence is more favourable to the pre-1989 situation); Solidarity FSO's believing there was a commonality of interest pre-1989 (when it was proscribed), and Solidarity Lublin and Solidarity Sanok seeing no commonality of interest, in contradistinction to all the others.

The majority of unions consider their influence to be too low, but all but two recognised a commonality of interest between themselves and management. The latter suggests that the overall relationship ought to improve - ultimately leading to relatively few disruptions in production. But the reality - with respect to industrial relations - has been rather different. FSM's refusal to answer these questions stems from its dispute with all the unions at the time of interview (August 1992) - which resulted in a seven-week strike that completely halted Cinquecento production, severely damaging sales, productivity and profits. This fact,

along with numerous disputes (some also resulting in major strikes) at the other enterprises, suggests that one needs to be cautious about the responses concerning the nature of prevailing relations.

With respect to ownership structure, the response is mixed. Three favour complete privatisation; three partial privatisation; whilst two prefer retaining state ownership. There is therefore no generalised hostility to privatisation - the crucial factor for all unions is the preservation of jobs and living standards of their members.

On the question of foreign investment, there is remarkable uniformity: all approve (3) or strongly approve (4) of it - including the two unions opposed to privatisation. The reason for favouring foreign investment was made clear: to enable the acquisition of modern technology, which was thought essential for enhancing competitiveness. This strongly suggests that all the unions were fully cognisant of the removal of the soft budget constraint. Consequently they were in favour of the technology route to achieving competitive enhancement, with the proviso that jobs be preserved.[30]

Although management-labour relations at the 'micro' level are an important determinant of overall competitiveness, the current Polish situation is one where other, 'macro' factors (i.e., demand, rate of inflation, level of real wages, threat of unemployment), determine their true nature. Thus, changes in these factors can lead to dramatic changes in management-labour relations, and so override the stated views of both management and unions. This is precisely what has occurred in the Polish motor vehicle industry. Consequently, the purportedly positive outlook indicated by both management and unions gives a false impression. Friction remains - frequently leading to industrial stoppages - with a concomitant

[30] OPZZ FSO provided the most comprehensive list of conditions for their acceptance of foreign investment: guarantees of new technology, jobs, increased safety, improved hygiene, and environment protection.

deleterious impact on output. This gives rise to negative feedback on other variables, such as changes in work organisation, that management would like to implement.

7.3.6. Summary

The results of the survey reveal that in its essentials, the Polish motor industry, two and a half years after the introduction of the reform programme, displays all the competition-reducing and cost-raising characteristics associated with 'classical mass production', but to a much greater degree: high Indirect to Direct ratio; high inventory levels; high reject rate on the line, hence high levels of rectification requiring large rework areas; production of highly standardised vehicles, offering few variants; inadequate training; low levels of capital and labour flexibility; low levels of automation; arms-length relationships with suppliers; and poor quality control procedures and poor overall quality. Although vertical integration levels are high, this is not the case for horizontal integration. Domestic content levels were, until recently, extremely high. There is therefore considerable indigenous manufacturing capability, but this is essentially for obsolete models. Management-labour relations, purportedly better, are prone to tension, and on occasion, break down - under the frequently contradictory pressures of restructuring, and job preservation and wage parity.

With the notable exception of FSM (Z2), the *industry remains some fifteen to twenty years behind state-of-the-art practice.* In sum, the *shock therapy reforms have not yet induced any systematic restructuring leading to improved efficiencies.* Rather, and again excepting FSM (Z2), *all OEMs' performance has deteriorated since 1989.*

7.4. Cost Penalties from Sub-MES and Sub-Capacity Production

The industry has hitherto been highly dependent on the domestic market, which has exposed it in relation to the uncertainty surrounding the economy: uncertainty stemming from indecision and lack of uniformity in macroeconomic policy; currency instability; strong inflationary pressures; erosion of real disposable income, and external shocks such as the collapse in CMEA trade. All of these have contributed to demand contraction. Although the industry (and the market) is the second largest in eastern Europe, it is small by world standards - consequently it does not utilise all scale economies, and as a result, incurs cost penalties from plants operating at sub-minimum efficient scale (MES) levels . The steep drop in output and capacity utilisation - which Fuss and Waverman argue is one of the most important factors in short run cost efficiency differences[31] - since 1989 has further accentuated cost penalties. The following discussion provides estimates of cost penalties from sub-optimal scales and sub-optimal capacity utilisation.

The table below gives cost penalty estimates for the three passenger car assembly plants, for sub-MES production, i.e., the increase in unit costs a plant will incur at full capacity.

Table 7.43: Cost Penalties from Sub-MES Production (in %) for FSM and FSO (1992)

	FSM (Z1)	FSM (Z2)	FSO
Capacity	70,000	160,000	120,000
% MES[a]	28	64	48
Cost penalty[b]	20	6	10

Notes: [a] MES taken to be 250,000 units per annum;

[b] Estimated from table of cost penalties from inefficient scale in L. Waverman and S. Murphy, 'Total Factor Productivity in Automobile Production in Argentina, Mexico, Korea, and Canada: the Impacts of Protection', p. 295, in G. K. Helleiner, *Trade Policy, Industrialisation and Development,* Clarendon, Oxford, 1990. Note that, as pointed out in 4.3., Waverman and Murphy's cost penalties are based on an erroneous assembly MES of 400,000. Thus there will be some inconsistency in the cost penalty figures - which will approximate to *total* production cost penalties, stemming from sub-MES production at all the upstream processes.

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[31] Op. cit., p. xii.

Only FSM (Z2)'s capacity output approaches the requisite for minimum efficient scale of production for assembly, whilst the other two plants suffer from a severe loss of scale economies. In 1991, all enterprises complained of liquidity shortage, as they struggled to cover overheads - a key indicator of cost penalties associated with lack of scale economies. With respect to the commercial vehicle sector, the following table provides cost-penalties from sub-MES production.

Table 7.44: Unit Production Cost Penalties from Sub-MES Capacity for CV Enterprises (1992)[a]

	Jelcz	Lublin	Poznan	Sanok	Star	Nysa
Annual Capacity (000s)	8.2	22	5.5	3.2	12	15
% MES	8.2	22	5.5	3.2	12	15
Production Cost Penalty (%)[b]	35	22	41	44	30	29

[a] MES assumed to be 100,000 p.a. - see note b.

[b] Cost penalties determined from G. Rhys, 'Heavy Commercial Vehicles: a Decade of Change', *National Westminster Bank Quarterly Review,* August 1984, table iii, p 27. Note that Rhys' estimates are based on medium and heavy CVs, whereas the output of Lublin, Poznan and Nysa is light C.V. There will therefore be some inconsistency. As estimates for the LCV sector are not available, an alternative would have been to use passenger car MES for LCVs, but this would also be inconsistent. Rhys' estimates of unit production and unit assembly cost penalties, at various levels of production, are as follows (capacity in 000s and per cent cost penalty:-

Units p.a.	1,000	10,000	25,000	50,000	100,000	200,000
Production Cost Penalty per unit	50%	32%	20%	10%	0%	-15%
Assembly Cost Penalty per unit	40%	20%	12%	6%	0%	-3%

Polish CV enterprises are medium/small-sized in comparison with major international OEMs. As a comparison, the table below provides output levels of various-sized manufacturers producing medium-sized trucks (>6.0 tonnes gross vehicle weight) and buses, and cost penalties from sub-MES production.

Table 7.45: Company Sizes and Cost Penalties from sub-MES Production for MCV Sector (1978-80)

Firm Size	Manufacturer	Output p.a.	Cost penalty (%)

Large	Daimler Benz	150,000	-10
	Iveco	80,000	2
Medium	Renault	40,000	14
	Hino	36,000	15
	Volvo	30,000	18
Small-medium	DAF	15,000	25
Small	Sonacome	6,000	40
	ERF	3,000	45

Source: As for table 7.44, table iv, p. 29.

None of the Polish CV enterprises' maximum capacity is anywhere near the MES level - consequently, all incur punitive cost penalties (22-44%) in comparison with the market leaders.

The following table provides the cost penalties for all the plants from sub-optimal capacity utilisation - these are incremental to those from inefficient scale. Here it is assumed that the CV enterprises incur the same penalties as the passenger car sector.

Table 7.46: Cost Penalties from Sub-Capacity Utilisation (in %)[a]

Year	FSM		FSO		Jelcz		Lublin		Poznan		Sanok		Star		Nysa	
	CP	CU.	CP	CU	CP	CU	CP	CU	CP	CU	CP	CU	CP	CU	CP	CU
1989	**0**	98	**2**	83	**1**	90	**7**	58	**2**	82	**0**	100	**2**	79	**0**	97
1990	**1**	91	**2**	78	**8**	56	**25**	36	**2**	82	**25**	31	**9**	50	**2**	85
1991	**7**	61	**24**	33	**28**	26	**12**	45	**12**	45	**32**	25	**40**	20	**20**	36
1992	**31**[b]	63	**6**	65	**90**	12	**9**	51	-	-	**38**	22	**88**	13	**20**	35

Notes: CP: Cost penalty; CU: Capacity Utilisation (Figures from table 5.9).

[a] For the FSM (Z2) plant, the cost penalty is calculated from Waverman and Murphy (see table 7.43 above), p. 296; W & M calculate cost penalties for Canadian plants, which are highly capital-intensive, with modern equipment. The relatively modern Z2 plant is assumed to be of this type, hence incurs similar cost penalties for sub-capacity production. For the remaining enterprises, figures are based on Jenkins' estimates of cost penalties of Mexican plants - possessing older, relatively non-automatic equipment for lower volumes of output, similar to those of Polish plants.[32] It is clear that cost penalties will be greater for the former type in comparison with the latter. See R. Jenkins, *Transnational Corporations and the Latin American Automobile Industry*, Macmillan, Basingstoke, 1987, p. 115.

[b] FSM (Z1) cost penalty for 1992 was 1%; whilst FSM (Z2)'s was 47%; the figure given is the weighted average.

[32] Cost penalties extrapolated from Jenkins are as follows (capacity and penalty in %): 100/0; 90/1; 80/2; 70/4; 60/7; 50/10; 40/16; 30/25; 20/40; 10/100.

Despite lower levels of penalties associated with the older plants, the penalties for the CV plants are significant for Lublin and Nysa; high for Sanok, and astonishingly high for Jelcz and Star. The table below shows the cost penalties, from dislocation in capacity utilisation since 1989, have arisen earlier and been greater for the CV sector, as can seen by the averages for the two sectors:-

Table 7.47: Cost Penalties from Sub-Capacity Utilisation: CV versus PC sectors

	1989	1990	1991	1992
PC sector	1	1	13	22
CV Sector	2	12	24	41

Cost penalties for both sectors increase rapidly, as underutilisation increases. The 1992 penalty for the PC sector is accentuated by underutilisation of the relatively capital-intensive FSM (Z2) plant, where cost penalties are deemed to be higher. Of the possible factors contributing to steep fall in capacity utilisation (demand, 'manufacturability', quality of parts, level of equipment, work organisation), it is indubitable that demand decline has had the greatest impact, for there has been no significant change (excepting FSM Z2) in the other factors. This therefore provides further evidence of the demand barrier thesis analysed in 3.4.4.

Total cost penalties arising from sub-optimal production can now be estimated as simply the sum of sub-MES and sub-capacity penalties, as shown in table 7.48.

Table 7.48: Total Cost Penalties from Sub-Optimal Production (1992)

FSM (Z1)	FSM (Z2)	FSO	Jelcz	Lublin	Poznan	Sanok	Star	Nysa
21	53	16	125	31	-	82	118	49

Excluding the artificially high figure for FSM (Z2), total average cost penalty for the CV sector is considerably higher than that for the PC sector. This provides a partial explanation for its relative lack of success in negotiating substantial contracts with leading Western OEMs. But in any case, in regard to the crucial West European export market, the question of cost penalties is, in the short term, irrelevant: Polish CVs are simply precluded from being sold in this market on environmental grounds. Costs are more important in East European and developing country markets, but here, owing to the poor price/quality index of Polish vehicles (and indeed of most East European motor products), there exists a strong preference for second-hand Western vehicles.

The autarkic nature of the industry has resulted in suppliers also being highly reliant on the domestic market (or, in some cases, the East European market), thus also incurring scale disadvantage, cost penalties, and loss of economies of scope. Hence, low scale production and sub-capacity utilisation are crucial factors in increasing production costs. To these can be added the very low productivity, which further increases unit costs. To some extent, the relatively low wage levels can offset this, but the experience of enterprises in 1991, when substantial losses were being incurred, indicates that these were not enough. With respect to convertible currency export markets, higher costs, in conjunction with the weak exchange rate, necessitated enterprises frequently selling below cost price in these markets; a problem compounded by the highly competitive nature of the mini and compact sectors in which Polish enterprises compete, where profit margins are low.

7.5. Labour Costs, Prices and Multinationals

The most important comparative advantage obtaining in Poland, *vis-à-vis* Western countries, is that of low labour costs. This constitutes perhaps the major factor for the ability of Poland to attract foreign multinationals to set up manufacturing operations - preferably via links (joint-ventures or majority shareholding), with domestic OEMs. In combination with other factors, noted in chapter 3 , 5.5., and this chapter, such as relatively strong levels of education and skills of the workforce, high degree of basic manufacturing capability, significant market size - with great potential for expansion, ample supplies of raw materials and energy, geographic location (on the border of Europe's largest economy), and a battery of government incentives, Poland has certainly the potential to become an attractive export base (perhaps in the manner of Mexico[33]), particularly for labour-intensive operations, for mainly PC production. (The relatively backward nature of the CV sector, and much more limited potential demand, are likely to hamper significant inward investment, despite all these potential advantages). The extent of gross labour cost advantage is shown in the following table of comparisons of a selection of east and West European countries.

Table 7.49: Labour Cost comparisons - Manufacturing Sector ($ per hour)

Bulgaria	0.63
Romania	1.0
Poland	1.40
Czech and Slovak Republics	1.55
Hungary	2.47
Spain	11.50
UK	12.50
Italy	14.70
France	16.25
east German Lander	17.50
Netherlands	19.80
Belgium	21.0
west German Lander	24.80

Source: DRI McGraw Hill; Morgan Stanley Research. Extracted from *Financial Times* 7/6/1993.

[33] The development of Mexico as an export base is discussed in Jenkins, op. cit.

In comparison with other east European countries, the Polish manufacturing sector's labour costs are approximately average - more than double Bulgaria's, but only 57% of Hungary's. But, all east European countries' costs are a small fraction of those obtaining in Western Europe. With respect to Poland, these are 5.6% of western Germany's; and 12.2% of Spain's. Clearly, this represents a highly significant comparative advantage.

However, low labour costs, although necessary for attracting FDI, are by no means sufficient: other factors can diminish and counteract this advantage - to the extent that *total costs* may be increased. These can be summarised as follows:-

i) *Low labour productivity* can dramatically raise *unit* labour costs. As seen in 7.2, the productivity of Polish OEMs is far below those of leading international manufacturers. The impact this has on unit costs is shown below for the three PC plants concerned. Here it is assumed that labour costs for all three plants are the 1993 Polish manufacturing average of $1.40 per hour, whilst that for Western Europe, the unweighted average of $17.20. This comparison is for illustrative purposes only - as precise averages are not available. The labour productivity for FSM (Z1) and FSO is their combined average.

Table 7.50: Labour Cost Per Unit Comparison

	Labour Costs per Hour ($)	Labour Cost Ratio (Poland=1)	Productivity (Hours per car)	Productivity Ratio (Poland =100)	**Labour Cost per Unit Ratio (Poland =100)**
West European	17.20		36		
FSM (Z1) and FSO	1.40	1:12	142	100:25	**100:300**
FSM (Z2)	1.40	1:12	61	100:59	**100:708**

The significance of incorporating productivity is revealed here: the labour cost advantage of Polish enterprises is markedly reduced. This is especially so with respect to FSM (Z1) and FSO (from 1: 12, to 1:3), owing to their much lower productivities. But, where productivity

levels are relatively high, as with FSM (Z2), the unit labour cost comparative advantage does not contract by the same degree (from 1:12 to 1:7).

ii) *Internally-controlled labour costs* of an enterprise on average account for only 14% per unit cost of a compact model. This is an estimate from the CPRS report of 1975[34] on the assumption of 45% vertical integration (VI) level. (Note that the latest figures will indicate an even lower percentage in view of the increasing capital-labour substitution over the past two decades). The basis of the 14% figure is as follows:-[35]

- Internally-Controlled Costs: 45%;
- Bought-out components and materials: 55%.

Breakdown of Internally-Controlled Costs:-

- Factory Overhead for Body and Assembly: 29%
- Body and Assembly *Labour*: 23%
- Powertrain *Labour*: 8%
- Factory Overhead for Powertrain production: 11%
- Advertising, Sales and Administration: 11%
- Engineering: 6%
- Others (Warranty, Freight and Tooling): 12%

On these estimates, labour costs account for 31% of internally-controlled costs; i.e., 14% of total costs. For Polish PC OEMs, the average level of VI is higher (at 56%), as seen in 7.3.2.iv. Assuming that the labour content requirements for production are the same as those obtaining in the UK in 1975, then so too will the internally-controlled labour cost component, i.e., 31%. At 56% VI, this translates to 17.4% of total unit costs - still a relatively small proportion. But, for multinationals investing in Poland, reliance on imports of parts and components from *high labour cost* regions will normally be great in the early stages of a

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[34] Central Policy Review Staff, *The Future of the British Car Industry*, HMSO, London, 1975, Chart 22, p. 75.
[35] Loc. cit.

project. Thus, from the viewpoint of maximising labour cost savings, what is therefore important is *local content* level, rather than VI. The example of Fiat's investment in FSM (Z2) showed this to be 39%, (in comparison with total FSM VI of 60% - see 7.3.2. iii and iv). Consequently, this has the effect of imposing a *stricter* limit to the potential extent of labour cost savings. In FSM (Z2's) case therefore, the Polish (i.e. low-cost) internally-controlled labour cost component declines to 12.1% for the first year of production. (This will of course rise as local content levels rise, and provided the labour cost differential between Poland and Italy holds, so too will the potential labour cost savings).

iii) *Transport and related costs of imports* will increase cost of parts and components that need to imported (usually from the investing multinational's home base). Their impact will however be reduced as local content levels rise.

iv) If investments are for *low volume production* - as is invariably the case at the early stages of an investment programme - this will lead to substantial loss of scale economies, thereby adding significantly to unit costs.

v) The necessity of substantial, ever-increasing amounts of flexible, *high tech equipment* for start-up - as we have seen, necessary for efficient, high quality production - further reduces advantages of low labour costs.

These factors explain why unit costs in non-technology frontier areas (TFAs) are frequently *in excess* of those prevailing in TFAs. For Eastern Europe, this is corroborated in a study by Hughes and Hare. They found that the 'domestic resource cost' ratio (i.e., the ratio of domestic value added to domestic resources for production - capital, labour, materials etc. - all valued at world market prices) for most Polish, Czech., and Hungarian industries was *in*

excess of unity.[36] For developing countries, the level of disparity can be illustrated by an example cited by Jones and Womack concerning the motor vehicle industry. Comparing the rapidly expanding South Korean motor industry with Japan's in 1979, they found that although labour costs in South Korea were just one seventh of Japan's ($1 per hour versus $7 per hour), the unit cost of the Korean Hyundai Pony was 73% *more* than the Japanese Toyota Corolla ($3,972 versus $2,300).[37] This also explains why (as noted in chapter 4) there has been no *generalised* transfer of the motor vehicle industry to low labour cost regions, and consequently of the failure of leading OEMs to undertake major investments outside TFAs.[38] Conversely, it also explains why the bulk of FDI by OEMs has, in recent years, been to motor manufacturing TFAs - most notably, the large investments undertaken by Japanese OEMs in the US and the UK.

But, despite the limited importance of low labour costs, major multinationals continue to express an interest in undertaking at least some investment in non-TFAs. Hill and Hay argue that there are two [related] reasons for investing in Eastern Europe, despite the initial potentially high costs (and uncertainty and risk): first, the prospect of future business expansion, and second, this constitutes a "defensive strategy" on the part of major investors, i.e., prevention of lost market opportunities to competitors.[39] With respect to the Polish motor industry, various types of FDI are in existence (actual, promised, or in the process of negotiation - see 7.6. for details), ranging from complete local manufacture (CLM) - involving

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[36] G. Hughes and P. Hare, 'Competitiveness and Industrial in Czechoslovakia, Hungary, and Poland, in *'The Path of Reform in Central and Eastern Europe', European Economy*, Special Edition No. 2, Commission of the European Communities, Brussels, 1991, Table 4, p. 95. Note that domestic resource costs in this study are calculated for the late 1980s, before the launch of reform programmes.

[37] D. Jones and J. Womack, 'Developing Countries and the Future of the Automobile Industry', in *World Development*, Vol. 13, No. 3, 1985, pp. 400-401.

[38] Systematic *relocation* of investment is not entirely feasible, even were it to be economically cost-effective, owing to the severe political opposition this strategy would generate.

[39] M.R. Hill and C.M. Hay, *Trade, Industrial Cooperation and Technology Transfer: Continuity and Change in a New Era of East-West Relations,* Avebury, Aldershot, 1993, p. 106.

the full gamut of motor manufacturing processes - to relatively small SKD or CKD assembly operations The major investment undertaken by Fiat is for CLM; the others are much smaller investments, predominantly being centred upon labour-intensive KD assembly operations (and primarily geared for small domestic market segments) - although Ford is opting for component specialisation (see 7.6.8.).

The experience of the negotiating stance of potential multinational investors is that they all demand strong protection and financial incentives. The argument is based on the premise that without such protection (i.e., quasi-guaranteed markets) and subsidies, unit costs, in the early stages, will be higher in comparison with CBU imports for the same, or similar, vehicles from a TFA base. The premise does have some validity, for this is precisely what has happened with PSA's joint venture with Lublin for the assembly of the Peugeot 405: Lublin assembled 405s are of a higher unit cost than imports of the same model from France. This has prompted PSA to stop exporting 405s to Poland, to eliminate direct competition.[40] (see 7.6.4). Thus, the advantages of low labour costs here have been more than counteracted by other factors. Nonetheless, once an FDI operation has been fully commissioned, the expectation is that unit costs will fall - and ultimately to below TFA levels. And key to this expectation is the ability to maximise the advantage emanating from low labour costs. This is precisely what GM aims to do, when it announced that FSO-produced Astras are expected to be 20% cheaper than imports from its German plants.[41] (But, given PSA's problem, this may be a somewhat optimistic forecast).

The situation with respect to models that have been long produced in Poland - the 126P and Polonez for the PC sector - is however one where, apparently, low labour costs do

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[40] Actual cost figures are unfortunately not available. Cited in *Gazeta Wyborcza,* 20/8/1993.
[41] Quoted in *Gazeta Wyborcza,* 1/12/1993.

contribute to substantially lower unit costs, despite the countervailing factors. The extent can be attributed to high local content levels - hence not only internally-controlled, but external costs too, remain low. Thus, for these models, this is the basis for their comparative advantage, both in Poland and export markets. Although unit cost comparisons are not available, the differences can be gauged by comparing, in regard to the domestic market, retail prices of these models in comparison with the *cheapest* (duty free) new Western model. These are as follows (prices for the Cinquecento are also given):-[42]

FSM 126P:	65m zls;
Cinquecento 704:	109m zls;
FSO Polonez:	111m zls;
Cinquecento 900:	133m zls;
Cheapest Western Import:	200m zls.

As can be seen, the price differences are very large. The Western import is over three times as expensive as the 126P, and 80% more than the Polonez. These comparisons do however present problems of size and quality. With respect to size, the comparison is only directly possible with the Polonez, as there are no Western imports of the 126P (very small size) type. If we then only make a comparison with the Polonez, there may arise the problem of quality. The higher quality (and this a quite valid assumption) of the Western import will express itself in a higher price - thus to make a valid "like-with-like" comparison, an adjustment (admittedly, very difficult to accurately evaluate) will need to be made - one which will see a narrowing of the price differential. But even allowing for this adjustment, the differential will remain large. It could however be argued that, in the post-1989 market, the

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[42] Prices are for late 1993. Figures given in *Gazeta Wyborcza,* 1/12/1993 and *Zycie Warszawy,* 7/12/1993.

retail price takes into account quality levels - so under this assumption, no adjustment will need to be made, and the original differential will hold.

Notwithstanding the problems of making direct comparisons, the significantly higher price (in absolute terms) of the cheapest new Western imports means that these are available to only those with high real incomes. As such, they do not (as yet) provide effective competition to Polish models. The retail price advantage of the domestically-produced PCs is therefore highly significant, and critical in a low-wage economy. It explains why these still retain a niche in the market for new vehicles (with the help of import controls against Western second hand PCs) - despite being, as is the case with the 126P and Polonez, obsolete. It also explains the potential cost advantage available to multinationals. It therefore follows that the maximisation of this advantage necessitates *CLM production*, at large scale and high local content levels; assuming that acceptable quality and delivery schedules can be attained. This strategy consequently requires, not only undertaking processes normally conducted by OEMs, but also of extending close control to the supplier network. The latter aspect requires a systematic upgrading and modernisation of the domestic suppliers (akin to the Japanese OEMs and their suppliers in the 1950s - as seen in chapter 4) - so that these produce parts at TFA (or at least acceptable) levels. In sum, this necessitates a very large scale investment.

This strategy has, of course, been adopted by Fiat with its take-over of FSM. The results, *prima facie*, seem to have borne success for Fiat. It was seen in 7.3.1.iv that in one export market (the UK), an independent survey found the price of the Cinquecento 900 to be competitive with similar-sized Western models. In the domestic market, the price difference between the Cinquecento 900 and the cheapest Western import of 50%, indicates an even greater degree of competitiveness. (The variance between export and domestic price

differentials *vis-à-vis* Western models can be accounted for by import controls in the export markets, shipping costs and, possibly, differences in profit 'mark-up'). As local content levels increase (they are scheduled to rise to 72% by the end of 1994), then, as already pointed out, so too will savings from low labour costs, and the potential for a greater price advantage will arise. This demonstrates that, with sufficient injection of investment and know-how, a strategy of CLM production can yield a viable comparative advantage in Poland.

In view of Fiat's example, the question arises as to why no other multinational has taken the "CLM route". On the contrary, as noted above, all other investors have opted for much smaller investments. There are probably two major explanations for this. First, the international recession has badly hit the motor vehicle sector. This has sharply curtailed demand - so that all leading OEMs have had to cut back production, leaving much spare capacity. In consequence, it is neither economically sensible (being cheaper to simply use up excess capacity), nor politically feasible (there will be tremendous opposition to switching production and thereby not fully utilising existing plants) to open new plants elsewhere. The second explanation relates to (with respect to the PC sector) "market crowding". Other OEMs recognise that competing with Fiat will be extremely difficult, for Fiat now dominates the segments for which there is most domestic demand, and for which a comparative advantage can be obtained for export production (i.e., basic mini and compact volume cars).[43] The risk therefore of entering the market at the CLM level is too great. Thus, the "first mover" advantage gained by Fiat has imposed a strict limit to the potential strategies open to other OEMs.

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[43] Fiat marqued models accounted for 52% of the new PC market in the first nine months of 1993 (42% FSM-produced and 10% from Fiat, Italy). This compares with 25% for FSO, 4.7% GM, and 3.6% Ford. See *European Motor Business*, 'Fiat's Expanding Production Base in Poland', 1st Quarter, 1994, figure 5.4, p. 63.

In sum, these two factors have precluded the "CLM route" to other multinationals. Consequently, this has meant for all, excepting Ford (see 7.6.8.), the setting up of minor assembly operations, with the view to, through low labour costs and considerable government incentives, extracting rents from niche markets. FSM's comparative advantage stems from a strategy that had been finalised *before* the instigation of the shock therapy programme, and one that has necessitated the granting (to Fiat) of an enormous array of extra-market incentives for its realisation - including, since 1991, substantial levels of protection - contrary to the aims of the programme. This is further considered in 7.7. on the role of government; whilst the next section closely examines the exact nature of multinational investments so far agreed, or in negotiation.

7.6. Future Prospects of the OEMs

Given the government's refusal (and constrained ability) to allocate substantial investment funds, the large level of indebtedness of the OEMs, and their inability to raise sufficient capital from both home and abroad, one can firmly assert that none of the OEMs will survive in the long term without significant agreements with leading multinationals. It is therefore appropriate to briefly survey each enterprise's efforts in this endeavour, and outline prospects for the future.[44] Comments concerning the components sector are also made.

7.6.1. FSM

[44] My thanks to Z. Sitnicki and J. Hubert of Pol-Mot, Warsaw, for advice on this section. Conclusions drawn are mine alone. Details cited are taken from translations of various Polish publications, provided by the *Polish News Bulletin of the British and American Embassies,* Warsaw.

In late 1991, the government transferred the status of FSM into a treasury-owned company, i.e., it was 'commercialised'. In October 1992, FSM formally concluded a contract with Fiat, whereby it became a *de facto* subsidiary, with Fiat holding 90% of shares, and the Polish treasury 10%. The result of this was the formation of three joint-stock companies: Fiat Auto Poland (FAP), employing 16,000 and comprising Z1 and Z2 plants; TEKSID Poland, employing 1,800, comprising metallurgical and foundry operations; and Magnetti Marelli Poland (MMP), employing 1,200, and becoming the spare parts division. Certain FSM subsidiaries have not been taken over: forges, machine tool and repair/construction divisions, totalling some 2,500 employees. These are planned to be privatised as independent entities.

Fiat's take-over of FSM represents the *largest foreign investment project in Poland,* with total investment estimated to be $2bn. by the late 1990s. With Fiat's involvement in Yugoslavia and Russia looking uncertain, Poland has become its key manufacturing base in Eastern Europe. Fiat's strategy is clear, and has two central aspects. The first, as already noted, coincides with the Polish government's: to use FSM as a low-cost base for production of the least technologically advanced PCs in the minicar sector, *primarily for exports to Western Europe.* The second is to use its "first-mover" advantage to dominate the domestic market. By so doing, it aims to achieve close to optimal scale economies and avoid the risk of depending solely on a volatile East European market. Furthermore, it plans to benefit in the long run from tariff-free entry into the EC market, in anticipation of Poland's full membership by the end of the decade.[45]

Future plans include the production of the best-seller Uno model from 1994 for SKD (semi knocked-down) assembly of 20,000 units, using painted bodies and major components

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[45] See interview with P. Cantarella, *European Motor Business,* 1st. Quarter, 1993, EIU, London, pp. 22-23. This strategy has already achieved some benefits from the EC's acceptance of 150m. Ecu's worth of Cinquecento cars into EC markets. Ibid., p.30.

from Italy at the Z1 plant. A feasibility study for a new paintshop at Z1 is being conducted; if approved, the Uno can be built on a CKD (completely knocked-down) basis, whereby local content levels will rise. Plans are also afoot to phase out the 126P, and replace it with a larger model (possibly in the Tipo class). These are however, at a very early stage. Total FSM output is planned to be 320,000 by the end of 1994 - 240,000 Cinquecentos, 60,000 126Ps, and 20,000 Unos. This will amount to the largest output ever achieved by FSM.

Fiat is also encouraging first tier Italian suppliers to set up operations in Poland - independently, or as joint ventures with Polish suppliers. This is in order to achieve a targeted local content level of 72% by the end of 1994.[46]

As noted in 7.5., Fiat's major investment partially helps to explain the reluctance of other passenger car manufacturers to set up significant operations in Poland.[47] Thus, companies in negotiations (notably GM and PSA) are planning to establish operations of only 13% and 6% of assembly MES. (See sections on FSO and Lublin below). From FSM's point of view, Fiat's take-over should ensure continued modernisation and technological advancement, and ultimately, the achievement of West European levels of competitiveness. Its long term future therefore appears to be secure.

7.6.2. FSO and Nysa

Negotiations with GM (Europe) have been proceeding since 1990. Agreement was finally reached in December 1993 for the setting up of a joint venture (J-V), with GM taking a

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[46] Cited in *European Motor Business*, 'Fiat's Expanding Production Base in Poland', 1st Quarter, 1994, p. 61. Note that Gilardini of Italy has already set up a seat and exhaust systems facility in Poland. Loc. cit.

[47] In the initial stages of negotiations, Fiat offered a complete investment package for the two passenger car enterprises, on the condition that no contracts were signed with other manufacturers. This attempt to monopolise the Polish market was rejected by the government.

50% shareholding, plus management control. The agreement is for the assembly of the Opel Astra at the Zeran plant, over two stages, geared primarily for the Polish market. The first stage envisages SKD assembly of up to 10,000 Astras in 1994 - of bodies shipped from GM's plant in Antwerp. The second stage is scheduled to increase capacity to 33,000 units p.a. of CKD assembly - including body welding - by 1995. Total employees working in the J-V by the end of phase II will approximate 1,000. A further aspect of the agreement is a technical assistance programme for the modernisation of the Polonez model and development of suppliers. Total investment is planned at DM75m.[48]

For an enterprise of FSO's size, this level of investment is uneconomic on its own: 33,000 units p.a. is only 13% assembly MES, incurring a unit cost penalty of approximately 30% (see table 4.3). Thus the J-V with GM by itself, does not guarantee the future of FSO in its present form and size, as assets associated with it comprise less than 10% of total FSO assets, and less than 5% of employees. Moreover, at the initial low level of domestic content, multiplier effects will consequently be weak, severely restricting the maintenance of existing levels of employment. Thus, reliance on the outdated Polonez will be great until 1997, when a replacement is scheduled.[49] This, however, will present problems in the interim. A most worrying phenomenon for FSO is that the price of the Cinquecento 700 is less than the Polonez's (as seen in 7.5). Currently, owing to the fact that the bulk of these are exported, the threat to the Polonez is diminished. However, given the proposed increase in output of the Cinquecento (from a 3-shift system), and plan to increase sales in Poland, the threat to FSO's major model will become very great.

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[48] *Rzeczpospolita,* 14/12/1993.

[49] It is for this reason that FSO continues to modify the Polonez . Recently, it has begun to use engines from the Rover Group and Citroen to comply with the government's stricter environmental regulations.

FSO is Poland's second largest debtor to the government (after the state railway enterprise), with debts of Zls.1.5 trn. in unpaid taxes and 'dividends'.[50] Consequently, it is in no position to undertake an investment programme for modernisation and development of future models. Thus, without substantial injections of investment from GM, or other multinationals, its long term future as a volume-car manufacturer is in doubt.

The future of FSO's light commercial vehicle subsidiary, Nysa, is extremely uncertain. The Nysa pickup truck is made from painted bodies from Zeran plant, whilst Lublin also produces a similar pickup - the market is therefore saturated. The plant is lumbered by an inadequate paintshop, and poor facilities in general. With no J-V or licensing agreement in prospect, Nysa has little chance of survival as an OEM.

7.6.3. Jelcz

Negotiations have been proceeding with Volvo for the production of articulated buses, with Jelcz hoping to ultimately establish a J-V for all its divisions: buses, trucks, and specialised vehicles. A preliminary agreement was signed in April 1992 for the establishment of a J-V, envisaging total investment in the order of $70mn. Planned production levels were anticipated to be 100 trucks and 400 buses initially, rising to 4,000 trucks and 1,000 buses. But finalisation of the agreement has not been forthcoming for reasons of Volvo's strict negotiating stance: demanding very high levels of protection, including the banning of imports of trucks over three years old.[51] In 1993, Jelcz commenced producing a heavy truck, using an engine produced at Mielec under an old British Leyland licence. It is also supplying city buses

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[50] See *Gazeta Wyborcza,* 8/10/1993.
[51] *Gazeta Wyborcza.* 20/8/1993.

to many Polish cities that had previously used the Hungarian Ikarus buses. Negotiations are also proceeding with Steyr for the production of an engine that will comply with EC environmental regulations. Despite these new developments however, the plant is operating at only one-third of its capacity.

In many respects however, Jelcz stands in a favourable position, by virtue of certain advantages: good location (close to the Western border), few peripheral activities, and a good paintshop. Assuming that a satisfactory agreement can be finalised with Volvo, Jelcz should survive, albeit of a smaller size.

7.6.4. Lublin

In March 1992, a J-V was negotiated with PSA of France, for the SKD assembly of 10,000 Peugeot 405 PCs. The initial local content was projected to be 20%, with the aim of increasing it to 40% after two years. To ensure a satisfactory conclusion to higher local content levels, the agreement also provided for technical assistance. Production started in early 1993, with output planned at only 2,000 for that year - well below the capacity output of 15,000 units. The low scale planned, implies that, once more, only a small proportion of this large enterprise will be utilised under this J-V. Moreover, as PSA is gearing Lublin output solely for the domestic market, further, significant increases in output cannot be anticipated. Even if output reaches maximum capacity of 15,000, this is only 6% of MES, and means a highly punitive unit cost penalty - in the order of 40% (based on table 4.3). In agreement with its unions in France, Peugeot is precluded from exporting Polish-produced 405s to Western Europe - the main market for this model. Consequently, the prospects for expanding production above 15,000 is remote. As noted in 7.5., the cost of Lublin-assembled 405s has

proved to be in excess of duty-free imports of the same from France. In response, PSA extracted a further sales tax reduction, and later stopped exporting 405s to Poland, leaving the market free to the Lublin 405s.[52] Latest relative cost figures are not available.

Production of a new delivery van (the 'Lublin') commenced in the summer of 1993. Intended to replace the obsolete Zuk van, it is an entirely Polish-designed and produced vehicle, built with engines manufactured at Andrychow. PSA has however expressed an interest in extending its J-V to cover LCV production, but no further details are available.

Lublin also manufactures castings/forgings (of axle beams and cylinder blocks) for the whole industry, together with leaf springs and coil springs. These operations have seen a substantial reduction in capacity, as the industry has declined. Their future is however under jeopardy. Given the agreement with PSA, the enterprise can survive as an assembler, but will be greatly reduced in terms of employees and range of activities. However, Lublin is still seeking another partner to take up spare capacity. In this respect, negotiations have been proceeding with Daewoo of Korea, and Mercedes of Germany.

7.6.5. Poznan

Poznan has attracted most attention from prospective partners (Mercedes, Renault, Range Rover, Iveco, Chrysler and VW) - mainly because it is a relatively small enterprise, with low levels of vertical integration, possessing a modern paintshop in a large town: factors which help offset the drawback of its largely obsolete facilities. In June 1992, a J-V was negotiated with VW for the assembly of pickup vans (the VW T4), and parts production, predominantly for the German market. Initial investment was set at DM 40m., with future

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[52] *Gazeta Wyborcza*, 20/8/1993.

plans for expansion.[53] However, delays concerning Poznan's high level of indebtedness meant that production did not commence until October 1993. The J-V will employ 200 employees of the existing workforce, whilst the remainder will continue to build the utility Honker (for the army) and Tarpan (agricultural pick-up) models.[54] Negotiations are also proceeding with VW for the SKD assembly of an old Skoda model for the Polish market - with anticipated output of 2-3,000.

Given VW's involvement, Poznan should survive as an OEM. But considerable spare capacity (up to 50%) still exists. Thus, a significant reduction in size is inevitable.

7.6.6. Sanok

Sanok's situation has recently improved owing to state procurement of Sanok's medium-sized coaches for intercity travel; and by the Polish tourist agency (Orbis) of the larger coach (with a new Cummins engine) for tourist travel. Coaches have also been exported to Russia on a barter and hard currency basis.

Negotiations have been proceeding with Man and Scania - but it does not appear that a contract can be finalised in the short term.[55] Without a J-V, Sanok can, with continued custom from state agencies, produce at approximately two-thirds of its capacity.

7.6.7. Starachowice

Star's position is the most desperate of all - for it is insolvent. The decline in the domestic market has been compounded by the total loss of exports to China (which had

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[53] *Gazeta Wyborcza,* 20/8/1993.
[54] *Zycie Warszawie,* 17/8/1993.
[55] Scania has also been negotiating with Kapena municipal bus repair enterprise in Slupsk to establish a J-V for the assembly of city buses and truck tractors. See *Nowa Europa,* 1/1/1993, p. 14.

amounted to 28% of production in 1985) and the CMEA. Employment contraction has been the most severe for any motor enterprise; and it has experienced the highest number of industrial disputes. It is the most highly vertically integrated enterprise in the Polish motor industry, with a number of subsidiaries and "non-productive" assets. It is also by far the largest employer in its region - Starachowice being in effect a "one-enterprise town". There is an oversupply in Poland of the type of vehicle it manufactures - MCVs (a reflection of there being no chronic shortage in this segment), and competition from second hand imports has been overwhelming: Star has simply been unable to compete in what is a limited sector of the market. These attributes have made Star particularly unattractive to potential investors. Its output is only 20% capacity - predominantly for the domestic market (including the army), although it has recently arranged some barter trade with Ukraine (details not available).

Negotiations had been proceeding with Renault and Volvo but collapsed after their requests for high levels of tariff protection were rejected.[56] However, a restructuring plan has been developed by Bank Rozvoju. This entails a 94% writedown of debt and accumulated interest, linked to a debt/equity swap and an undertaking by Star to repay 6% of its principal debt to creditors in 12 monthly payments; and the reduction in employment to 3,000.[57] The aim of this "trimming down" and debt-clearing exercise has been to make Star more attractive to foreign investors. Initial interest has been expressed by the Korean manufacturer Kia, although no firm agreement has yet been reached. Providing a satisfactory J-V can be negotiated, Star may be able to compete in the MCV market. It will however do so at a small fraction of its former size.

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[56] See *Financial Times Survey: Poland,* 18/3/1994.

[57] Loc. cit.

It is clear from the above that, in the absence of state investment funds, market forces and government incentives to foreign investors have determined the outcome - one where the long term survival of Polish OEMs depends on either being taken over by, or establishing J-Vs with, major multinationals. The Polish motor industry has attracted the most attention from potential investors - probably more so than any other industry in Eastern Europe. All OEMs have been conducting earnest negotiations with multinationals, but these have all been extremely protracted. Four have resulted in definite agreements (one take-over - Fiat/FSM; and three J-Vs - GM/FSO, PSA/Lublin and VW/Poznan). Of the remaining four, Jelcz should successfully negotiate a J-V with Volvo. Prospects however, for Nysa, Sanok, and Star look gloomy, although Star may be able to conclude a successful J-V after its recent debt-clearing and employment reduction exercise. In terms of employment, all OEMs are of a significantly smaller size than in 1989, whilst in terms of output, all except FSM are producing at a fraction of their 1989 levels. Consequently, considerable overcapacity remains; leading to the incurring of punitive sub-capacity cost penalties. Export markets for all but FSM have disappeared. Overall, the industry is operating at less than 50% of its capacity.[58]

All J-Vs - finalised, or in negotiation - are for labour intensive SKD or CKD assembly operations at low, uneconomic quantities (incurring high sub-MES unit cost penalties). On the assumption of continuing commitment by the multinational partners, survival in small niches of the predominantly domestic markets is possible over the long run. Some commitment has also been made to upgrade certain first tier suppliers, when local content levels rise. But the bulk of pre-assembly processes (foundry, forging, and pressing) have been neglected under these agreements As these are capital-intensive, *their future prospects for survival do not look promising.*

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[58] This is an estimate for May 1994 provided by J. Hubert, Pol-Mot.

7.6.8. Components Sector

Ford has undertaken to build a large upholstery plant on a greenfield site in Plonsk, creating approximately 1,000 jobs. Total investment is planned at $50m for the production of 1.1m upholstery units p.a. for various Ford (Europe) models. Ford therefore becomes the only multinational to solely invest in the components sector. Its decision to opt for a greenfield site, rather than setting up a J-V, is surprising, for two main reasons. First, this is usually a more expensive method, involving the construction of an entirely new plant, developing the infrastructure, and necessitating higher training costs. Second, as already seen, the government's policy is to encourage multinationals to link-up with existing enterprises.[59] So it is somewhat surprising to find the government acquiescing to this plan (details as to whether the government actually encouraged Ford to set up a J-V with, or buy-out, a trim manufacturer are not available). Ford's decision probably relates to quality and industrial relations problems associated with Polish enterprises. A "fresh start" frequently by-passes these two sets of problems, and has been the route taken by Japanese OEMs in the UK and US. The potential size of the investment has meant that not only has the government not shown any reluctance to the plan, but, in conjunction with the local authority, has offered many grants and privileges (notably, additional tax relief, assistance with plant construction, and the setting up of infrastructural facilities - water, gas and electricity supplies, and telecommunications services) for the operation, in what is an area of extremely high unemployment (22% in early 1993).[60]

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[59] It is for these reasons that all the other agreements have opted for links with local OEMs, rather than using greenfield sites.

[60] Details from *Nowa Europa,* 27/7/1993.

The contraction in demand for domestically-produced vehicles has had a concomitant effect on demand for parts supplied by domestic suppliers. The components sector has therefore also experienced considerable difficulty during the post-reform period. Consequently, suppliers have been under pressure to seek export markets - particularly to Western Europe. There is little evidence to indicate with what levels of success this has been done, but a report by advisers to the Ministry of Privatisation suggests that 'a growing number of independent suppliers are increasing sales to Western markets'.[61] Unfortunately no details to back this claim are provided. Furthermore, since the opening up of the economy, suppliers too, face the threat of intensified import competition.

It was noted in 7.6.1. that Fiat has been encouraging Italian component manufacturers (who supply Fiat plants in Italy) to set up operations in Poland - usually in the form of J-Vs with domestic suppliers in close proximity to the FSM plants. To a significantly lesser extent, this process will be repeated by the other multinationals. This strategy is attractive to both the multinational and suppliers concerned. First, it obviates the need for multinational OEMs to directly undertake the upgrading of suppliers themselves. Second, given market failures in the components sector, the incentive for suppliers from a TFA base to establish operations in close proximity to a new OEM operation in a low-wage cost region, with a guaranteed market, similarly becomes an attractive proposition. Consequently, suppliers (including subsidiaries) of those Polish OEMs who have negotiated contracts specifying supplier development packages, may find themselves being the focus of attention of multinational suppliers that have links with their OEM partner in TFA areas. The prospects of these (i.e., Polish) suppliers increasing manufacturing capability and modernisation will, as a result, be good. However, these

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[61] *Privatisation Update,* op. cit., p. 4. This article represents a summary of the report conducted by London consultants Barclays de Zoete Wedd.

constitute a rather small minority, so, as a corollary, the vast majority of suppliers will find themselves neglected: as such, *their prospects will be extremely difficult.*

The discussion undertaken in this section suggests that the overall picture for the Polish motor vehicle industry is one where *CKD assembly operations will dominate, whilst the preceding processes - foundry, forging, pressing - as well as the supplier industry, will continue to contract*. For the OEMs, this will be tantamount to deintegration by default. *The key conclusion therefore, from this analysis, is that the objective of the privatisation/FDI strategy, in combination with a liberalised trading regime, as a conduit for comprehensive enterprise restructuring - with the notable exception of FSM - has not been, and most likely, will not be achieved.*

It could be argued that under present conditions, only 1 OEM can survive as a CLM, and therefore the contraction/exit of the remaining enterprises is an economically desirable outcome. However, this was not the government's intention at the start of the reform programme, nor that of the employees and communities of these enterprises. The aim, as we have seen, was that liberalisation, augmented by incentives, would be sufficient to attract multinationals to significantly invest in all the enterprises - so that they quickly attain frontier levels of efficiency, and therby obviate the need for government assistance. The following section examines the role of government *vis-à-vis* the motor industry.

7.7. The Role of Government

7.7.1. Change in Government Strategy

The initial period of liberalisation saw a tremendous influx of imported PCs. This, despite the fact that the tariff on imported CBUs was set at a higher level (10.5%) than the average rate (5%), partly because of the strong lobbying by the industry. The table below gives the breakdown of passenger cars sales for the years 1989-1992 (in 000s and %) :-

Table 7.51: Passenger Car Sales 1989-92 (in 000s and %)

	1989		1990		1991		1992	
Domestic Production	191	59	213	61	140	23	110	24
East Europe Imports	20	6	15	4	70	11	50	12
Other Imports	114	35	124	35	410	66	290	64
Total	325	100	352	100	620	100	450	100

Source: *International Motor Business* 3rd Quarter 1993, EIU, London, p. 90.

As recently as 1990, the market was dominated by domestically-produced cars (61%). Trade liberalisation appeared to have a lagged effect on sales (similar to the lagged effect of decline in production in comparison with the rest of industry) as 1991 saw a burst of imports of predominantly West European PCs, but also surprisingly, a sharp increase in East European vehicles. The bulk of these imports were of second hand cars.[62] (The reason for the lagged effect appears to be related to the supply response - importers needed time to establish least-cost channels of second hand cars - predominantly auction dealers in Belgium, Holland and Germany).[63] Whereas the overall market expanded by 76%, representing the removal of the demand overhang,[64] actual sales of Polish-produced cars declined by 34%, and their share of market slumped to a mere 23%. There was thus a profound switching of preference in

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[62] From *Gazeta Bankowa,* 30/4/1993.

[63] From Pol-Mot, Warsaw.

[64] Although there was overall demand contraction from the squeeze on real wages, there was nonetheless a significant section of the population with sufficient purchasing power for purchases of consumer durables such as PCs. There thus arose a contradictory phenomenon: booming sales on the one hand, and on the other, many PC owners giving up driving as, for them, the cost of motoring became prohibitively expensive.

favour of Western vehicles, either new or second-hand, as well as an increased demand for the cheaper East European cars. This indicates that, in contradistinction to many countries in which leading OEMs are headquartered, particularly Japan and Germany, there is little customer loyalty for domestically produced vehicles. This, of course, is not surprising, given the backward nature of such products, and the overwhelming desire for Western products in general.

Although the market declined in 1992, the relative shares were maintained. Thus, with exports proving exceedingly difficult, the Polish motor enterprises were caught in a financial vice, from which they attempted to extricate themselves by reducing production and implementing severe redundancies in an attempt to equate the reduction in demand with reduction in employment. The following table shows employment contraction for each enterprise between 1988-1991.

Table 7.52: Employment Contraction Between 1988-1991 (in %)

FSM	FSO	Jelcz	Lublin	Poznan	Sanok	Star	Nysa	Total
16.5	9.4	20	12.5	n/a	30	46.4	5	19

Source: Enterprise Survey

The rapid rise in unemployment and acute financial difficulties of motor enterprises, provoked the government to shift from its *laissez faire* approach. It recognised that without a degree of effective protection, and without speedy and thoroughgoing upgrading of manufacturing technology and know-how, the domestic industry would collapse under a liberalised trading regime. It attempted to prevent this by use of a three-pronged strategy: continuation of *operational subsidies;* erection of *stiffer trade barriers*; and, by *additional incentives to attract foreign direct investment.*

- First, production subsidies were maintained, contrary to declared policy, to prevent bankruptcies - for, if these were not provided, all enterprises, with the possible execption of FSM, would have been bankrupted. This implied a limited abandonment of the policy to remove the soft budget constraint. So, although budgets had undoubtedly been hardened, there was nonetheless a 'safety-net' to prevent bankruptcy. It is important to emphasise here that enterprises were in no doubt that this was a temporary measure, reluctantly provided, rather than a return to the past.[65] And, although subsidies were maintained, in real terms, they declined significantly, so that by 1991, subsidies were only a quarter of their 1989 level. Table 7.52 provides the details (unfortunately, data for 1992 and 1993 are not available):-

Table 7.52: Government Subsidies to the motor vehicle industry 1989-1991

	1989	1990	1991
Subsidies (zls. bn)	177	927	388
1989=100	100	76	25

Source: World Bank, Warsaw.

- Second, tariff rates were raised from an average of *10.5% in 1990 to 35% in 1992*. The table below provides tariff data for all types of vehicles:-

Table 7.53: Tariff Rates on motor vehicles 1989-1992

	1989	1990	1991	1992
Passenger Cars	15	10-10.5	25[a]	35[b]
Buses	15	10-10.5	10-20	35
Trucks	15	10-10.5	15-25	35

Notes: [a] For vehicles less than 4 years old, 15% - with a minimum duty of $800; for vehicles more than 4 years old, 45%, with a minimum duty of $1300;

[b] For vehicles less than 4 years old, a minimum duty of $1500; for vehicles more than 4 years old, a minimum duty of $3000.

Source: GUC (Polish Central Board of Customs)

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[65] From the government's point of view, this policy change stemmed from political expediency - akin to similar policies conducted by Western governments to bail out ailing giants such as British Leyland, Chrysler and Renault.

This stemmed the flow of imports in 1992, but was not sufficient to raise market shares. The one method most effective for this, i.e., *import quotas*, had earlier been discontinued.

- In regard to the third strategy, negotiations with Western OEMs had been proceeding unabated since 1990 (and in the case of Fiat's involvement with FSM, since 1987), but had proved to be rather protracted. In 1992, the government attempted to quicken the pace by offering tariff-free quotas on 30,000 CBU imports - 10,000 each to the three companies proposing joint-ventures with, and substantial shareholdings in Polish enterprises, *viz.*, Fiat, GM(Europe), and Volkswagen. The stipulation was that investments worth at least $50 million must be signed by the first half of 1992. It was widely acknowledged that, with sales of Western imports buoyant, notwithstanding increased tariffs, the three chosen companies, rather than reducing prices by an amount equivalent to tariff reduction, would instead seek to earn high profits. Hence, government strategy was to induce these high profits to be invested in Poland. The plan however attracted criticism from the EC, and was subsequently altered, so that the three main potential investors were allocated a tax-free quota of 4,000 vehicles, whilst the remainder, i.e., 18,000 cars, would be divided amongst other companies. Despite this additional incentive, the results did not show a surge in investment, and negotiations remained protracted. With the exception of Fiat, foreign multinationals were reluctant to commit major investments, for reasons noted in 7.5. Moreover, the Polish government itself adopted a strong negotiation stance in order to deflect criticism that it may be selling off state assets at "give-away" prices.

7.7.2. The Government and 'Quasi-Industrial Policy'

We have seen that the key elements in the governments' policy for microeconomic restructuring were market liberalisation (to increase competition) and rapid privatisation (to provide more effective corporate governance as a precondition for efficient restructuring). This represented a "hands off" approach, where the government consciously eschewed a clearly defined strategy for industrial restructuring. But, as witnessed in 3.4., the pace of privatisation has been rather slow, whereby the bulk of SOEs remain under state ownership. In the case of the motor OEMs, only one (FSM) has been privatised. Thus, generally, and especially concerning the motor sector, market forces have been the sole instrument for restructuring. However, circumstances have dictated the need for intervention - as noted in the above section with respect to the motor vehicle industry. Simply letting loss-making, insolvent OEMs to collapse (in the hope that their assets - which in any case are highly specific - will be taken over by other, healthier enterprises or preferably, multinationals) proved to be, politically at least, too costly an option. The various government interventions, though reluctant and half-hearted, indicate that the government inadvertently came to adopt what may be described as a "quasi-industrial policy".[66] This was tantamount to (an admittedly implicit) recognition that market failures could not simply be overcome by the original shock therapy reforms.

Slay has argued that the Polish government, until the end of 1992, has in fact introduced six different industrial policies, since the implementation of the Balcerowicz Programme.[67] This includes the initial free market and privatisation policy, which Slay deems to be the first "industrial policy". The other five are:-

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[66] Hughes and Hare consider subsidies, credits, and tax reliefs provided to ailing enterprises as '*de facto* industrial policy', but was not acknowledged as such by the government. Hughes and Hare, op. cit., p. 83.
[67] Ben Slay, 'Evolution of Industrial Policy in Poland since 1989', *RFE/RL Research Report,* 2,2, 8/1/93, pp. 21-27.

- i. Sectoral Privatisation (the simultaneous privatisation of SOEs within an entire industrial branch);
- ii. Ministerial Prioritisation and Ranking (on this, see below);
- iii. Restructuring Privatisation (where enterprise restructuring is contractually devolved to managers or outside agents on the basis of competitive bidding of commercialised enterprises prior to their privatisation);
- iv. Bank Restructuring (where commercial banks play a central role in restructuring, including the speed up of bankruptcies);
- v. Social Pact (proposal of a "social contract" to head off industrial strife. This was in response to an outbreak of strikes in the summer of 1992)

Slay's categories - although highly illuminating - are subject to contention. The primary criticism is of their being referred to as industrial policies. Thus, ascribing the initial liberalisation period as the first "industrial policy" runs contrary to its meaningful definition: *'any* intervention in capital, labour, skill, technology, and institutional markets that is directed at promoting industrial development'[68]. Similarly i. and iii. should not be categorised as industrial policies. They stem from the failure of rapid privatisation to take off. In the light of this, the government has sought numerous alternative methods of privatisation, of which the above are just two - although they are unusual in that they envisage some restructuring prior to be being sold. Note that both policies were abandoned in 1992 - i. because of political conflicts between ministries, and iii. because of a lack of interest. Number iv. is similar to i. in that the task of restructuring here is devolved to banks, rather than to managers. It is however,

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[68] This definition is given by S. Lall, 'Creation of Comparative Advantage: the Role of Industrial Policy', International Development Centre, Oxford, mimeo., 1994, p. 1. For a useful discussion of various definitions of 'industrial policy', see H-J. Chang, 'The Political Economy of Industrial Policy', DPhil. Thesis, 1991, Faculty of Economics and Politics, University of Cambridge, p. 80ff.

a very unrealistic policy, given the lack of resources and capabilities of newly-spawned commercial banks to undertake the necessaries for this burdensome task.

Policy v. also cannot be deemed an industrial policy; it is rather an industrial *relations* policy designed to incorporate relevant trade unions in discussions regarding the future direction of an enterprise. It is therefore not an active policy to encourage restructuring or industrial development.

The policy which can be deemed an industrial policy is number ii. - that of ministerial prioritisation and ranking, as it entailed direct ministerial involvement in restructuring, enforcing bankruptcies, and the offering of temporary financial assistance. The ranking system was designed by the Ministry of Industry and Trade, and excluded enterprises selected for privatisation (which were under the ambit of the rival Ministry of Privatisation). The rankings were: 1. Strategic SOEs. These were either deemed significant to the national economy - hence offered subsidies if in difficulties, or the most profitable - hence considered successful, and earmarked for special treatment and support. (Note how with respect to the first category of enterprises this policy is exactly the same as that under the command system, whilst with respect to the second category, it is the opposite); 2. Healthy enterprises, but suffering from large debts. These could move to the first rank if and when they managed to sort out their debt problem; 3. Poor performing enterprises. These were to be given no assistance, although if they performed well, they could move into the second rank; and 4. Chronically insolvent enterprises. These were to be quickly liquidated.

Political problems and difficulties in conducting objective analyses forced the Ministry of Industry to abandon the prioritisation and ranking method in late 1992, and replace it with industrial "rescue programmes" for the most powerful, and troubled industries (such as

metallurgical and coal).[69] Thus, "industrial policy" was reduced to *ex-post facto* crisis management. Insofar as the motor industry is concerned, it does not come into the category of one deserving a rescue programme. Indeed the government's view of this sector has been on the whole positive, in view of the high level of attention it has attracted from multinationals. Consequently, interventions remain *ad hoc*, and no industrial policy is envisaged to coordinate investment and production strategies of the industry as a whole.

7.8. Industrial Policy for the Motor Vehicle Industry

It has been argued that the hitherto contraction of the motor vehicle industry has been far more extensive than the government had initially envisaged - thus the optimism of the macroeconomic reforms was mirrored in the optimism of microeconomic reforms. And it has also been argued that this can be attributed, partially at least, to the neglect of market failures. In 2.7.1., reference was made to the successful use of industrial policy by the East Asian economies. In 4.10, key aspects of MITI's industrial policy with respect to the motor industry in Japan were examined. The key lesson of these is that, rather than completely free markets, it was the careful use of industrial policy in the form of selective state intervention, to correct for market failures, which formed the basis of success. This must be sharply distinguished from the import substitution strategies adopted by many NICs and developing countries (such as Mexico, Brazil, Argentina and India) whose interventions were non-selective, and not aimed at overcoming market failures to develop internationally competitive industries. Although it is undeniably the case that the initial conditions confronting transforming economies are not the same as those which obtained in East Asia in the late 1950s and 1960s, nonetheless, one can maintain that, in the presence of widespread market failures, the conscious use of industrial

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[69] Slay, op. cit., p. 24.

policy for restructuring by the former, would have been more appropriate than the adopted policy - for in both sets of countries, market failures are/were far more acute than those in mature market economies, in their respective initial conditions.[70] A similar conclusion was reached by Kaser and Allsop when they argued (in 1992) that what is necessary is a:-

'more interventionist industrial policy to promote desirable changes...[I]ntervention needs to foster and regulate the market, and the danger of a reversion to *ad hoc* and distortionary interference has to be avoided'.[71]

In the East Asian countries, intervention was highly industry specific - targeted to a few "high priority" industries and firms (in a sense, analogous to the priority sectors in the command economies, discussed in ch. 2). It therefore follows that state level decisions would need to be established to determine which sectors are deemed worthy of such industry specific intervention. The criteria would have be one of industrial development - which is assumed to be a *sine qua non* for overall economic advancement. It was noted in chapter 4 that the motor sector was deemed worthy of such status in Japan, and this has also been the case in South Korea. Similarly, in an economy such as Poland's, with a well developed motor industry, it makes economic sense to confer it this status.

Assuming priority sector status, it therefore follows that, for an industry with highly specific assets - such as the motor vehicle - *ex-ante* coordination is desirable. The argument rests on the costs which can result if coordination is neglected. Chang has, for example, argued that where assets are specific, "coordination failures" lead to waste, i.e., 'net reduction in the amount of resources available to the economy'.[72] The minimisation of costs or waste - in

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[70] It should be noted that industrial policy has not been just the preserve of developing countries - advanced market economies have also resorted to them. See, for example, R.A. Goodman, 'A Comparison of Industrial Policies in Five Nations: Brazil, France, Germany, Israel, and The Netherlands', in R.A. Goodman and Julian Pavon (eds.), *Planning for National Technological Policy,* Praeger, New York, 1984, pp. 138-154.

[71] M.C. Kaser and C. Allsop, 'The Assessment: Macroeconomic Transition in Eastern Europe', 1989-1991'. *Oxford Review of Economic Policy,* 8,1, Spring 1992, p. 12.

[72] Chang, op. cit., p. 89. This argument is similar to the one of neglect of market failures with respect to trade

conjunction with the creation of long term sectoral comparative advantage - therefore forms the *raison d'être* of an industrial policy.

In 4.10., the key elements of the industrial policy relating to the Japanese motor vehicle industry were examined. Here, it is worthwhile examining a more recent and perhaps more pertinent example (of a country with a similar population to Poland's):[73] the South Korean motor industry. Once more it needs emphasising that, although the circumstances confronting these two countries were/are very different (alongside their industrial structures),[74] the point of this exercise is not one of recommending exact imitation, but to highlight the types of interventions that have previously been successfully undertaken - and which could be used, albeit with modifications, by other countries seeking to develop their motor industries. In sum, a pro-active government can better assist economic advancement as compared to one relying solely on *laissez faire* policies.

The following constituted the key elements of South Korea's motor industry policy:-[75]

- *High effective protection*, e.g., tariffs, as well as quantitative restrictions, including ban on CBU imports;
- After 1967, *drive to increase localisation* - hitherto production had been for SKD and CKD assembly only;

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liberalisation, noted 1n 2.7.1., which gives rise to loss of capabilities and skills ('net reduction in resources'), that may have been usefully utilised with initial effective protection.

[73] Poland's population of 38m compares to South Korea's of over 43m.

[74] Perhaps the crucial difference is the existence of *chaebols,* or diversified business groups in Korea, which straddle different industrial sectors. These do not exist in Poland - the OEMs are predominantly motor industry specific.

[75] This draws on the following: Y-S Hyun and J. Lee, 'Hyundai Motor Company: Self-Reliance Strategy and Growing Challenges', pp. 516-539; A.H. Amsden and L. Kim, 'A Comparative Analysis of Local and Transnational Corporations in the Korean Automobile Industry', pp. 579-596. Both in D-K Kim and L. Kim (eds.), *Management Behind Industrialisation: Readings in Korean Business*, Korea University Press, 1989; I.L. Robertson, *South Korea's Motor Industry,* Special Report No. 2060, EIU, London, 1990; and *International Motor business* (IMB), 'Update on South Korea', EIU, London, 1993, pp. 19-38.

- The government stipulated the achievement of *100% local content* (LC) by 1972 - although by 1974, LC was still only 50%;
- In 1974, the government launched a Long-Range Automotive Industry Promotion Plan - whereby the motor industry was given *"strategic" status*. The central aspect of this was the development of a CLM - hence 100% LC - "Citizens car" (similar to MITI's idea of a "Peoples car" in Japan in 1955) to be produced by Hyundai - the largest PC OEM. The vehicle (the Pony) was Korean designed and engineered, using various frontier technology licences, with the assistance of numerous Western engineers;[76]
- *Rationalisation of the industry.* In response to the energy crisis of 1979 - which severely damaged the motor industry (output almost halved in 1980) - the government pushed through a restructuring programme whereby competition was sacrificed in exchange for achieving greater concentration, and consequently, scale economies, to reduce production costs.[77] This was a *de facto* product-sector division of labour. Thus, two PC OEMs (Kia and Asia) were instructed to exit the PC sector - which was left to Hyundai and Daewoo. In compensation, Kia would concentrate on the LCV sector - which Hyundai and Daewoo would vacate. In line with increasing concentration, Kia acquired a major stake in Asia motors (predominantly a manufacturer of HCVs and buses), and Dong-A (producer of specialist CVs and buses) took over Keohwa (a jeep producer). The plan to merge Hyundai and Daewoo was, however, aborted. As a result, in 1981, there were two PC OEMs (when total output was just 79,000 PCs) and three CV OEMs (Kia, Asia, and Dong-A - when total output was 51,000 CVs and 13, 000 buses).[78] Kia was however told that when demand improved sufficiently, it would be allowed to

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[76] The project was led by a former executive of British Leyland (George Turnbull) together with other British engineers. See Robertson, ibid., p. 25.
[77] Amsden and Lim, op. cit., p. 583.
[78] Hyun and Lee, op. cit., table 1, p. 522.

re-enter the PC sector. This it duly did in 1987. Similarly, Hyundai and Daewoo have re-entered the LCV sector;[79]

- *Promotion of exports* as part of the government's machinery export promotion policy. This formed the basis of the drive to achieve TFA levels of quality, emission and safety standards, and ultimately, efficiency. Firms encouraged to enhance their own technological effort.
- Rewarding good performers, and penalising poor ones;[80]
- Considerable investment in upgrading of technology, establishment of R&D centres, and assistance to the components sector.[81]

It is clear that the strategy pursued by the South Korean government was similar to the one that had been earlier pursued by MITI in Japan. In both cases, the strategy comprised three key elements: funding (of OEM, supplier, and technology sectors), protection (on an infant industry basis), and rationalisation. In Korea, a fourth element was also crucial: pressure to export - as a disciplining measure for the achievement of frontier levels of technology (in Japan, trade liberalisation played a similar role). Discipline was strengthened by the fact that firms were subject to general government control - in exchange for its continuing support. Amsden lists these control measures as:[82] i. government ownership and control of all commercial banks that forced *chaebols* to invest rather than seek rents; ii. use of 'industrial licensing policies to determine what, when, and how much to produce in milestone investment

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[79] Production expansion has been remarkable over the past decade: in 1992, PC output reached 1.3m, CV reached 267,000, and buses, 166,000. IMB, op. cit., p. 21.

[80] For example, the PC OEM Shinju could not survive competition from Hyundai, nor the energy crisis of the 1970s - consequently, it was declared bankrupt, and its holding transferred to Daewoo motors. Cited in A.H. Amsden, *Asia's Next Giant*, Oxford University Press, New York and Oxford, 1989, p. 15.

[81] Note that these are recent (1988 and 1990) developments, and constitute the government's designating the motor industry a *high-tech* sector. Robertson, op. cit., p. 27.

[82] Amsden, op. cit., p. 17.

decisions'; iii. price controls on many goods (including autos) to curb monopoly power; and iv. provision of minimal social services, so that long term investments were made easier. In addition, the industry benefited from heavy government investment in education and training (formal, foreign technical assistance, and overseas training),[83] information and technological support, and infrastructural development. All these were to greatly assist the rapid development of the motor industry.

It can be argued that *any* industrial policy for the motor vehicle industry in a developing country would need to encompass these elements, as their source rests in generic market failures. Thus, there are strong reasons for the Polish government to adopt an industrial policy based on these - although it is of course not possible to concretely evaluate their relative importance - and so, to attach relative weights to each. The argument rests on the assumption that, (based on the evidence of Japan and Korea) a clearly defined and well-supported industrial policy can reduce costs and waste, and, in the long run, create a dynamic comparative advantage. Each element is taken in turn. It is assumed here that this is what should have been done at the beginning of the reform programme, and indeed what needs to be done in the future. In other words, the *raison d'être* for an industrial policy still exists.

i. Funding.

Given the Polish government's desperate financial situation (a large budget deficit), significant direct funding is not available. So, as we have seen, although subsidies have been provided (albeit in dwindling amounts), no direct investment funds have been allocated. Under such harsh conditions, the options are limited. However, the government could have acted

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[83] Ibid., pp. 23, 302.

(and should act) as a guarantor for the channelling of long term low interest loans from the commercial banking sector, especially earmarked for priority sectors; and, if and when funds become available, grant concessional loans for industry modernisation (pre-assembly operations, components sector, and raising the technological effort, i.e., technology upgrading, innovation, and R&D). It could also grant accelerated depreciation rates as a *de facto* subsidy. In the absence of such support, capital market failures mean that enterprises are starved of funds and restructuring is severely hindered.

ii. Protection

Protection may be needed by Polish OEMs to meet the costs of restructuring, training, developing new models, and various necessary skills. We have already seen that after initial liberalisation, and the very rapid influx of imports, tariff rates were markedly increased to support domestic producers. (A total ban on CBUs was not feasible, as this would have contravened Poland's commercial agreement with the EC). It would have been, and still is desirable to impose additional restrictions on the subcompact/ compact sector - to offer more effective protection to FSO, until a replacement model for the Polonez is developed. Similarly, increased protection to the CV sectors might be desirable (see below). This policy will require an exemption from (or possibly, an extension to) the agreement with the EC - which requires a gradual reduction in import tariffs to zero by 2002.[84]

iii. Rationalisation

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[84] The tariff reduction schedule is as follows (year and percentage): 1992 /35; 1994/30; 1996/25; 1998/20; 1999/15; 2000/10; 2001/5; 2002/0.

Without the network of institutions in the advanced market economies, efficient rationalisation, under free market conditions, is made considerably more difficult. Information gaps, weak capital markets, and "short termism" hinder enterprises from attaining long term objectives for a viable industry. The case then for a rationalisation policy to remedy these market failures is strong. This is illustrated for PC and CV sectors.

a) PC Sector

Economies of scale set the limit to the number of firms able to manufacture with a minimum cost disadvantage. If there are too many, then sub-MES production will become prevalent, leading to cost disadvantage and loss in competitiveness. This, therefore, provides the basis for rationalisation measures. As noted, in Korea, rationalisation involved increasing sectoral concentration, and specialising the division of labour by product market. In the Polish PC sector, assembly MES has been achieved by FSM for the minicar sector, with more than 50% full-rated output earmarked for exports. A similar scenario could obtain for the subcompact/compact sector, although exports may need to be in the order of 75%, given the lower domestic demand for this sector. However, as a substantial rise in demand is expected for PCs in Western Europe by 1997 (between 1993-1997, one estimate is that PC sales will rise by 24%), this may be possible.[85]

Rationalisation would therefore require a very high degree of specialisation of models produced by the two PC OEMs - more so than the already high specialisation at present. It would mean restricting FSM to the production of mini models only. Consequently, FSM would not be authorised to produce the subcompact Uno, and later, Tipo, models. Instead, it

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[85] The estimate is based on a report published by DRI McGraw Hill. West European sales for 1997 are estimated at 14.2m - contrasting with actual sales of 11.45m. in 1993. Cited in the *Financial Times*, 23/5/1994.

would be encouraged to produce the mini Panda model, or an early replacement for the 126P. The corollary to this would be the "allocating" of the subcompact/compact sector to FSO. This may act as a powerful incentive for a multinational to significantly invest in FSO - at least more than the rather small investment undertaken by GM at present. So, just as in Korea's case, the policy advocated here is the one of granting monopolies in exchange for increased scale economies. And again, as in Korea, a local content policy (buttressed by the "law of similars")[86] would also be necessary - to ensure full technological development, and the preservation of upstream manufacturing processes.

In retrospect, given FSO's current difficulties, one could argue that the offer by Fiat of an "investment package" for *both* PC enterprises would have been a better option. The reason for the government's rejection was clear: the granting of a sole and powerful monopoly ran counter to its wish to break up existing monopolies. This is an interesting and somewhat unusual case: "letting the market decide" led to the exact opposite of what the government wished the free market to do, i.e., to increase domestic competition.[87] Thus, the government's rejection of Fiat's offer was based on the premise that domestic competition was preferable to monopolisation - even in an industry where sufficient scale economies are frequently only obtained from monopoly power, and where imports could offer competitive discipline. But it appears that the cost of the government's policy may have proved to be greater, for, as we have seen, FSO's long term survival as a volume-car manufacturer does not look promising. (This argument also rests on the very high socio-political costs of shutting down FSO). If guarantees could have been obtained from Fiat for job-preservation and modernisation (as they

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[86] By the "law of similars" is meant the granting of an import licence only for those products not obtained locally. See H. Pack and L. Westphal, 'Industrial Strategy and Technological Change : Theory versus Reality', *Journal of Development Economics,* 22 (1986), p. 96.

[87] Indeed, the rise of monopolies and oligopolies frequently stems from *eliminating* competition under a free market regime (i.e., one without anti-trust regulations).

had been to a significant extent with respect to FSM), FSO's prospects might be better now. Clearly, this route would have necessitated restricting Fiat's monopoly - and this could have been achieved via the gradual relaxation of import tariffs; and later - depending on the market situation - the entry of another OEM in the PC sector.

b) CV Sector (Trucks and Buses)

The domestic market for CVs is not sufficient to sustain all the CV OEMs - hence reliance on *exports* is essential. We have seen that sales to Western Europe were precluded on environmental grounds, whilst sales to CMEA and developing country markets have largely collapsed. A CV industrial policy will therefore carefully need to address the overcoming of the export problem. It should be stressed that, given the more backward nature of the CV OEMs, a successful outcome will be more difficult - but so too is the need for intervention more pressing. Once more, a high degree of specialisation - hence, proffering of large market power - to extract maximum scale economies, is necessary. This would be on the condition that a significant proportion of production be for exports, backed up a gradual reduction in protection. Given the backwardness of the CV sector (hence, the reluctance of MNCs to invest), a policy of internalising technological development might be more efficacious than solely relying on FDI. This is similar to the Korean government's aim of achieving state-of-the-art manufacturing capabilities through a policy of frontier technology licensing and assistance from former senior engineering personnel from TFA companies; and by forcing firms to undertake their own R&D and innovation. A similar strategy could be a viable option for the Polish CV sector, in conjunction with sectoral rationalisation. The following rationalisation strategy in the CV sector should have been implemented, and is still to be recommended:-

- Abandon HCV production at Jelcz - these are very costly to develop, with the market being very limited. Thus, Jelcz should switch to MCV production. However, if a firm commitment is obtained from a MNC for the production of an advanced HCV model, at ultimately high LC levels, then, of course, this "external" route is advisable.
- Allocating MCV sector to Jelcz and Star. Jelcz should concentrate on producing MCVs, predominantly for exports. A strong effort would be required to acquire licences from major CV producers. Star, on the other hand should concentrate on producing at the lower end of the MCV market, for the domestic market and exports to developing countries. One option would be to procure a licence for a recent (at the most, one model run behind the latest) MCV. In the interim, sufficient effective protection would be necessary for this segment of the market. The discipline of a gradual reduction in protection, and the possibility of future competition with Jelcz, should suffice to ensure technological development is not neglected.
- Allocating LCV sector to Lublin and Poznan. Given the rapid rise in the private sector - of predominantly small companies, the potential for demand expansion of this sector is very great. Given their size disparities, it might be advisable for Lublin to take-over Poznan. The merged enterprise would facilitate joint production of key components - some of which could be produced at Lublin's extensive components facilities. Lublin output should concentrate on the domestic market and exports to developing countries, whilst Poznan, in addition to producing agricultural pickups, should be encouraged to manufacture an advanced LCV for export to Western Europe.
- Allocating coach sector to Sanok, and city bus sector to Jelcz. In the case of the bus sector, we have seen that state procurement of city buses and intercity coaches has assisted both Jelcz and Sanok, the two bus OEMs. In Sanok's case, this has made its

position much more secure, and obviated the need for it to export to TFA markets - and, in consequence, relaxed the pressure to negotiate a J-V. Nonetheless, despite this relatively healthy state of affairs at present, to ensure technological advancement and ultimate achievement of frontier levels of production (to enable long term survival), Sanok must be made aware that its monopoly of the state's coach market is not guaranteed - and is dependent on the achievement of consistent improvements in the price-quality index. Jelcz's situation is more difficult, as it only operates at a third of its capacity. It should specialise solely in the city bus market - and so exit the coach sector, leaving it solely to Sanok. Initially, it should concentrate on developing exports to developing countries and Eastern Europe, where demand for Jelcz products is potentially strong,[88] but, as with Sanok, be under pressure to consistently upgrade.

- Using Nysa for specialised vehicles and components production. It might be advisable to transfer Nysa's ownership away from FSO to Kielce (which solely produces specialised vehicles). This will enable FSO to concentrate solely on the Zeran plant and its subsidiaries nearby. (For FSO, Nysa is inconveniently located at the very South of Poland).

In line with the above key elements for a motor industry policy, a full gamut of state assistance programmes *a la* South Korea, should have been, and still need to be undertaken. The more successfully these are achieved, the better the likelihood of the industry policy being successful.

The premise of the above analysis is that the use of an industrial policy, such as the one outlined, may have presaged a better outcome, i.e., one where a stronger motor industry could have been created. Indeed, if such measures had been taken, FDI involvement may have

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[88] This point is attributable to J. Hubert of Pol-Mot, Warsaw.

increased, in view of the positive signals of concerted support emanating from this sector. A similar policy remains feasible for the future, and would be superior to the present *ad hoc* approach for industrial restructuring still being adhered to.

CHAPTER 8: Summary and Concluding Remarks

This chapter summarises points made in previous chapters, with special reference to the questions noted in chapter 1. Comments relating to both parts of the thesis are taken in turn.

Part I focused particularly on macro problems of transition: chapter 2 concentrating mainly on theoretical problems, whilst chapter 3 detailed the nature and impact of shock therapy reforms in Poland. With respect to the first question in chapter 1 - whether shock therapy provides a satisfactory explanation of the collapse of the command economy, and whether it satisfactorily predicts the post-reform outcome - evidence suggested not in both cases. In 2.8.1, it was pointed out that shock therapy's emphasis on repressed inflation (i.e., on problems being monetary, rather than structural) was misguided, as it led to the erroneous conclusion that with a strong monetary and fiscal shock, increases in utility will ensue, despite a fall in real incomes. It was further emphasised that the view of insatiable investment as being decisive in creating chronic shortages (hence the manifestation of repressed inflation, under a system of price controls) only considered the *effects* of the dynamic under a command economy, but not the ultimate the cause. This suggested that the explanation for the dysfunctions of the command model was inadequate.

The inadequate explanation probably contributes to the failure of shock therapy to satisfactorily predict the impact of the reform programme. It was noted in 2.9 that the post-reform performance of all transforming economies was poor - in none did the path of the "J-Curve" materialise. In chapter 3, the nature and impact of the first shock therapy reform programme was undertaken. Under the Balcerowicz Programme, specific predictions were made: real improvements after a year - reduction in inflation, increased supply of consumer

goods, and increase in real wages; in conjunction with macroeconomic stabilisation and the beginning of microeconomic restructuring. An examination of the economy in 1990 revealed that only one indicator - exports - showed a better performance than the one predicted. Consequently, the forecast levels of performance were erroneous and, overall, far too optimistic. In 3.4., the performance of the Polish economy during 1991-93 was analysed. This showed that, after four years of the reform programme, in only one economic indicator (inflation) was there an improvement over the respective 1989 figure. The obvious conclusion to be drawn from this is that the Balcerowicz Programme failed to deliver sufficient improvements. This has had a considerable political impact - the election of successive governments committed to slowing down the pace of reform.[1] It was argued that this constituted a *de facto* rejection of shock therapy.

In answer to the second question - whether it is possible, or advisable, to attempt the transformation of command economies into advanced market economies in a (historically-speaking) relatively short time horizon - evidence once more suggests that it is not, and that attempts to do so may prove counterproductive. The major reason for this is that under conditions of widespread market failures, effective microeconomic restructuring cannot be undertaken instantaneously or costlessly, as assumed by neoclassical/shock therapy theory. *Indeed, the leitmotif of this thesis is that the importance of market failures has largely been neglected by the mainstream reform programmes - especially under shock therapy.* In particular, sufficient consideration has not been given to the problems of information gaps, absence of capital markets, structural rigidities and high levels of risk and uncertainty, all of which constrain the ability of agents to effectively respond to a liberalised economic regime.

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[1] In fact, with the exception of Czechia, elections in all East European countries have largely favoured parties which advocate slowing down the pace of reforms. Thus, in Poland and Hungary, in their most recent elections, the largest parties were the ex-Communist Parties.

The assumption that free markets automatically give rise to appropriate institutions has not been borne out in reality.[2]

As a corollary, it has also been argued that under both shock therapy and mainstream gradualist theories, the role of government in the implementation of capability measures and institutional reform has been greatly devalued. The reason for this was given in 2.6: that under neoclassical theory - which forms the basis of shock therapy - government intervention is deemed to be largely distortionary. This rests on the assumption that free markets are inherently efficient. However, as was explicated in 2.6. (in answer to the third question), the assumptions for efficient markets are many and highly restrictive. It therefore follows that markets are rarely efficient, and as a result, market failures are prevalent - although in the most advanced market economies, a network of institutions cushion these. Moreover, it was emphasised that the extent of market failures is greater where the market mechanism is underdeveloped (as in developing countries) or relatively new (as in Eastern Europe), where there do not exist sophisticated mechanisms for information exchange and risk minimisation.

The key conclusion derived from this analysis is that this provides a powerful case for *careful* government intervention - to attempt to remedy market failures. A list of market failures particularly important in post-reform Eastern Europe was provided in 2.7, and the types of interventions required to overcome them - with emphasis on measures to build up industrial capability and institutional framework. The overall conclusion was that the failure to take these measures may give rise to unnecessary costs, and delay the achievement of a successful transition. It is argued that this prediction has been borne out in reality, as all transforming economies have slumped into severe recession, and struggling to achieve

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[2] The phrase "market romanticism" (coined by the Russian Prime Minister, Chernomyrdin) appears to be particularly apposite here.

effective restructuring. The fact that Poland was the first to come out of recession does not reject this prediction, for it is not suggested that growth is precluded under shock therapy - only that there has been unnecessary waste.

Part II examined the impact of the reform programme on the motor vehicle industry. A critical finding of the enterprise survey was the very low productivity of the PC enterprises, and the fact that this had *fallen* two and a half years after the implementation of the reform programme (and the same would doubtless apply to the CV OEMs). This mirrored the decline of industry as a whole. Moreover, worst case scenarios for 1995 suggest productivity levels still remaining below those of 1989 because of potentially low capacity utilisation.

The most important determinants of productivity were detailed in chapter 4, and analysed with respect to the Polish motor industry in chapter 7. With respect to work organisation, all the ten elements considered showed Polish OEMs to be far below best practice levels. Key elements such as work teams, job rotation policies and quality circles had not, in the vast majority of cases, been implemented. The provision of training was minimal, non-systematic, and mainly on-the-job; although its importance was widely recognised. All this suggests that enterprises were either slow, or neglecting to undertake, the process of thoroughgoing restructuring and modernisation - predominantly owing to lack of resources, and the overemphasis on obtaining the requisites from MNCs, upon which there was great reliance.

Although productivity gains can be obtained through plant reorganisation, a certain level of automation is essential for competitive production. It was found that Polish levels of assembly plant automation (as a proxy for capital intensity) were far below those of leading OEMs - but comparable to those obtaining, on average, in a selection of NICs. However,

average NIC PC productivity levels are significantly higher, suggesting that they have a considerable superiority in other productivity-related variables.

With respect to the impact on the supplier network, although changes have taken place (notably concerning price determination), in regard to the crucially important issue of cooperation, little improvement was evidenced: this remains *ad hoc,* with overall, low levels of OEM-supplier and, negligible levels of, inter-supplier cooperation. It was argued that this must have a deleterious affect on quality - contributing to very high levels of reject rates - and delivery schedules.

Perhaps the most significant development in the international motor industry over the past decade and a half has been the universal acceptance of the Just-in-time production system as a fundamental requisite for competitive production. Polish OEMs are only aware of it as a system for reducing inventories, and not as a system for reducing waste and exposing slack. But none of the OEMs operate a JIT system, and none are considering doing so. The consequence of this may, in the long term, be efficiency losses.

Apropos management-labour relations, although no change was detected in their nature, the extent of negotiations had, however, increased between management and unions in accordance with increased enterprise autonomy and union legality. Responses by both management and the unions strongly indicated an overall improvement in relations in the post-reform period - with most unions believing there was a commonality of interest between themselves and management. But reality tends to cast doubt on this view, for considerable friction still exists, which frequently spill over into lengthy disputes that severely damage enterprise profitability and productivity. Thus, it is argued that macro problems frequently

override supposedly good relations at the micro level, i.e., the state of the macroeconomy directly affects the process of microeconomic restructuring.

In sum, with the exception of FSM(Z2), the Polish motor vehicle industry has not undertaken much systematic restructuring by way of adopting and implementing state-of-the -art manufacturing practices. Great reliance has instead been laid at joint-ventures with MNCs. But, with the unusual case of FSM, this has not succeeded. The exceptional nature of FSM stems not from the impact of the reforms, but from its historically close links, and ultimate takeover by a major MNC. This arrangement has enabled FSM to largely by-pass market failures, as many of the various necessaries for modernisation have been provided, extra-market, by Fiat. Moreover, because of Z2's improvement in productivity and quality, FSM has been better able to absorb the recessionary impact of shock therapy reforms.

The impact of the new economic regime has provoked acute difficulties for all enterprises - as the demand barrier and sudden increase in competition from trade liberalisation drastically reduced sales and output. In order to survive in the much harsher environment, all OEMs have been negotiating agreements with MNCs - and have been encouraged to do so by the government which has provided an array of incentives to potential investors. For the government, this "FDI route" was a central plank in its restructuring policy. But, as seen in 7.6., excepting FSM, overall levels of investment have been low, involving only a fraction of the OEMs' capacity - and predominantly confined to assembly operations - so that, including J-V output, capacity of all but two OEMs (FSM and Sanok) remains below 50%. Prospects for the pre-assembly stages of production are not promising, and these will undergo an even greater contraction.

This outcome is very much at odds with the government's wish to preserve the bulk of the industry. Given this, it was argued that the largely *laissez-faire* policy of reliance on privatisation and FDI, in conjunction with trade liberalisation for enterprise restructuring had not proved successful. Indeed, this was implicitly recognised by the government when it increased protection, maintained subsidies, and granted additional concessions to investing MNCs. But these were *ad hoc* measures, and did not represent any systematic industrial policy. It was argued in 7.8. that the use of industrial policy for priority sectors - with the motor industry being included in this category - would have provided a more effective restructuring strategy. The example of the successful use of an industrial policy for the motor industry in Korea in the 1970s was shown to be highly instructive. This had been similar to the one used by MITI in Japan in the 1950s and '60s. In both cases, certain key elements were discerned. The conclusion from this experience was that these could be broadly applied to the Polish motor industry - despite great dissimilarities in the macroeconomy and industrial structure. To this effect, an outline of an industrial policy was presented - suggesting what should have been done, and what still needs to be done. The thesis concludes by arguing that the evidence presented indicates that this would have been superior to the policy that has hitherto been conducted.

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