

Finance and Economic Development in
Historical Perspective:
South East Europe in the Interwar Period,
1919-1941

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ABSTRACT (1)

Finance and Economic Development in Historical Perspective: South East Europe in the Interwar Period, 1919-1941

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Thesis submitted in fulfilment of the requirements for the Degree of Doctor of
Philosophy

Faculty of Modern History, Oxford, Michaelmas Term 2011

The positive contribution of finance to the process of economic development has been debated ever since Joseph Schumpeter famously argued in 1911 that services provided by finance are essential for technological innovation and growth. A substantial theoretical literature has produced increasingly sophisticated economic models endogenising the role of finance into the growth process, while empirical studies have put forward data to detect the link between the two. Yet a large part of the empirical surveys operate with macroeconomic or cross-section data and have little to say about the channels through which finance affects growth. This is where this dissertation comes in. It provides firm-level data from Bulgaria and Yugoslavia from the period 1919-1941 to tackle a number of questions related to finance, banking, and economic performance of the European economic periphery. The analysis is broadly divided into three parts – capital flows and the effects of international investment on domestic firms, banks and the real sector during the Great Depression, and the political economy of government intervention during the Depression and post-Depression period.

The first substantive chapter (chapter 2) contributes to the literature on growth and capital flows by testing the hypothesis that foreign direct investment brings about productivity improvements to host economies via the channels of technology, liquidity and know-how transfer, as opposed to market access or increased competition.

Chapter 3 revisits the prominent debate over the origins of the banking crises during the Great Depression and the effects these had on the real sectors. Evidence is provided in support of the debt deflation theory of banking crises, but the broad effects of the Depression on banks' and firms' balance is also explored. The higher the involvement of banks with industry both directly (via interlocking directorates or equity ownership), and indirectly, via the lending channel, the greater the negative effects of the crisis on banks' balance sheets. The evidence points to negative feedbacks from bank distress to firms' output losses in the form of a credit crunch.

Chapter 4 uses a political economy framework to analyse the state interventions in the Balkan economies during and after the Depression. The data suggests that direct and indirect bailouts of banking and industry defined the role of the state. Government cronies from the financial and economic elite, as well as the agricultural sector ended up as winners from the process, while semi-skilled and unskilled labour paid the tax bill.

These quantitative findings are in agreement with the broad conclusions of transaction cost economics where finance can play an important sorting role. They also support the empirical literature that rejects the contributions of portfolio investment but argues that direct foreign investment is a source of technological progress. The conclusions of the thesis, however, call for caution as market failure in the financial sector was abundant and political economy frictions could cause lasting damage to development.

ABSTRACT (2)

Finance and Economic Development in Historical Perspective: South East Europe in the Interwar Period, 1919-1941

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Philosophy

Faculty of Modern History, Oxford, Michaelmas Term 2011

The positive contributions of finance and financial institutions towards the process of economic development have been debated ever since Joseph Schumpeter famously argued in 1911 that services provided by finance are essential for technological innovation and growth. A substantial theoretical literature has produced increasingly sophisticated economic models endogenising the role of finance into the growth process, while empirical studies have put forward data to detect the link between the two. Yet a large part of the empirical surveys operate with macroeconomic or cross-section data and consequently neglect the channels through which finance affects growth. However, there is a nascent literature that explores the crucial mechanisms of growth created or supported by financial flows and credit institutions. This dissertation is a contribution to this new and emerging approach. It provides firm-level data from Bulgaria and Yugoslavia from the period 1919-1941 to tackle a number of questions related to finance, banking, and economic performance of the European economic periphery. The analysis is broadly divided into three parts – capital flows and the effects of international investment on domestic firms, banks and the real sector during the Great Depression, and the political economy of government intervention during the Depression and post-Depression period.

The introductory chapter 1 sets the theme of the investigation by looking at the aggregate picture of finance, capital flows, and the problems of development in South East Europe in the period between the two world wars. It largely uses data from the League of Nations reports on the region to observe the flows of foreign investment and the changing roles of domestic commercial banking and state finance in the 1920s and 1930s. Here, I advance the argument that the interwar period was clearly distinct from the pre-World War I era. Indeed, the interwar period was characterized by significant volumes of international monetary investments in the Balkans, a feature which is certainly absent in the period prior to World War I.

The destination of these investments was also different. Foreign investors pre-1914 targeted government debt and shied away from private enterprise, with some small exceptions. But the 1920s saw this trend alter, with German, French, Austrian, British, Belgian, American, as well as Swiss and Swedish investors, amongst others, actually establishing or purchasing banks in the Balkans, a traditional area of foreign financial interest. They also took interest in setting up the new industries of the era; electricity generation and distribution, car manufacturing, oil extraction, as well as investing heavily in the more traditional sectors of mining, sugar refining, and cement production.

Unsurprisingly, of the four Balkan countries, the purported victors of World War I Romania, Greece, and Yugoslavia, obtained the lion's share. Government and industry in Bulgaria were treated with suspicion until the mid-1920s, when a boom in investment occurred. Overall, foreign inflows peaked in the period 1927-1930, with Romania receiving the largest amount

of \$80 million in 1929, followed by Greece with \$45 million in 1929, Yugoslavia \$29 million in 1928, and Bulgaria \$20 in 1929.

The pattern of capital inflows exhibited markedly different trends in the two decades prior to World War II. A rapid decline in inflows and a trough in 1933 followed the boom in the late 1920s. The data collected to trace these is in agreement with Feinstein et al. (1995), who provided comprehensive evidence for the reversal of capital flows from debtor to creditor countries on the aggregate.

Additional data also suggests a credit boom amongst the domestic financial institutions of Bulgaria and Yugoslavia, and these findings present a distinctly dynamic financial sector in 1920s Bulgaria and Yugoslavia. Certainly, in a time of structural transformation for the economies in the region, where agricultural productivity was increasing and manufacturing sectors were emerging, finance could play an important role in supporting the process of growth.

A number of economic theories formalise the role of finance in the process of economic growth. The most basic function of credit institutions and the stock market is to improve efficiency by transmitting information between savers and investors, spreading risk across them, and improving information flows. In other words, finance and financial institutions are needed to lubricate the workings of the rest of the economy.

More sophisticated growth models, which endogenise the role of technological improvements, have attached further importance to finance. Financial flows on a global scene can spread knowledge, managerial expertise, accounting standards, and importantly, alter the scale of production. While not a source of growth in itself, international finance can help deliver the productive techniques that are at the heart of growth to underdeveloped economies.

Following these theoretical claims, chapter 2 develops a method of computing the productivity improvements that foreign direct investment brought to a sample of firms in Bulgaria and Yugoslavia. Original, firm-level, dataset from Bulgarian and Yugoslavian firms can help examine the productivity performance of a firm and sectoral level, and also test theories of foreign investment effects on a host country. In broad terms, the findings suggest that the services sectors (insurance and banking) obtained most foreign capital relative to the rest of the economy in both Bulgaria and Yugoslavia. Firms in receipt of foreign investment also developed a considerable advantage in productivity growth, compared to domestic firms over the 22-year period from 1919 to 1941. The majority of this advantage came from productivity spillovers, while competition and trade effects were ambiguous at best.

These findings tend to support the writings of contemporary Balkan economists, who looked for inspiration to the industrialized West and attached great importance to new ideas from abroad. The economic problems of growth, as far as contemporaries in the Balkans were concerned, could be reduced to two issues: scarcity of capital and technological deficiency. Foreign investment could solve both by bringing liquidity to undercapitalized economies, and transmitting productivity improvements to the firms that obtained the investment. Chapter 2 argues that it was in fact direct investment, which involved foreign investors in the running of local firms that brought about positive productivity spillovers.

The greater part of savings and industrial investment, however, were channelled via the domestic banking sectors. Local banks usually possess an information advantage over foreign investors, and even the state, due to their longer-term relationships with clients. Financial history has paid specific attention to the merits of universal banks, since these institutions were closely linked to commercial clients; they held equity and industrial assets on their balance sheets, and sometimes took an active part in the running of enterprises. It was not unusual amongst continental banks to send representatives to their clients' board of directors.

Chapter 3 puts these institutional specifics at the foreground of an explanation of the banking failures during the crisis of 1929-1935. There are two leading views of the role of banks in the origins and perpetuation of the Great Depression. One blames the panic that spread amongst the belligerent economies following asset price crashes and bank runs, while the other suggests that the erosion of bank assets through prolonged deflation was at the core of the longevity of the Depression. The seminal work of Bernanke and James (1990) has pointed to the mechanism through which deflation by reducing the net worth of banks and borrowers can affect flows as well as the quality of credit, thus having negative feedback to the real economy. Chapter 3 provides evidence of such feedback from the European periphery, which operated without obvious bank runs and panic. It argues that universal banks were the key to this channel, and led to insolvency in the local credit markets in a time of global illiquidity. The micro-level dataset is used to provide quantitative evidence of the Depression in Bulgaria and Yugoslavia.

The analysis concludes that firms that were linked to banks, that is, firms heavily dependent on domestic credit, fared worse, while firms that had some alternative liquidity source, in particular foreign funds and export income, saw their output and investment decrease least, or even increase in some instances. Banks reacted to the sharp loss of liquidity in a predictable way, by trying to shed illiquid assets and boost cash reserves. In the depressed domestic and international markets of the early 1930s, however, the majority of banks that had illiquid balance sheets laden with equity ended up being insolvent, and failed. Overall, the financial crisis in the Balkans bore the scars of an earlier credit boom, which was stimulated by a generous influx of foreign capital in the 1920s. The argument advanced in chapter 3 is that the fall was intensified by the length of the deflation and the strong economic links between banks and firms.

In the relatively small and underdeveloped economies of South East Europe, personal or institutional links had important economic implications. Interlocking, or the links between banks and firms, may have been partially responsible for the severity of the financial crisis in this region. Chapter 4, however, argues that the state intervention to mitigate the results of the global economic downturn was, to a large extent, also determined by interest groups and crony connections.

Political alignments in the murky waters of Balkan politics conditioned interventions in domestic markets. The bailouts of domestic banks were done in an ad hoc manner, in both Bulgaria and Yugoslavia, in response to the pressures of interest groups that began to feel the bite of the economic crisis. Chapter 4 presents quantitative evidence for the crony links that determined the directions of the bailouts.

Genuine worries about the state of financial systems prompted the creation of supervisory institutions and the use of the "lender of last resort" role of the central banks. Within one year of the height of the banking crisis, in 1931, however, the governments of Bulgaria and

Yugoslavia had switched their efforts from focusing on creditors to bailing out the debtors. By 1936 they had socialised the bad debts of agricultural and industrial producers. Furthermore, when their debtors first became insolvent, they had also poured money into the creditor banks, which could not survive without government intervention, and then protected them through new debt relief legislation.

The steps taken by policy-makers from both countries to solve the crisis were almost identical. Chapter 4 describes the institutions Bulgarian and Yugoslav governments created to first take on the bad debts of the agricultural sector, then the changes in the financial infrastructure of both countries with the aim of socialising the 'toxic' assets of both financial systems. Finally they instituted legislative changes that enacted protection for the real sector and capital controls for the credit sector. The final tax bill was passed on to the weakly organised labour force to the benefit of the industrial and financial elites.

Using data from two of the South East European countries has allowed a comparison between the largest and smallest of them. Yugoslavia had been aligned with the Entente Powers during World War I, and as a result enlarged its territories considerably, and obtained more foreign attention in terms of investment and political alliances. Yet remarkably, despite Bulgaria's ill-fated alliance with the Central Powers, economic experiences during the Interwar Period show remarkable similarities with Yugoslavia. Both countries benefitted from foreign funds and the technical assistance that accompanied them. Foreign investors financed very similar sectors, which can be explained by the similar economic structure of the two countries.

The interwar crisis also affected the Bulgarian and Yugoslav economies in a similar fashion. Domestic banking assets shrunk significantly, although the Yugoslav experience differed somewhat, as closer links to Austrian and Italian capital meant greater liquidity problems in the aftermath of the central European bank crisis of 1931.

Economic historians often point out that economic growth depends on the individual specifics of countries, and the institutions that promote growth need not be the same across different economic environments. Gerschenkron (1963) concluded that it is unclear if successful growth policies in some countries can be transplanted to others. The evidence from Bulgaria and Yugoslavia presented in this study, however, suggests that South Eastern Europe behaved as a typical economic periphery. The two countries studied here shared many of the conflicts less-economically developed countries face today; capital scarcity, an economy characterised by information problems, and informal connections in pursuit of rents rather than efficiency, among others.

The response of the Balkan countries to these problems was constraint by their resources, factor endowments, and institutional capabilities. The financial structures that developed in the 1920s were a reflection of such conditions and were partially destroyed by the Depression. The deepened role of the state in the 1930s was thus a natural progression, observed across both the economic core and periphery.

Finance was an important factor for the growth of the periphery. It was not, however, the driving factor. The political institutions that emerged from the Depression in hindsight appear more important than financial institutions in affecting the growth paths of the countries in the Balkans. The Gerschenkronian hypothesis that the Balkan economies failed to fully industrialize in the Interwar Period due to the lack of central agent to collect savings and force investment in the original industries of the first industrial revolution, as the state did in

Soviet Russia for instance, or as large, state supported banks did in Imperial Germany, appears to be correct. Foreign investment could not create long-term growth trends, while domestic banking was too dissipated. The Depression did force the state to take an active role in the domestic financial sectors, but it was left to the socialist command economies post-1945 to initiate a forced pace of industrialisation.

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CHAPTER 1

Foreign Capital in Southeast Europe during the Interwar Period

Chapter Summary:

The nation states of the Southeast European region were political and economic latecomers to the European periphery. Having gained independence from the Ottoman Empire towards the end of the 19th century, they pursued the dual aim of convergence to the European core through economic development, and of territorial unification through military means. Militarily exhausted by the Balkan Wars and World War 1, the Interwar Period was spent actively pursuing monetary stabilisation, investment from abroad, and industrial development. This chapter looks at the international capital movements in the region during the years 1920-1939. It presents new aggregate data of foreign investment in Southeast Europe, a snapshot of its sectoral dispersion, and analyses the factors that affected the entry and exit of funds in light of the global economic environment. It sets out the foundation for a broader investigation of finance and the South East European economies with microeconomic data from Bulgaria and Yugoslavia. In particular, the focus is on the effects of foreign capital flows on economic development in the region in contrast to domestic banking institutions and the interventions of the state.

Introduction:

Stoyan Bochev, a prominent economist and banker of Interwar Bulgaria, spoke in 1924 about the thorny road of economic convergence his country was about to take¹. He was positive and possibly overly optimistic about one economic factor that had changed since the pre-1914 period: the role foreign investment could play in development. The years 1920-1939 saw Western investors acquiring direct stakes in some large Balkan commercial banks and industrial enterprises, as opposed to the

¹ Bochev (1998) p. 232.

government bond markets that dominated pre-World War 1 international finance in the area².

The amount and types of foreign investment varied from country to country, but it profoundly influenced industrial and financial structures and, arguably, development, or so did contemporary economists and commentators believe. They argued very much along the lines of modern finance theory. Christophorov (2010) suggested that the first role for foreign finance was to create liquidity for a capital starved local credit markets³. Bochev (1998) and Tasic (1992) argued foreign money would bring modern financial and accounting practices to the local banking sectors, as well as new technologies to industry. Such claims, not uncommon amongst finance and economics scholars, suggest that finance is central to economic development, which is helped in particular by international capital flows⁴.

Foreign investment, however, is only one string of capital sources even within developing economies. As McKinnon (1973) would argue, even if efforts to industrialise may depend on capital inflows from abroad or foreign technical assistance, as long as access to foreign trade and money remains relatively free, then successful development will be largely influenced by domestic institutions and policy choices⁵. This means that a study on finance and development must also include banking systems, which effectively manage domestic money, and policy making, which is a source of finance in itself, as well as setting the 'rules of the game'. The thesis aims to provide answers to detailed questions about the effects of each of the strands of finance: foreign investment, domestic banking, and the government. How effective were foreign money in transferring technology and improving the productivity of domestic industry in the Balkans? What were the specifics of domestic banks, what was their relationship with industry, and how did domestic credit perform during the Depression period? What was the role of the state in regulating finance and industry and redistributing resources in the crucial years of the crisis and immediately post-crisis 1930s?

The effort herein is mostly empirical in nature. An important strength of this thesis is a detailed firm and bank level dataset, collected from the National Archives of Bulgaria and Yugoslavia. It allows an investigation not only into the empirical questions above, but also provides an invaluable account of the interaction of foreign

² Teichova in Teichova and Cottrell(1983).

³ Christophorov (2010), p. 387.

⁴ See footnote 7.

⁵ McKinnon (1973), pp. 3-5.

investment, domestic banks, and state finance. I argue that these three strands were by no means mutually exclusive and in answering the three main questions, the thesis often makes arguments and comparisons between them, with further comparison between the states of Bulgaria and Yugoslavia as examples from the European economic periphery. Gerschenkron's work on development in relative backwardness has clearly identified credit scarcity as one of the impediments to Balkan growth. Indeed, his work has motivated this study, whereby I emphasise the common traits between the Balkan nations.

All three strands influenced each other and in answering the three main questions, the thesis often makes arguments and comparisons between them. There is a further comparison between the states of Bulgaria and Yugoslavia, as examples from the European economic Periphery. There is an emphasis on finding the common traits, however, as one of the motivating studies is Gerschenkron's work on development in relative backwardness, which identifies credit scarcity as one of the impediments to Balkan growth⁶.

This introductory chapter, then, initially investigates the theoretical literature linking finance and growth, and presents a simple conceptual framework for analysing the effects of foreign investment on a host economy. It attempts to locate the thesis within the large literature on finance and growth, arguing in support of the chosen research agenda. It then provides a broad overview of the macro-economies of four Balkan countries – Bulgaria, Greece, Romania and Yugoslavia - before focusing on the flows of capital in the international economies, in particular within South-east Europe in the interwar period.

Finance, Growth and Theoretical Effects of Foreign Investment:

The relationship between finance and growth has caused a considerable academic debate and consequently a growing literature produced by leading scholars in economics and economic history⁷. Recent literature suggests that well-developed financial systems not only ease the exchange of goods and services, but also increase efficiency in information production and sharing and subsequently in the allocation of

⁶ Gerschenkron (1962).

⁷ The research agenda on finance and growth is not new – scholars as early as Bagehot (1873) and Schumpeter (1912) have suggested a role for finance in economic growth. More recently, Goldsmith (1969) and McKinnon (1973) have been strong proponents of the same idea. On the opposing side Nobel Laureate Lucas (1988), and more recently Gourinchas and Jeanne (2006), claimed that the role of finance was overstressed.

capital; they also promote more transparent corporate governance structures, and help with mobilising and pooling savings⁸.

King and Levine (2003) formalised the Schumpeterian view of finance and growth, the idea that finance ‘lubricated’ the real economy, into a model of endogenous growth⁹. They suggest four channels, through which financial development feeds into growth: screening prospective entrepreneurs and selecting most promising projects, mobilising capital to fund investment, diversifying investors’ portfolios to eliminate risk and revealing potential benefits of participating in productivity-enhancing activities¹⁰. Further to that, Fohlin (1998) provided a summary of recent models of finance and growth. In a simplified model, per capita growth rate is a function of the savings rate, return on investment and costs of intermediation: $y = f(S, I, C_{int})$ ¹¹. The variable cost of intermediation (C_{int}) describes the efficiency of the domestic financial system, which in turn is linked to the ability of capital to reach high-return investment opportunities, thus promoting productivity improvements.

Economic theory suggests that the efficiency of financial institutions may often depend on the scope of their activities. Therefore, the structure of financial systems affects the overall efficiency of corporate finance, not only due to physical costs of providing funds, but also because of costs relating to information transmission¹². Considerable effort has gone into the problem of distinguishing the costs and benefits of different financial structures¹³. Broadly speaking this literature suggest that banks perform better at the early stages of development, but capital markets tend to cope better with the information problems of more complex, advanced economies¹⁴. Universal banking, a structure which combines the investment as well as the commercial arm of banking within one institution has arguably performed best in the case of the late industrialisers, such as Germany, and also the Balkan countries. Calomiris (1995) emphasised the information reusability and the long-term relationship of these banks with their clients, while Rajan (1995) pointed to the benefits of reputation flow from one arm of the bank’s business to others.

⁸ See summary of theoretical and empirical results in King and Levine (2003).

⁹ Ibid.

¹⁰ King and Levine (1993).

¹¹ Fohlin (1998); p.3.

¹² Fohlin (2007), p.52.

¹³ See Diamond (1991), and Chemmanur and Fulghieri (1994).

¹⁴ Rajan and Zingales (1994), also Calomiris (1995).

There can be adverse effects of long-term client relationships and the economies of scale and scope that universal banks promote. Having established their network of clients, universal banks have little incentive to seek risky investments for higher return, thus they are naturally more conservative investors than pure investment banks or venture capital funds. In fact, universal banks have an incentive to seek client relationships that result in director interlocking and insider lending to minimise the cost of monitoring and the risk of default in economies plagued by widespread information problems¹⁵. Despite arguably positive institutional development for the early 19th century east-coast US banks, this has been shown to have seriously undermined the efficiency of banking systems in modern day developing economies¹⁶. Hence, the economic literature has promoted the view that international capital flows can improve on these inefficiencies by breaking such rigid lending practices and seeking out more risky, but higher return investments. Economic historians have also pointed to a link between international finance and improvements in industrial technology, through management practices, machine techniques as well as market orientation, for the Southeast European region during the early part of the 20th century¹⁷. The economic policy of international institutions like the IMF and the World Bank has been consistent with promoting foreign direct investment to improve efficiency of domestic finance allocation¹⁸.

The literature commonly cites four main channels, through which foreign investment can lead to beneficial changes in the recipient economy, particularly in the performance of local firms¹⁹. In the first place competition from foreign companies can lead to changes in the scale of domestic production, allowing exploitation of efficiency gains from increasing returns to scale. Secondly, local firms may acquire foreign technology, either through licensing agreements or technological spillovers. Thirdly, foreign investment may also provide access to export markets for domestic producers. Finally, the presence of foreign capital may bring about greater transparency and better corporate governance and in this way uproot inefficiencies arising from institutional rigidity and insider lending.

It would be impossible to account for all these mechanisms using aggregate analysis of macroeconomic data, as is often done, to determine the link between foreign investment and growth, since it is likely that foreign investment will have different

¹⁵ Lamoreaux (1996).

¹⁶ La Porta, De Silanes, et al (2002) use a case study of Mexico to provide evidence of this claim.

¹⁷ Notel, R in Kaser and, Radice, (1986).

¹⁸ A policy described as the Washington Consensus by Williamson (1990); see also Stiglitz et al, (2006).

¹⁹ Navaretti and Venables, (2006), pp.151-153.

effects on aggregate growth depending on the sector receiving it. There may also be inefficiencies caused by the presence of foreign capital, for instance, problems of information asymmetry may be aggravated and small-scale enterprises may be denied access to foreign funds as a result. To resolve these issues, and to formally estimate the effects that foreign investment has on host economies, especially their industries and firms, we need to resort to firm level data. Micro-level data can help us disentangle the mechanisms of foreign investment's impact, because it allows us to estimate variables that represent technological spillovers, productivity, as well as efficiency.

The following simple framework, suggested by Navaretti and Venables (2003) can be used to illustrate one way of theoretically formalising our thinking about productivity and spillover effects of foreign investment²⁰. It is not a fully-formed model and it raises a number of theoretical uncertainties. As will be shown below, it focuses on measuring positive contributions of foreign investment, like productivity and efficiency gains, but does not include possible negative effects. For instance, foreign investment may lead to a crowding out effect and impose a technological bias with regard to domestic production with some social and economic implications.

Firms have a set of characteristics (x) that determine productivity (q). Local firms have technology summarized by the function $q = \beta z(x)$, where the function $z(\cdot)$ is increasing in the characteristic and β is an efficiency parameter. Firms here are heterogeneous and the proportion of total employment in firms with characteristics x is given by the density function $n(x)$. The following equation describes the average productivity of local firms:

$$q^N = \int \beta z(x) n(x) . dx$$

Similarly, average productivity of firms with foreign capital is described by:

$$q^M = \int \alpha z(x) m(x) . dx$$

Foreign-participated firms have productivity $q = \alpha z(x)$, and for a given x are more efficient if $\alpha > \beta$. The distribution of such firms' employment across firms with different characteristics is $m(x)$.

For the economy as a whole, a proportion μ of the labour force is in firms with foreign capital and $1 - \mu$ is in domestically-financed firms, so average productivity across the board is:

$$q = \mu q^M + (1 - \mu) q^N$$

²⁰ Ibid., p.154.

We can frame a number of hypotheses linking foreign investment to growth within this framework. For instance, firms with foreign capital have higher productivity when $q^M > q^N$. To be able to claim that for technical efficiency ($\alpha > \beta$) requires some statistical analysis to control for observable firm characteristics, like scale, market opportunities, management structure, etc. Similarly, spillover effects occur if $\beta = \beta(\mu)$, hence the increasing presence of foreign capital in the economy affects domestic firms' productivity. Indirect effects of foreign investment, like the ones mentioned above, are not incorporated in this framework and render further exploration.

Given the theoretical and empirical uncertainties of the literature on these issues, a study of finance and growths in the context of developing countries in historical perspective can be very instructive. There are three broad sources of finance within an economy. Funds can come from foreign investors, eager to reap the benefits of a developing region. Domestic credit institutions and their interaction with industry are crucial for the ability of an economy to process savings and generate finance for investment. Policy makers and the institutions they create set the rules, along which industry and finance work together, whilst themselves being the largest agent that redistributes resources within an economy. In the end, it is through understanding the interaction of all three sources that we can make inferences of the effects of finance on a country's development, as well as track down precise channels of effect²¹.

This chapter sets up the basis of the thesis, aimed at investigating the sources of finance in the Balkans. The starting point, presented in the rest of this chapter, is a general look at the regions' economic development and the types and volumes of finance that were available. Second, we go on to assess the effects of international capital flows on the host economies of Bulgaria and Yugoslavia during the 1920s and 1930s in chapter 2. Chapter 3 deals with the domestic banking sectors, their links to industrial performance, and the effects of the sharp financial and economic crisis of the early 1930s. The final chapter assesses the role of the region's governments during the Depression and how they reacted to the changes occurring in the international money markets and the domestic credit markets.

²¹ I do not analyse the agricultural sectors in the Balkans despite its importance for the economies of the region. There are a number of reasons for this. First of all, there are already historical surveys of agriculture in Eastern and South Eastern Europe during the same period (refs). Secondly, the structure of agriculture in the Balkans for the majority of the period was formed around peasant small-holdings (Lample 1986), which would have made the task of data collation almost impossible, given our emphasis on firm-level micro data and on tracing the microeconomic changes on this level. Third and most important, agriculture is peripheral to the story of finance and development in South East Europe. It did not attract significant foreign investment. The large domestic credit institutions also tended to do business with industry. Financial institutions that did deal with agriculture were mostly the credit cooperatives, which deserve an investigation on their own, and are not part of this thesis. Of course, government sponsored banks also played an important role in the financing of the agricultural sectors. We have discussed their role during the Depression in the final chapter.

A Snapshot of the Southeast European Economies in the Interwar Period:

Current scholarship on economic history offers no consistent narrative of the development of the Southeast Europe pre-1945. Local historians and economists, largely writing before 1989, follow Gerschenkron in presenting a negative picture of failed industrialisation and inefficient agrarian sector in the midst of political turmoil, possibly explained by a class struggle²². Recently, efforts have begun to review our understanding of the economic history of the region. For example, Ivanov and Tooze (2007) reconstructed GDP figures for Bulgaria for the late 19th century and linked these to the murky growth picture we have for the 1920s and 1930s²³. Indeed, their appraisal of the agricultural sector is rather optimistic; they note significant structural changes that formed a sufficient precondition for modern economic growth. Still, there remains a dearth of scholarship on the industrial development of the countries in the region, as well as the financial sectors²⁴.

What follows is a brief summary of the little we know about the economic development of the Balkan region during the Interwar Period. Most of the data is collected from the League of Nations “International Statistical Yearbook”, which in turn has reported figures found in the national yearbooks of Bulgaria, Greece, Romania and Yugoslavia²⁵.

²² Gershenkron, (1962); Berov,(1989a); Jelavich and Jelavich,(1983).

²³ Ivanov and Tooze, (2007).

²⁴ Kossev, (2008) presented new data for the development of the Bulgarian banking sector during 1924-1937, which show a dynamic sector with an interest in financing industrial enterprises.

²⁵ League of Nations, Statistical Yearbook, Geneva, various years; There are some missing values, largely because the League of Nations data was not fully compiled from the national statistics, but rather relied on government reports, which were regular only when the respective governments were involved in loan negotiations or debt repayment restructuring. The GDP figures are taken from Maddison’s (2001) dataset.

Figure 1.1: GDP index of Bulgaria, Romania, Greece and Yugoslavia, 1920-1939; 1926=100 Source – Maddison, 2003;

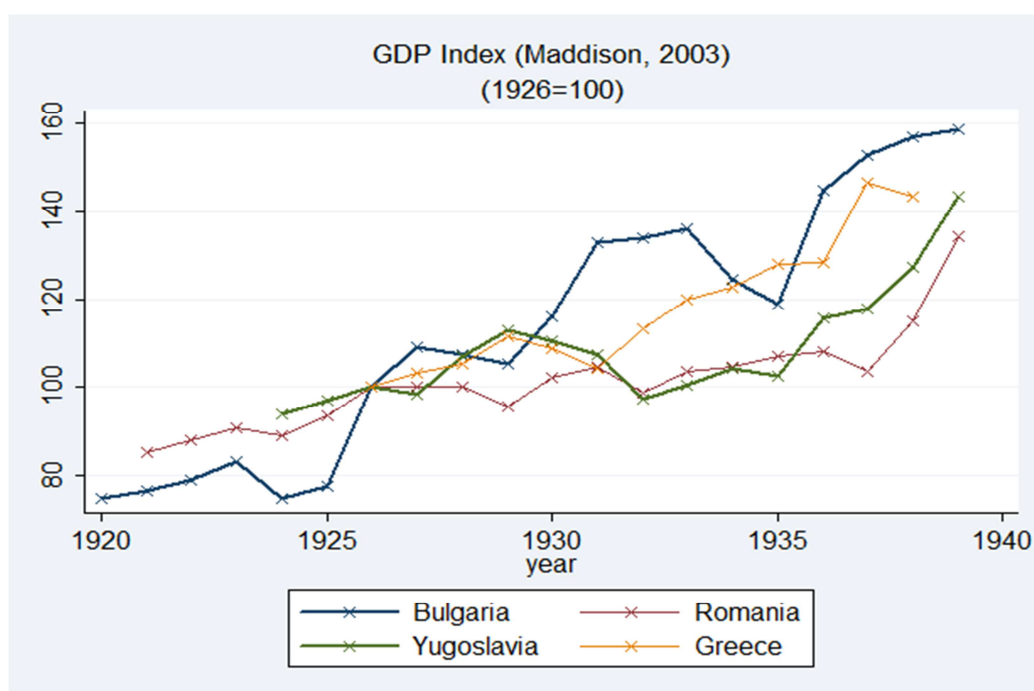


Figure 1.1 suggests an upward trend during the two decades of 1920s and 1930s for Bulgaria, Greece and Yugoslavia. Romania, on the other hand, appears stagnant. Figure 1.2 illustrates the deflationary period in the early 1930s, which continued until the end of the decade for all of the Balkan countries except Greece. The depression in the middle of the period affected the countries in the region at the end of the 1920s; the lowest point for Bulgaria was 1929, while in the same year a fall in GDP was recorded for Greece and Yugoslavia. The Great Depression had long-term consequences for Bulgaria, Romania and Yugoslavia. The increase in GDP index for Bulgaria, seen in 1930-1933, is a result of exceptionally good harvests in a largely agricultural economy²⁶. Figure 1.3, presents the plight of industry during the 1930s. Though buoyant in Yugoslavia, the index of industrial production was falling or was stagnant for the other three countries. This contrasts with the double-digit growth rate percentages exhibited by the four countries in the 1920s (see table 1.1). Unfortunately, disaggregated figures are unavailable for all the years and all countries in the League of Nations publications. Even from the simple average growth rates, during 1921-1930, the fast recovery from World War 1 destruction and the subsequent period of sharp increase in output are visible. The obvious explanations for this disparity between the two decades are the Depression as well as the outflow of foreign capital, which provided liquidity for the credit sector and funds for enterprises in the 1920s.

²⁶ Avramov, (2007), pp.64-65; this upward swing has subsequently been revised by Ivanov and Tooze (2007), to show a stagnant period until the drop in 1933.

The following section provides an overview of capital movements around the world, before concentrating on the Balkans region.

Figure 1.2: Domestic Price index of Bulgaria, Romania, Greece and Yugoslavia, 1928-1939; 1929=100 Source – League of Nations, various years;

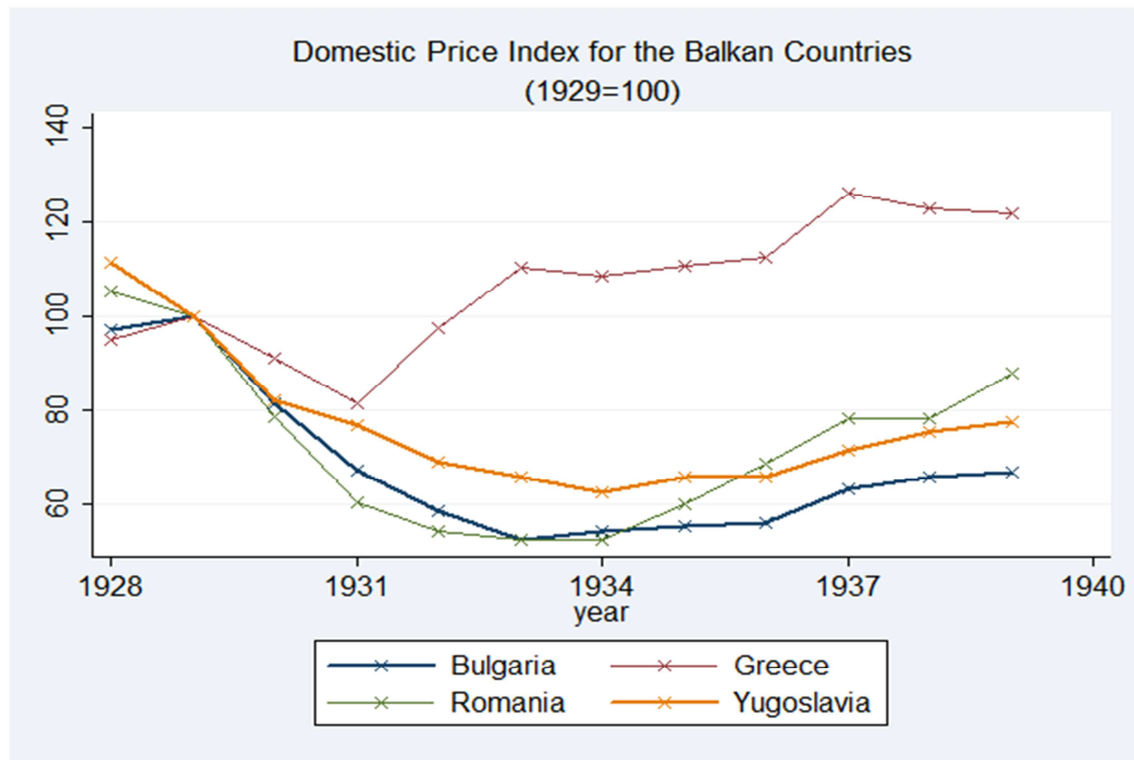


Figure 1.3: Industrial Production index of Bulgaria, Romania, Greece and Yugoslavia, 1929-1939; 1929=100 Source – League of Nations, various years;

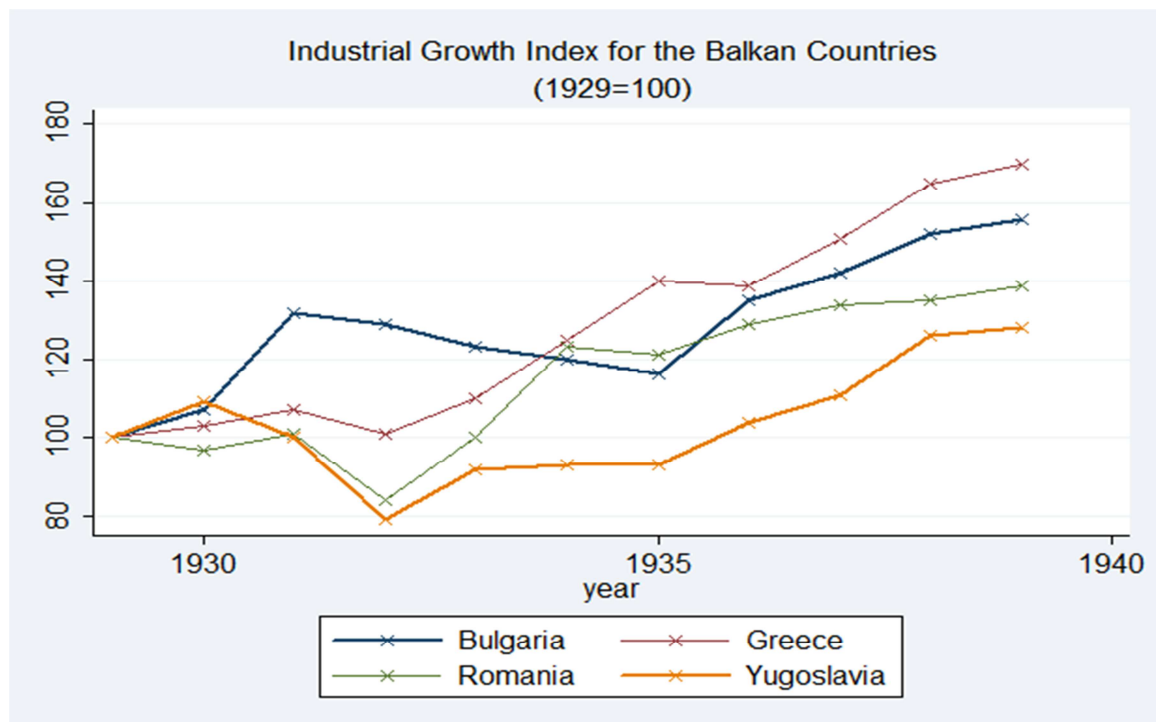


Table 1.1: Average Annual Growth of Output, Source: Lampe and Jackson, 1982;

Average Annual Growth of Output %, 1921-30, Source: Lampe and Jackson, (1982)				
	Bulgaria	Romania	Greece	Yugoslavia
Metals and machinery	29.4	19.8	21.9	18
Chemicals	27.9	20.5	6.6	---
Non-wood building materials	18.2	12.5	11.6	17.4
Wood processing	16.2	2.2	---	---
Paper	12.1	17.6	32.4	---
Textiles	23.5	18.6	12.6	---
Leather	10.8	9.9	1.2	---
Foodstuffs	14	23.8	3.1	14.4

(--- no data is available)

The data presented in table 1.1 and figures 1.1, 1.2 and 1.3 illustrate the stylised story of Balkan economic development. The narrative of Lampe and Jackson (1982) is based on the growth figures collated by Maddison (2003). These are, however, very broad estimates, sometimes called ‘guestimates’ in the literature. Recently, historians from the Balkans have attempted a painstaking computation of GDP estimates that are aiming to be much more precise. Ivanov and Tooze (2007) as well as Kostelenos et al (2007) have expressed serious doubts as to the trustworthiness of Maddison’s estimates. The former two studies contradict the fast GDP growth and industrial development suggested by Maddison’s estimates. Ivanov and Tooze (2007) suggest the Bulgarian economy grew by 1.7% over the whole period of 1921-1938. Their narrative presents a stagnant 1920s, when some structural transformations occurred, a sharp recession in the early 1930s, and a gradual recovery with moderate growth into the late 1930s and the early war years (when Bulgaria exported cement and raw materials to Germany).

Kostelenos et al (2007) estimate a very similar and very moderate amount of growth for the Greek economy during the Interwar period, equal to 1.6 %. The qualitative study of Mazower (1991) supports the pessimistic narrative, describing the sharp crisis, both economic and fiscal, which resulted in a Greek default in 1931.

No new estimates exist for Romania or Yugoslavia, but the meticulous, bottom up surveys of Ivanov and Tooze, as well as Kostelenos et al undermine the positive growth narrative of Maddison. The micro data collected for the purpose of this dissertation is in line with the more pessimistic outlook. Chapters 2 and 3 provide

micro estimates for the productivity growth of a sample of firms from a variety of industries. The TFP growth and Labour productivity growth estimates computed are about 0.5-0.7% for Bulgaria and just under 1% for Yugoslavia. A big reason for the low numbers is the focus on the Depression as the central economic event in the period this dissertation studies. However, the sample I use, although small, is representative of the number of industries in both Bulgaria and Yugoslavia and only excludes the agricultural sector, generally a slow growing sector.

Despite the serious doubts over the accuracy of Maddison's estimates, until comprehensive new comparative data emerges for all the Balkan countries, the former are useful as an illustrative point, on which to base initial hypotheses. Thus, this dissertation set out to explore the connection between finance and growth in a region, which on the macro level seemed to grow, albeit from a very low starting level, but experienced a crisis during the Great Depression. The story that emerges after the analysis of the micro data used in chapters 2 and 3, suggest slower growth or stagnation for the greater part of the period, a sharp recession that turned into a depression in the early to mid-1930s, and is in significant contrast to Maddison's macro narrative.

Global Capital Flows in the Interwar Period:

Both the character and the magnitude of international capital movements in the Interwar Period left a significant mark on the economies of the core and the periphery. In fact, the sums which flooded into Europe immediately after the First World War and then raced back to the creditor countries, are seen as one of the most influential factors of the economic experience of the 1920s and 1930s. Keynes expressed his doubts about the magnitude of European bonds issued in the US as early as 1922²⁷. He could not see a fundamental ability to repay the American credits and accurately predicted the sharp reversal of flows that was to happen in the 1930s. Bloomfield (1954) condemned the erratic behaviour of international capital flows: '... far from serving a useful function, they left nothing but disturbance and damage in their wake'²⁸. A more recent re-examination of the evidence by Feinstein and Watson has confirmed the 'destructive and destabilising effects' that occurred in the 1930s, but whose potential could already be detected in the 1920s²⁹. The following two graphs

²⁷ Keynes, (1922), p. 162.

²⁸ Bloomfield (1954), viii.

²⁹ Feinstein and Watson, in Feinstein, (1995).

are extracted from Feinstein and Watson (1995) and trace the movements of capital flows on the aggregate level in the World economy:

Figure 1.4: Composition of global capital flows, 1924-1930, \$ml; (SEE countries appear under Other European Debtors); Source – Feinstein and Watson (1995)

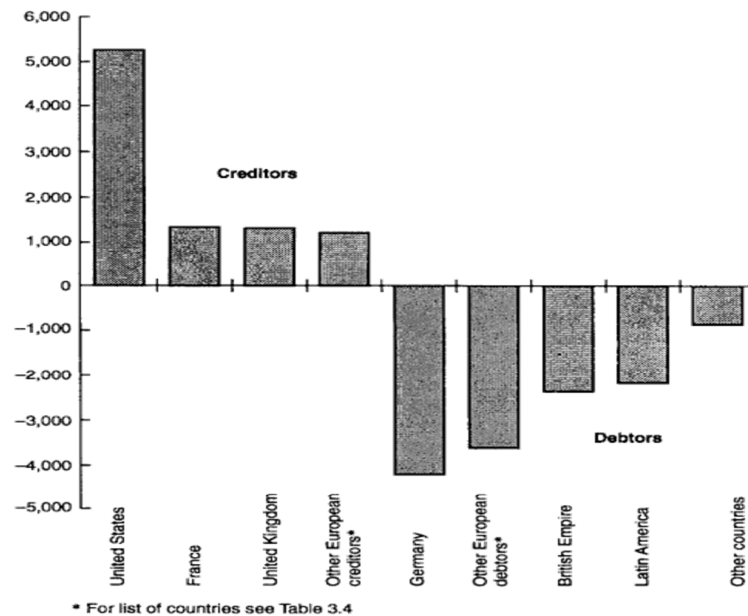


Figure 1.5: Global capital flows, 1924-1937, \$ml; Source – Feinstein and Watson (1995)

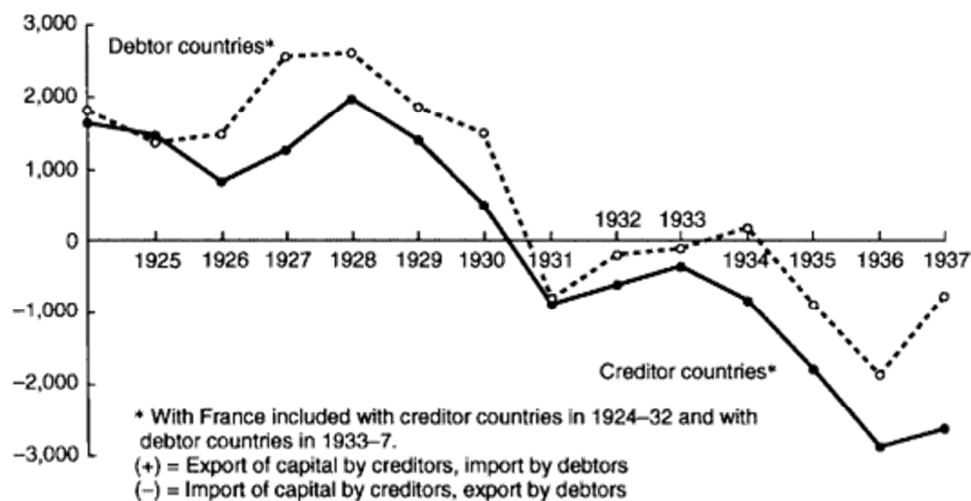


Figure 1.4 presents the breakdown of capital flows according to country of origin or receipt. The stylised fact of the literature is borne out: the US was the largest creditor. France and the UK had an equal share of exports of capital, while a string of other European countries were also capital exporters. Among them the most significant

were the Netherlands, Switzerland, Sweden and Czechoslovakia. The rest of the World was on the receiving end of these capital flows: Germany obtaining the lion's share with \$4.2 bln, or about one-third of the total sum for debtors (\$13.2bn)³⁰. Large sums, a quarter of the total, were also channelled into Eastern Europe and the Scandinavian countries.

Feinstein and Watson (1995) make a comparison of the long-term private investment outstanding at the end of the Interwar Period and the pre-World War 1 period³¹. By 1938 the estimated total was approximately \$53 billion, only about 15% higher in nominal terms than the total in 1914 – some \$46 bln. In real terms, however, taking into account the inflation of World War I and the post-1919 years the value of accumulated foreign assets was well below its pre-war level³². The largest change in terms of foreign assets was seen in the French and the German case; neither country rebuilt its pre-1914 portfolios. The other striking case was the US, which increased its long-term external assets threefold, from \$3.5bn to \$11.5bn between 1914 and 1938³³. Despite this, the UK remained the largest foreign investor, even after the interwar period, with assets that stood at \$22.9bn, double that of the United States.

I should note here that these stock comparisons are merely illustrative and not a thoroughly reliable indication of the net flows of capital. The differences between 1914 and 1938 may well reflect changes between the market value of the company securities and the book value of direct investments, exchange rate revaluations and the loss of government securities through defaults or wartime disposals. This overall comparison also conceals some of the crucial and most volatile aspects of capital flows in the interwar period. Firstly, one cannot get an appreciation of the extent and character of short-term flows that became increasingly large, and increasingly precarious, during the period. Secondly, the character of capital flows, both short and long-term, differed very markedly in the two successive decades of the 1920s and 1930s. Figure 1.5 presents estimates of the actual movements of capital within the period.

The sharp discontinuity between the two interwar decades is evident. The high point of international investment occurred in 1928, while after 1930 there was no further net investment abroad by the major creditors as a whole. The US maintained a small net outflow for a further three years, while the major European creditors became net

³⁰ Feinstein and Watson (1995), p. 110.

³¹ Ibid, pp.97-100.

³² United Nations, (1949).

³³ Ibid, p.10.

importers of capital from 1931 onwards. The investment pattern during the 1920s was similar to the one before 1914. The rich creditor countries were channelling funds to the less developed countries in Europe and around the World. Debtor countries wished to exploit the greater wealth of the western economic core in support of their own economic development, while private investors from the US, Great Britain and France chose to buy foreign bonds and shares in expectation of higher return³⁴. From the break point of 1930 onwards this trend was sharply reversed. Vast sums flowed from the less developed world to the former creditors. Furthermore, these capital flows followed a seemingly irrational path: from countries with balance of payments deficit to ones with surplus, from capital markets with high interest rates to ones with lower.

There are economic and political reasons for this seemingly irrational behaviour of 1930s international capital. The early 1930s banking and financial crises undermined the confidence of investors in the stability of the debtor economies. Given the initial outflow, more and more countries chose to attempt to protect their currencies from depreciation and their dwindling reserves of gold and foreign currency, by instituting protective measure. This spurred further outflow as the final loopholes were being closed. Furthermore, the recovery of the security prices on Wall Street from the spring of 1935 onwards provided a further incentive for capital flight to the US³⁵. Some strong political messages from the mid 1930s supplemented these economic concerns; the increasingly aggressive foreign policy actions of the radical regimes in Europe, for instance the Italian invasion of Ethiopia, German remilitarisation of the Rhineland in 1936, and the Spanish civil war of the same year, ensured that the US and Great Britain were seen as the only safe heavens for investors' capital.

This is not an exhaustive account of the factors that influenced international capital flows, but rather a few broad lines, which may help us comprehend the aggregate capital flows into the Southeast European region – to which we now turn.

Capital Flows in the Southeast European Region during the 1920s and the 1930s:

Availability of data from printed sources on interwar capital movement in the Balkan states is limited. The main source for estimates of capital movements are the accounts of the balance of payments – more specifically of the capital account, which distinguished between the short term and long term obligations. These figures include

³⁴ Feinstein and Watson (1995), p. 111.

³⁵ *ibid*, p. 102.

merchandise trade, services, remittances and other transfers, interest and dividends, as well as gold and foreign exchange estimates. They are quite reliable and regularly reported in the publications of the League of Nations, 1922-1939³⁶. They do not, however, give us any further breakdown of the gross flows. The capital accounts of the League of Nations' *Balance of Payments* publication provide more detailed information on the transactions in international debt, covering long-term portfolio investment, long-term direct investment by companies in foreign subsidiaries or associates and the short-term holdings of foreign assets.

A small booklet issued by the United Nations, *International Capital Movements during the Inter-War Period*, in 1949, is also helpful to cross-check the estimated deficits/surpluses on the balance of payments accounts³⁷. This is really an update and aggregation of the earlier League of Nations publications and acts to confirm reliability. A rather more useful source is an unpublished League of Nations paper – *Europe's Capital Movements, 1919-1932: A Statistical Note*³⁸. This paper provides data on bonds issued by the Balkan states until 1932 together with information on where the loans were floated, the countries which subscribed them and also any repayments made since issue. Unfortunately, the period post-1932 is not covered.

Information on long-term direct investment by companies in foreign subsidiaries and the short-term holdings of foreign assets is rather more erratic, especially for regions outside of the major countries. Work on the European economic periphery is hampered in general by the limited quantitative data even on the aggregate level. Even basic macroeconomic statistics like price and wage series, production figures, and total assets of industries, have to be extracted from published primary sources. Micro level data is generally unavailable in any published sources and has to be collected from archive materials. Some semi-aggregate data on investments is extracted from the publications described above.

Of the Balkan countries, data on Romania and Greece is missing for large parts of the 1930s. Particularly problematic is Romania, which has provided no estimates on its capital account post-1933. Yugoslavia and Bulgaria have reported some semi-aggregate figures on capital flows and banking credit. To get hold of micro data, however, one can look into two places. Firstly, one can look at outward investment from the creditor countries – where information on long term portfolio investment and direct investment is available in a comprehensive manner for the US, but in a considerably

³⁶ League of Nations, *Balance of Payments*, and LN, *Statistical Yearbook*, various years, 1922-1938.

³⁷ United Nations, 1949.

³⁸ A typed copy of that paper can be found in the Nuffield College Library, Oxford; it is dated June 1943.

poorer manner by the other major creditors³⁹. Secondly, inward investment from local company balance sheets and returns for tax purposes in the Balkan states themselves. This thesis uses data collected from the second type of sources. The reason for this is convenience – all investments can be seen in one set of sources. In addition, a number of other variables can be constructed for use in the study. See a much more in-depth description of the sources of firm-level data in chapters 3 and 4.

* * *

Table 1.2, constructed with data from Feinstein and Watson (1995) presents the sums provided by creditors and borrowed from debtors within Europe during the two decades of the Interwar Period. All four of the Balkans states were significant debtors during the 1920s. The largest debtor was Romania, with \$440 mln of borrowed sums, while the smallest amount of funds was lent to Bulgaria – some \$50 mln. Bulgaria was also the only country of the four that became a creditor during the 1930s.

Table 1.2: European Creditors and Debtors: 1924-1937: Source – Feinstein and Watson (1995)

Balances on current account, gold and foreign currency: European creditors and debtors, 1924-1930 and 1931-1937 (\$mn., to nearest \$10m)			
	1924-1930	1931-1937	1924-1937
Europe: creditors			
UK	1,300	-4,000	-2,700
France	1,340	-690	650
Netherlands	380	-290	90
Switzerland	370	-340	30
Czechoslovakia	250	90	340
Sweden	180	-20	160
<i>total</i>	<i>3,820</i>	<i>-5,250</i>	<i>-1,430</i>
Europe: debtors			
Germany	-4,190	1,010	-3,180
France	-	2,190	2,190
Austria	-860	-150	-1,010
Italy	-710	-50	-760
Romania	-440	-110	-550
Poland	-400	70	-330
Hungary	-320	20	-300
Greece	-310	-120	-430
Belgium	-240	230	-10

³⁹ US Department of Commerce, (1975); see also Lewis (1948)

Norway	-140	0	-140
Yugoslavia	-80	-50	-130
Bulgaria	-50	20	-30
Finland	-40	150	110
Denmark	-40	60	20
Baltic States	0	40	40
Ireland	30	-130	-100
<i>Total</i>	<i>-7,790</i>	<i>3,180</i>	<i>-4,610</i>
<i>Total Europe</i>	<i>-3,970</i>	<i>-2,070</i>	<i>-6,040</i>

Figure 1.6 (further below) shows that all of Romania, Yugoslavia and Greece experienced outflows of capital in 1933 but that was only temporary. All three continued to receive foreign funds throughout the 1930s, although on a much smaller scale and rather more intermittently. For Romania in the 1930s, we only have Feinstein and Watson's *guesstimate* of a total figure, which they constructed from anecdotal evidence on continued investment into the oil industry around Ploesti, in Romania. Bulgaria was the one country which followed the general pattern established for debtors during the Interwar period, with accumulation of foreign investment during the 1920s and then a slow but sustained outflow during the 1930s. It was also the only defeated nation in World War I from the region. This can explain the small inflows during the 1920s relative to the other three nations. It obtained only two loans from the world bond markets, organised with the help of the League of Nations: the Stabilisation loan of 1926 and the Settlement loan of 1928.

Table 1.3: Capital Issues for Southeast European Account: Source-League of Nations, 1943;

Capital Issues for European Account: Bonds, 1919-1932 (\$s mn.)										
<i>Borrowing Country</i>		Lending Countries						Nature of Borrowers		
		<i>US</i>	<i>UK</i>	<i>France</i>	<i>Netherlands</i>	<i>Switzerland</i>	<i>Sweden</i>	<i>A</i>	<i>B</i>	<i>C</i>
Bulgaria	38	14	15	5	2	2	non	38	non	non
Greece	141	25	105	non	1	3	7	118	non	23
Romania	153	13	22	71	4	5	38	148	non	5
Yugoslavia	140	50	17	41	non	10	22	121	non	19

T-total

A-Government

B - Municipalities

C- Corporations

non-not available

Table 1.4: Capital Issues for Southeast European Nations: Bonds: Source-League of Nations, 1943;

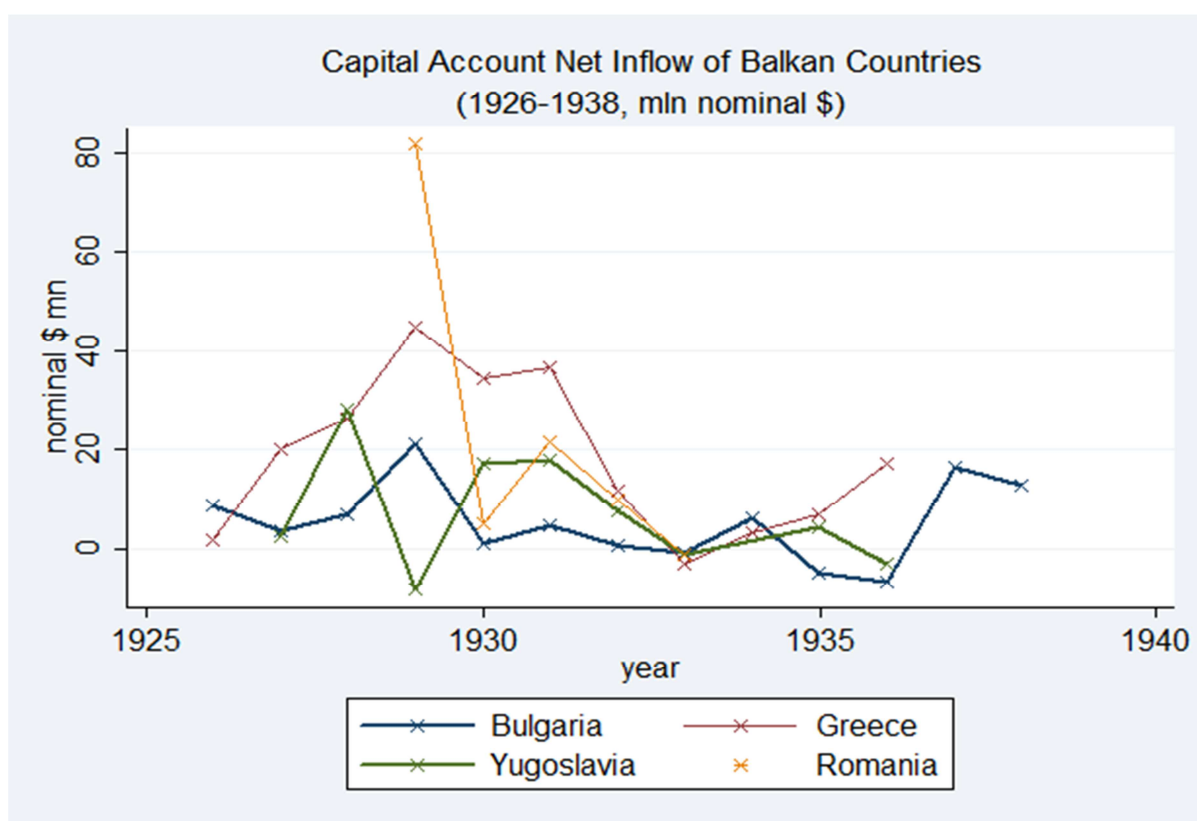
Capital Issues for Balkan Countries: Bonds, 1920-1932, \$ mn				
	<i>Bulgaria</i>	<i>Romania</i>	<i>Greece</i>	<i>Yugoslavia</i>
1920	0	3	0	0
1921	0	0	0	12
1922	0	0	0	15
1923	0	39	0	0
1924	0	0	43	3
1925	0	0	1	0
1926	14	0	8	0
1927	0	4	10	37
1928	24	4	54	22
1929	0	75	1	5
1930	0	0	11	0
1931	0	27	13	46
1932	0	0	0	0

Tables 1.3 and 1.4 illustrate the bonds issued by the Balkan states until 1932. The majority of these loan subscriptions were issued with the assistance of the League of Nations. For defeated Bulgaria, there were two reasons for League supervision – first to oversee the reparation settlements, and second to establish financial stability after the post-war inflations, to enable this country to meet any reparation repayments. The Financial Committee of the League also assisted with reconstruction loans to Greece in 1928, Romania in 1929 and 1931, and Yugoslavia in 1922, 1927 and 1931⁴⁰. Table 1.3 is particularly useful because it allows us to follow through the country of origin of the investors, which subscribed to these bond issues. Great Britain was the leading investor in the region. US was an important creditor with an amount similar to French funds, while Germany, a very significant investor in the pre-1914 period, was completely absent.

The aggregate patterns in figure 1.6 are broadly following the stylised knowledge of the capital movements of the interwar period. The rate of inflows was intensive in the pre-1930 period, but then started receding, demonstrating that the international financial and economic crisis had a sharp effect on the Balkan economies. The capital inflows after the Depression were infrequent, some of the corporate stock was written-off and a lot of the capital was repatriated.

⁴⁰Europe's Capital Movements, (1943); Kaser and Radice, (1982)pp.200-204.

Figure 1.6: Capital Account Net Inflows, Southeast European Nations, 1926-1938;
Source: League of Nations, various issues, 1920-1939;



The following two tables, 1.5 and 1.6, present two snapshots of the distribution of foreign funds in the Balkan economies in 1928 and 1935. Governments received the largest share of foreign funds, something expected given the mammoth task of reconstruction the Balkans had to undergo after the damage incurred during World War I. Industry, including mining, steel, and oil processing, as well as banking and financial services constituted the other significant sectors that attracted foreign investment. Tobacco was the largest non-industrial recipient of funds.

Table 1.5: Indicators of Foreign Capital Investment, 1928; Source: Lampe and Jackson, 1982;

A: Comparative Levels and Distribution around 1928				
	Bulgaria	Greece	Romania	Yugoslavia
<i>Gold Francs (per capita)</i>	122	293	123	105
Distribution (%)				
Public Finance	82.6	70.7	74.6	67.7
Trade	2	7.7	0.8	3.3
Banking	2.8	7.1	1.8	6.4
Industry	12.2	3.5	22.1	20.2
Transport and		7.5	0.5	1.9

Communications				
Insurance	0.1			0.1
Other	0.3	3.5	0.2	0.4
total	100	100	100	100

B:

Source (%)	Bulgaria	Greece	Romania	Yugoslavia
French	11.2	12	17.4	24.5
English	1.4	57	26.6	22.8
Belgian	28.5	8	16.8	4.4
Italian	9.8	4.5	9.4	4.9
German	6.8	6	6.3	6.6
Czech	6.3		6.6	16.3
Swiss	23.4	2	2.6	13.3
American	8.4	10.5	7.8	5.6
Austrian/Hungarian	4.2		6.5	1.6
total	100	100	100	100

Table 1.6: Foreign Capital Participation in Domestic Enterprises: 1935-1939; Source – Kaser and Radice (1986)

Foreign participation in domestic enterprise, 1935: distribution by countries				
	\$ mn. Pre-1934 parity		% distribution	
	Bulgaria	Yugoslavia	Bulgaria	Yugoslavia
France	2	15	11	30
US	2	6	11	11
Germany	1	1	5	1
UK	0	7	1	15
Belgium	4	3	28	6
Austria	0	4	3	8
Switzerland	4	3	23	7
Netherlands	0	1	1	1
Czechoslovakia	1	5	6	10
Italy	2	2	10	4
Sweden	...	1	-	1
Hungary	0	2	1	4
Unspecified	-	1	-	2
<i>total</i>	16	51	100	100

There are some disparities between the data from Lampe and Jackson (used for table 1.5,B) and table 1.3, because the border date for the data collected for table 1.3 is before the loans arranged in this year – which would explain the smaller share of US and British investors. Table 6 outlines the foreign participation in domestic enterprises in Bulgaria and Yugoslavia for 1935. There is a question about its reliability since Kaser and Radice (1982) do not present a clear source for these figures⁴¹. Still, comparing tables 1.3 and 1.6, we can see that Great Britain and Switzerland (both with 24% and 37% from table 5B respectively and only 16% and 30% from table 6 respectively, obtained by adding the percentage participation in Bulgaria and Yugoslavia) were amongst the leading subscribers to the publicly floated loans to Bulgaria and Yugoslavia, hence were less active in direct participation in domestic enterprises. France, the US and Austria (with 36%, 14% and 5.8%, in participation in the foreign debt, respectively), however, more than made up for their share in the national loans by purchasing direct shares of domestic enterprises in these countries (41%, 22% and 16%).

Conclusions:

This chapter provides a snapshot of the competition that went into acquiring shares of the financial borrowings of the periphery, aptly described in Moreau's memoirs of the activities of the Bank of France in the period⁴². The core of economically developed countries and their enterprises had at least two clear incentives for investment in the less-developed countries in Eastern Europe. The economic incentives were to chase profits in the high marginal productivity of capital environments, but what Moreau (1991) described was a political incentive to establish strategic partners out of the young states between Germany and the USSR.

The determinants of investment in South East Europe are beyond the scope of this thesis. Crucially, however, there were significant inflows of capital that targeted not only government fiscal needs too often involving wasteful military expenditure, but also the industry and banking. Foreign direct investment went into old and traditional industries like mining, steel and metal production, textiles and sugar refining. It also established new sectors, like electricity, oil extraction and processing, automobile and airplane production. Foreign-owned banks were among the largest in the Balkans and heavily involved in lending to industry. Lampe and Jackson (1982) suggest figures of significant magnitude – the foreign share of the banking sectors of Romania and

⁴¹ Kaser and Radice, (1982) pp. 270-277.

⁴² Moreau, E., *The Golden Franc*, Oxford, (1991).

Bulgaria was 65% and 40% respectively; while in mining, textiles, tobacco production and metal works amounted to around 70% and 45% respectively⁴³.

This chapter also presents the established macroeconomic narrative of Balkan growth, written by Lampe and Jackson (1982) among others and based on the GDP estimates of Maddison. The overly optimistic story of structural change, industrial and economic growth, albeit from a low starting point, sits in contrast to the rest of the chapters. Microeconomic evidence, collected largely from firm balance sheets presents a much gloomier picture of very slow growth, high firm failure rate during the depression and a key government fiscal intervention in the mid-1930s. The new estimates of Ivanov and Tooze, as well as Kostelenos, for Bulgaria and Greece are much more in line with my micro-estimates. Further work is needed in to compute credible macro GDP data and construct growth series. The story to follow is mostly told in growth terms, as I am interested in testing the ideas of catch up opportunities suggested by Gerschenkron (1953).

The South East European economies are a good testing ground for the theories of finance and growth that influence modern day development policies. The region was in a process of industrialisation, had dynamic domestic credit markets, and attracted foreign funds. The micro data, described in the following chapter, has enabled us to answer precise development questions based on a 22-year period. It included industrial productivity growth and an economic depression coupled with an acute financial crisis. Similarly, there were capital inflows and outflows. This was in a region that faced a number of institutional constraints common in the peripheral economies of today like relationship banking and cronyism. The economic experience of South East Europe in the Interwar Period can have some useful policy implications for modern day underdeveloped countries.

⁴³ Lampe and Jackson, (1982), pp.428-429.

CHAPTER 2

Foreign Investment and South East European Periphery in the Interwar Period: Can Foreign Money Further Economic Development?

Summary of Chapter:

For the economies of South East Europe, the Interwar Period was a time of recovery from the turbulent 1910s and progress towards industrialisation. They were involved in the international economic environment through financial dealings with the League of Nations, international trade and importantly, as recipients of foreign investment. The stylised narrative of the economic interactions of the South East periphery with the industrialised core is one of dynamic 1920s, where capital flew into the promising industries of the Balkan economies in expectations of high return and periphery exports found markets in the West. The 1930s present a reversal of the factors underlying financial and economic integration, namely trade, growth and liquid capital flows. Little of this story is found upon quantitative evidence and few scholars have examined closely the effects of finance, international investment and liquidity constraints to productivity and industrial growth in pre-1945 South East Europe.

This chapter aims to assess the contributions of foreign capital to productivity performance of the industrial and services sectors of Bulgaria and Yugoslavia in the Interwar Period. A new, firm-level, dataset of Bulgarian and Yugoslavian firms can help examine the productivity performance on firm and sectoral level, but also test theories of foreign investment effects on host country. In broad terms the findings suggest that the services sectors of insurance (a sector more or less created by foreign investors in this region) and banking obtained most foreign capital relatively to the rest of the economy in both Bulgaria and Yugoslavia. Firms recipient of foreign investment also developed a considerable advantage in productivity growth compared to domestic firms over the 22-year period. The majority of this advantage came from productivity spillovers, while competition and trade effects were ambiguous at best.

Theoretical Review:

The endogenous growth literature has pointed to learning, research and development, new technological adoption and knowledge sharing, as the drivers of economic growth. A rich case-study literature deals with the way firms and industries adopt new, productivity-enhancing technologies. Firstly, it points out to imports and openness to trade as vital to learning. This is achieved through reverse-engineering, direct inputs into production, and communication or other forms of exchange with foreign partners⁴⁴. Second and third channels that this literature identifies are learning by exporting and foreign investment⁴⁵. The role of foreign capital as a channel for transfer of technological improvements and potential spillovers to other firms in the economy has been a focal point for the finance and growth literature. Economic theory, as interpreted by Markusen (1995), identifies foreign investment as an important knowledge-transfer mechanism because, by definition, it is driven by intangible assets owned by the parent firm.

This role of finance as a source of growth has recently been put forward in the empirical economic literature. Early finance-growth literature pointed to the potentially beneficial role of finance in lowering costs of acquiring information, enforcing contracts, managing risk, and ensuring smoother transactions⁴⁶. In ameliorating such market frictions, finance in its many forms influences the allocation of resources across space and time and thus contributes to the process of economic development. International finance adds further dimensions to such a story. It faces all the disadvantages of operating in a foreign environment, such as information costs and the possibility of legal restrictions. It can, however, add value through the direct channels of creating employment and boosting domestic competition, while forcing local firms to adopt best-practice techniques and improve allocative efficiency. All these are in addition to the direct impact of increased liquidity and driving down the cost of available capital.

⁴⁴ A number of studies look at trade and productivity growth and conclude that trade with countries that are intensive in R&D results in higher productivity growth for the host industries, for instance, Coe, Helpman and Hoffmaister, (1997); Grossman and Helpman (1995) report that imports of new capital and differentiated intermediate goods are also conducive to higher productivity growth.

⁴⁵ See Clerides, Lach, and Tybout (1998) for exports and productivity growth and Blomstronm and Kokko (1997), Görg and Greenaway (2001) and Arnold and Javorchik (2005) for FDI and domestic productivity.

⁴⁶ Levine, R. (2003), p.4

This direct link has been the focus of the arguments about historical development of the periphery. Lampe (1986) argues that foreign funds provided much needed liquidity for 1920s Bulgaria. Similarly, Lethbridge (in Kaser and Radice, 1985) suggests that in the case of the East European economies pre-1945, foreign capital made a significant contribution to the short term and medium term capital available to industry⁴⁷. Aldcroft (2006) has opposed the view of a positive contribution of foreign capital, instead arguing that it imposed extra debt-servicing costs and short-term volatility in credit provisions to the already burdened developing economies of East Europe. On the one hand, borrowing from abroad was expensive, and on the other – not all incoming capital was used productively or added value (Aldcroft, p 2006). Importantly, the debate has focused on direct impact of foreign capital.

Less discussed is the indirect channel of capital flows' contribution to the economic growth - spillover effects. These represent disseminating the advantages of a multinational firm made up of intangible assets, such as superior technologies, patents, know-how and management techniques and strategies⁴⁸. Existing empirical literature on the subject has shown that firms undertaking FDI exhibit certain differences in terms of their observable characteristics. They are more active in Research and Development, usually operate at the technological frontier, and invest in branding, product differentiation and workforce training⁴⁹. These differences suggest that multinational firms are likely to have productivity advantages over purely domestic firms and the flow of capital from the former to the latter firms, or indeed a full change of ownership, should lead to productivity improvements.

Evidently, what matters for economic growth in a host country beyond mere efficiency gains are the spillovers of productivity-enhancing techniques from multinational affiliates to other firms and industries. These gains are more difficult to measure than direct effects like increases in competition, for instance. They also have the potential to have longer-term effects and to result in real productivity gains that push the economy beyond the production possibility frontier. Indirect gains are particularly important for developing countries, where direct gains may be impeded by institutional rigidities that create imperfect markets and inhibit the full exploitation of efficiency gains.

A number of empirical surveys in the economics and development literature have attempted to estimate the effects of foreign capital inflows on domestic productivity

⁴⁷ Lethbridge, p.12, in Kaser and Radice (1985).

⁴⁸ Dunning (1988, 1993).

⁴⁹ Markusen (1995), p.12.

via the channel of spillovers. Earlier work used aggregate data and has generally observed superior performance of foreign owned firms to domestic ones⁵⁰.

As Arnold and Javorcik (2005) point out, however, there are a number of econometric problems associated with this approach⁵¹. The problem of endogeneity, where it is likely that the FDI choices were not randomly distributed, plagues any attempt to tease out causality from correlation. Partial productivity measures, such as output per worker, provide a biased assessment because of possible systematic differences in production technologies. The estimation procedures of other measures of productivity, such as TFP may suffer from errors if productivity and inputs are determined simultaneously, in the face of external, unobservable, productivity shocks.

To address such criticisms, works using firm or plant level cross-sectional data have appeared⁵². Globerman et al (1994) analyse a cross-section of Canadian firms and find that those owned by foreign investors display a higher value-added per worker, after controlling for industry effects. However, once they take into account capital intensity, as well as size and workforce composition, the firms who are FDI recipients no longer show superior performance. Doms and Jense (1998), on the other hand, conclude that foreign-owned establishments have higher TFP than domestic ones, even after they control for firm observables. These works, however do not deal with the third criticism of possible effects of input simultaneity. In such cases ordinary least squares estimates produce biased and inconsistent results.

Most recent research has used panel data specification and firm/plant level datasets⁵³. Djankov and Hoekman (2000) find positive correlation between foreign ownership and TFP using data from the Czech Republic transition years, 1995-2000. Harris and Robinson (2003) use manufacturing data over the period 1974-1995 that also provide a positive relationship between foreign owned plants and TFP. To control for the endogeneity of ownership, Benfratello and Sembenelli (2002) use the General Method of Moments estimator suggested by Arellano and Bond (1991), which instruments explanatory variables in the estimation of TFP by using their lagged values. They find little if any evidence for foreign ownership effects. They conclude that the transfer of technology only occurs when the difference in productivity between the recipient and the investor is sufficiently pronounced.

⁵⁰ Conyon et al., (2002).

⁵¹ Arnold and Javorcik (2005), p.6.

⁵² Globerman et al, (1994); Doms and Jensen, (1998).

⁵³ Djankov and Hoekman, (2000); Harris and Robinson, (2003); Benfratello and Sembenelli, (2005); Arnold and Javorcik (2005); among others.

Arnold and Javorcik (2005) suggested a novel approach in this literature, by using a difference-in-differences method with propensity score matching to control for possible endogeneity of the foreign investment decision. They use micro data on Indonesian plants in the period 1983-1997 to find significant productivity improvements in the acquired plants.

This methodology has hardly been applied in a historical setting. This is surprising, given the well-established theory that foreign investment is one of the channels for technology transfer and the role that technological improvements have played during the process of industrialisation. There has been an implicit assumption that foreign finance has been very important as a source of liquidity and significant work has been done in tracing the paths of capital flows from the 19th through to the mid 20th century, as well as their determinants⁵⁴. One reason researches may have shied away from firm-level analysis in historical perspective is that such analysis is very data-intensive and such detailed information may be very difficult to collect in a comprehensive manner.

Given the multitude of surveys of the role of finance in long-term economic development, it is a necessary addition to this literature to attempt to provide estimates on foreign investment's contribution to growth during the process of industrialisation. Most historical work on financial institutions has focused on the differences between banks and capital markets as well as the specifics of banks as long term and credible providers of intermediation services. Cameron's (1967) classic work on the banking sectors, through to Tilly's (1964) and more recently Fohlin's (2007) work on the contributions of universal banks to German industrialisation have all provided invaluable insights as to the direct impact of financial institutions and financial flows on growth and firm performance. The advances in economic theory, which put forward the role of indirect channels, such as technological spillovers, have not yet been examined in great detail.

This chapter has a basic aim to establish a correlation between foreign investment and firm productivity. The first section traces the origins of foreign investment and reviews the contemporary views of foreign capital's effects. A more ambitious aim is to pick a methodology, which allows us to observe a causal effect and draw conclusions on the presence of spillover effects. An ancillary aim is to test the dataset for forward and backward linkages, in other terms, try to trace the path of these spillovers. The data also allows us to detect the direct effects of increased competition and export opportunities and compare these to the productivity gains from knowledge improvements.

⁵⁴ See Obstfeld and Taylor, (2005); Feinstein, Temin and Toniolo, (2008) for the Interwar Period; Esteves, (2008) for period pre-1914.

International Investment in South East Europe – The Stylised Story and New Hypotheses:

This section provides an overview of the origins and types of investment that went into Southeast Europe in the 1920s and 1930s. It presents evidence on the countries of origins of investors as well as a glance at the drivers of direct investment into the Balkans. It also looks at the arguments of direct impact of foreign investment, as a contributor for much needed liquidity, and suggests these are much too superficial as an explanation of the impact of foreign direct investment. The theory on money, banking and finance, has moved on from the views of finance as a lubricator for the rest of the economy. Information and agency theory suggest there are indirect improvements that can be transmitted through money channels especially in the underdeveloped economic environment of the Interwar Balkans. This section argues that the evidence in support of foreign capital as a liquidity booster is anecdotal at best and not unambiguous. It is important too look beyond liquidity and credit provision in order to assess the impact of direct foreign investment as a factor contributing to growth, which is the motivation of this chapter.

Chapter 1 already showed how difficult it is to obtain reliable data for the volume, direction, and type of international capital movements. Contemporary and secondary sources make it apparent that the principal creditors in the post-1919 world were the United States, United Kingdom, and France⁵⁵. European borrowers are thought to have absorbed a large part of the capital invested or lent by those countries. While only about 8% of the British investments went to European borrowers, the US invested more than 30% of its overseas capital there. The figure for France is unknown, but was likely larger than the US proportion⁵⁶.

The largest single European debtor was Germany. The breakdown of German debts is illustrative – more than 50% of these were US money, another 10% UK, while the rest fairly evenly distributed between France, Sweden, the Netherlands, Belgium, Switzerland, and the Scandinavian countries. Interestingly, a lot of the capital invested and lent out of the latter group of countries originated in the US and UK and was recycled into further lending in Europe. The origins of investment money were thus rather concentrated. Dealing with international lending as a source of capital is

⁵⁵ Feinstein (1995); *The Problem of International Investment* (1937).

⁵⁶ *The Problem...*(1937), p.16.

further complicated by the fact that much of it was underwritten as short term lending, while in fact it was regularly renewed, and assumed the character of long term lending or investment in the books and minds of borrowers. The above two observations are important in explaining the capital flow reversals during the Great Depression when rapid repatriation of funds led to liquidity crises across Western Europe and the periphery, which are then blamed for the severity of the Depression. It is no surprise that scholars have attached great importance to the role of foreign investment as a source of liquidity.

The capital that went into European countries can roughly be divided into three categories: stabilisation and relief loans, post-stabilisation borrowing, both private and public, and direct investment by foreign banks or directly by foreign firms. Stabilisation and relief loans were exemplified by the Dawes and Young Loans to Germany and by the League of Nations loans to a number of Central and Eastern European countries, among them Bulgaria and Greece. Most of these loans were subscribed by the UK, however Romania, another Balkan country, received a stabilisation loan subscribed by the US and France. Yugoslavia received less in formal support in terms of loans, but obtained more private investment from French and Central European Companies (see discussion below). The Bulgarian League of Nations loans were subscribed in New York – the Refugee Loan in 1926 for \$4.5mln and the Stabilisation one in 1928 for \$9mln. Both of these, worth \$13.5 were significantly greater than the approximate \$1mln of direct foreign investment from the US to Bulgarian banks and firms for the period 1920-1930⁵⁷. Similarly, Yugoslavia's borrowings were subscribed to in New York at a value of \$39mln, by 1930, yet FDI from the US was about four times smaller.

International lending, however, was not a particularly productive form of capital movement for the home countries in the Interwar Period. In the 1920s, governments borrowed mostly to stabilise their currency, provide currency reserves, as well as resettle refugees (in the case of Bulgaria and incoming Macedonian migrants from northern Greece and southern Yugoslavia). Governments also borrowed for infrastructure reconstruction purposes and in order to balance their budgets, eroded by hyperinflations in the early 1920s. Both Bulgaria and Yugoslavia experienced severe inflationary pressures, which ended in both countries with the adoption of the Gold Standard by 1926. The League of Nations loans proved too much for Bulgaria to keep on its balance of payments, and it had to restructure its interest payments in 1932, while Yugoslavia defaulted on both the interest payments and parts of the principal in the same year⁵⁸. By 1934 all of Greece, Romania, Turkey, Hungary, and

⁵⁷ *ibid.*, p. 186.

⁵⁸ *ibid.*, pp. 247-248.

Russia had defaulted on their sterling underwritten loans, subscribed to with the intermediately role of the League of Nations⁵⁹.

Direct investment, on the other hand, promised to provide greater yields given the need for reconstruction of Balkan industries and the growth expectation from a post-war boom. One of the difficulties in obtaining direct investment was the post-war disruption of old channels of funding. Before 1914, Berlin, Vienna, and to a smaller degree Paris, had been the capital centres, which invested in or lent to Eastern Europe. After 1918, although Paris continued to provide funds on a moderate scale, the main centres for potential direct investment moved to New York and London. Kaser and Radice (1986) rightly point out that the Balkans was an unfamiliar area for investors from those two centres. The relative unfamiliarity encouraged foreign capital to enter the region in the form of loans at interest rather than in the form of direct investment or participation in local enterprises. Thus Kaser and Radice (1986) claim that foreign direct investment arrived with a certain bias. Stakes at enterprises were acquired in the industries that exported its products, received certain government privileges, or were already foreign owned (Austrian or German) and simply changed their ownership. Up to 1931 American, British, French, and other Western or Northern European investors acquired direct interests in Yugoslav mining and cement production, Bulgarian banking and mining, as well as Romanian oil and metallurgy, Czech banking, Greek insurance and shipping⁶⁰.

With the limited available data on the aggregate and sectoral level, it is difficult to make a concrete comparison of direct investment in the Balkan countries. In a world of opaque information any such investments were likely to have been undertaken by those multinational firms with specialised knowledge of the branch of industry concerned and by firms with interest in many countries so that the risks are spread, like Standard Oil's entry in Bulgaria or Ford's operations in Yugoslavia. Thus Kaser and Radice's (1986) claim seems like a sensible speculation.

There were two further methods of minimising information risks. One was to acquire the whole enterprise, if the method of entering the new market was acquisition, so that management control will be whole in the hands of the multinational. Another was to establish a local bank and use domestic capital, in addition to money invested, while also cutting the cost of monitoring. As the Yugoslav historian Tasic (1992) reported, in 7 out of the 14 large Yugoslav banks with foreign participation, the foreign share amounted to 5% or less, the other 7 banks more than 75% of the shares were foreign owned. An explanation for this striking divide is that for half of the

⁵⁹ *ibid.*, p24.

⁶⁰ Kaser and Radice, (1986), vol. 1, pp. 36-37; Teichova (1992), p. 14.

banking institutions, the foreign shares were owned by individuals of Hungarian, Croatian, or Austrian origin, who became part of Yugoslavia post-1919, and the investment was a portfolio type.

Tasic (2001) also reports, that in most cases of foreign ownership in the financial sector, the foreign shareholder was also a bank – nearly three quarters of total foreign participation in Yugoslav banking came from foreign banks, while only the remaining quarter from joint stock companies. See table 1, for the evidence. It suggests that four institutions were wholly owned subsidiaries of foreign banks, while the other 14, as commented above, in aggregate had just above 50% foreign participation. As pointed out above, however, this aggregate is misleading and the individual cases have share of ownership that was at the two extremes of full or negligible participation.

Table 2.1: Foreign Banks and Foreign Participation in Banks in the Kingdom of Yugoslavia in 1928

Foreign Banks and Foreign Participation in Banks in the Kingdom of Yugoslavia in 1928				
	Number of Banks	Paid in Capital (mln dinars)	Foreign Participation	% Participation
Branches of Foreign Banks	4	45.8	45.8	100
Banks with Foreign Participation	14	275.8	149.5	54.7
Total	18	321.6	195.5	60.7

Source: Tasic, A., *Jugoslovensko Bankarstvo Između Dva Rata*, (2001) pp. 147-208

Table 2.2: Country of Origin of Foreign Capital Investment in Yugoslavia

Country of Origin of Foreign Capital Investment in Yugoslavia		
Amount Foreign Capital Participation in Yugoslav Banking, 1928		
Capital Origin	mln dinars	%
France	41.9	21.42
Czechoslovakia	37.5	19.2
Germany / Austria	30.2	15.47
Belgium	23.9	12.24
Hungary	16.7	8.53
Switzerland	10.6	5.36
Monaco	10.4	5.33
Italy	9.7	4.96
England	8.9	4.56
Netherlands	5.1	2.61
Sweden	0.5	0.32
Total	195.3	100

Source: Rozenberg and Kostic, *Ko Finansira Jugoslovensku Privredu: Drzava - Banke- Inostrani i Domaci Capital u Sluzbi Privrede*, Beograd, (1940), pp. 23-27

Table 2.3: Country of Origin of Foreign Capital in Bulgaria in 1928

Country of Origin of Foreign Capital in Bulgaria, 1928		
	mln leva	%
German	87.20	28
French / Belgian	79.10	26
Italian	65.00	21
Austria	50.30	16
England	7.50	2
Switzerland	6.60	2
Sweden	5.30	2
Czechoslovakia	3.40	1
US	2.10	1
Total	306.50	100

Source: Pasvolski (1930), p. 190;

Some anecdotal evidence in relation to the above observations can be taken from the writings of contemporaries. Chakalov, a Bulgarian statistician with numerous articles in the Interwar Bulgarian economic press, prepared a small monograph on foreign investment in Bulgaria in the years 1878-1944⁶¹. He reports in particular on the three large foreign owned banks in pre-WWI Bulgaria. *Generalna Banka* (General Bank, set up in 1905) was set up by Bank de Paris et des Pays-Bas and had exclusively French capital initially before a mix of Swiss and Belgian capital appeared on its list of shareholders post-1919. *Kreditna Banka* (Credit Bank), established the same year by Disconto-Gesellschaft, was the German bank in Bulgaria. It quickly established itself as a significant lending institution, and invested heavily in industry. It was initially involved in imports and exports operations and thus focused on the agricultural and food-processing sector. Later, in the 1920s and 1930s it entered heavy industry, providing funds for setting up the electricity grid of the country and also acquiring mines and cement production facilities. Despite having, at various points in time, finance ministers and senior central bankers amongst its shareholders and directors, German ownership never went below 95% of total shares. *Balkanska Banka* (Balkan Bank), set up in 1906 by the Austrian Wiener Bankverein, introduced Austrian capital in the country.

These early entrants were soon joined, in the period 1910-1924 by French, English, Italian and American capital. *Bulgaro-Amerikanska Banka* (Bulgarian-American Bank) was established in 1911, *Ungaro-Bulgarska Banka* (Hungarian-Bulgarian Bank) and *Frensko-Bulgarska Ipotekarska Banka* (French-Bulgarian Mortgage Bank) were both set up in 1912. *Lozarska Banka* (Anglo-Bulgarian Bank) and *Frensko-Bulgarska Banka za Innostranna Turgovia* (French Bulgarian Bank for International Commerce) were established in 1917, but began effective operations in the period after World War One⁶².

Further foreign institutions entered the Bulgarian credit market in the early 1920s, but all followed similar pattern – the ownership was almost solely in foreign hands. For instance, *Italianska - Bulgarska Turgovska Banka* (Italian-Bulgarian Commercial Bank) was set up in 1919 by *Banca Commerciale Italiana*, with 76.5% Italian funds, yet some of the ‘local’ finance came from *Sofiiska Zaharna Fabrika* (Sugar Refinery – Sofia), itself Italian wholly owned.

⁶¹ Chakalov, (1945).

⁶² All of the above-mentioned, foreign-owned banks had their headquarters in Sofia. There were some of the largest institutions in the commercial life of the country and shareholder lists as well as their balance sheets are well preserved. I suspect that as early as 1944-1945 it was difficult to collect the records of smaller or provincial enterprises, even one with foreign investment, and this is why Chakalov (1945) has focused his writings on the banking sector, where he takes all the numerical evidence he has put forward, too.

To build a more nuanced view of foreign ownership, I am using the systematic evidence from the firm-level dataset that has been collected for the purpose of answering the questions set in this dissertation (see below for a description). For Bulgaria only I supplement with data from a contemporary publication, Yordanov's (1922) reference book of all the joint-stock companies in operation in 1922, together with a further publication of his in 1928⁶³.

Tables 2.2 and 2.3 present a breakdown of direct foreign investment in Yugoslavia and Bulgaria by country of origin. Both tables present a snapshot of the country of origin of investors in 1928, largely for data availability reasons. The German/Austrian investments in Yugoslavia and the French/Belgian investments in Bulgaria are presented together, because they appear together in the shareholding lists of companies. While there were independent German and French investments, Austrian and Belgian money seemed to have only gone together with investors from the first two countries. In particular, Austrian investments were taken over by German institutions after 1936.

This data corresponds to well-known arguments of foreign money going to strategic partners or allies⁶⁴. Bulgaria as a defeated country ought to have attracted smaller sums from the former Allies, but must have kept economic ties to Germany and Austria. Yugoslavia, as an Allied project in state building, found financial support in France, England, and Italy. This story may be broadly true, with a number of important caveats.

Geography clearly mattered. Czech, Hungarian, and Austrian capital, remained important in Yugoslavia after the split of the Austro-Hungarian Empire in 1919. German capital was predominantly in banking, mining, and heavy industry in Bulgaria, while French and Italian in banking and insurance only. Table 2 only looks at foreign investment in the Yugoslavian banking sector, for lack of better data for the whole economy, yet we know that almost the whole of the Yugoslav mining sector was foreign owned, mostly by French and German investors⁶⁵.

Evidently, banking and natural resource extraction were the two sectors identified by foreign investors as the most profitable or strategic in the Balkans after the end of World War One. Figures 2.2 and 2.3 (further below) present the share of FDI per sector, from the hand-collected dataset used in the econometric analysis in this

⁶³ Yordanov, (1922) and (1928).

⁶⁴ Aldcroft, (2006) p. 74.

⁶⁵ Notel in Kaser and Radice, (1986), p. 210.

chapter. Banking in Bulgaria attracted one quarter of the FDI and 35% in Yugoslavia. Mining, on the other hand, took 33% of the total FDI in Bulgaria and just over 15% in Yugoslavia. Industries that were new and lacked local expertise, like insurance and electricity generation and distribution, tended to be owned by foreign investors.

Hoffman (1972), in his survey of development strategies in Southeast Europe, suggests that by 1939 foreign capital accounted for some 46% of Yugoslavian industrial production and 43% of all corporate capital in Bulgaria. He agrees that these countries were indeed credit starved following the shock of a decade of wars, and points out that the majority of foreign investment was in finance, mining, metallurgy and chemicals. While only less than 25% of it was to be found in ceramics, food and leather production, textiles, as well as glass production and processing. He is very adamant that there was a large degree of exploitation on behalf of foreign industrialists and investors and foreign money contributed little to industrial development. In his own words:

While foreign capital contributed, without, doubt, to the industrialization of these countries, reliance on such a high percentage of foreign capital, especially in minerals, meant emphasis on the exploitation of those minerals that were in great demand in foreign countries. But the financing of domestic processing facilities using the local metals was not in the interest of the foreign investors. This heavy reliance on foreign capital also had a retarding influence on more broadly based industrial production, industries perhaps better suited to the total needs of the population. (p. 52)

In addition to the strategic investments argument, modern economic historians have followed contemporaries and argued that the opportunity of fast growth due to underdevelopment and the high interest rates persistent in the region were the pulls of foreign money⁶⁶. There is plenty of anecdotal evidence for this, but there is no systematic data on lending and borrowing rates available for Interwar Bulgaria and Yugoslavia. For instance, Chakalov (1945) reports the following rates charged for short term industrial credit in the period 1919-1929 for Bulgaria: 24% charged by small, provincial banks; 16-18% charged by the big credit institutions in Sofia⁶⁷. Long-term interest rates are difficult to find, given that the majority of long term credits and investments appeared as short term, but were rolled over year-on-year. As a comparison to this, Chakalov (1945) also reports a number of interest rates paid out on deposits:

⁶⁶ Hoffman, (1972) pp. 52-54.

⁶⁷ Chakalov (1945), pp 60-61.

Table 2.4: Interest Rates Paid Out on Deposits, Bulgaria

Interest Rates Paid Out on Deposits, Bulgaria various years		
Year	Interest	Bank Ownership
1925	4.40%	Foreign Owned
	8.30%	Bulgarian Owned
1926	4.50%	Foreign Owned
	7.60%	Bulgarian Owned
1927	5.00%	Foreign Owned
	5.60%	Bulgarian Owned

Source: Chakalov (1945), p. 59

The interest paid out on deposits appears smaller than the one charged on credits by a factor of 4 or 5. This may be taken as evidence for the general lack of credit in the economy, often reported by contemporaries and cited as a reason for the slow industrialisation of the region. It could also represent the costly information acquiring and monitoring process in credit allocation and the large risks taken when lending to an industrial sector in its infancy. There was a large but declining differential between interest paid out to depositors of foreign owned banks and domestic ones. Clearly, depositors had more confidence in foreign banks, which also happened to be larger, but the convergence observant in table 4 may account for the increasingly expanding credit sector and thus the increase competition between banks.

Foreign participation in the banking sectors of the two countries is central to understanding the process of foreign investment in the region. Not only did the majority of foreign funds go there, but also acquired domestic banks were used as channels of investment into industry. It is rare to find evidence of direct foreign investment into industry, without the money first having gone through a foreign owned bank in either Bulgaria or Yugoslavia.

The Czech funded, *Prazka Kreditna Banka* (Prague Credit Bank), set up in Sofia, Bulgaria, in 1923, first used its paid in capital to acquire a large and established Sugar Refinery in the small Bulgarian town of *Gorna Oryahovitza*. The centre of Italian capital in the country, *Italianska i Turgovska Banka* (Italian Commercial Bank), provided credits to the tobacco industry with export links with Italy, but also acquired *Rouse Sugar Refinery*, owned equity and provided credits to the food-processing company *Fortuna*, and a number of smaller textile factories. Following the banking crisis of 1931, it limited its credit activities, but continued to own and operate a large

conglomerate of wool processing, cotton mills, and textiles production, including the largest cotton mill in the country, *Gloria*⁶⁸.

French and Belgian capital in Bulgaria focused on the finance sector in the 1920s. *Frensko-Belgiiska Banka* (French and Belgian Bank) set up *Plovdivska Banka* (Plovdiv Bank, 3mln leva paid in capital), *Bulgaro-Belgiiska Banka* (Bulgarian and Belgian Bank, 3mln leva paid in capital; set up in 1925), and *Severna Banka* (Northern Bank, 3mln leva paid in capital). In the times of banking distressed it merged its capital with the French-owned *Balkanska Banka* in 1929 and *Bulgarska Generalna Banka*, in 1936. In the late 1920s and into the 1930s this banking conglomerate bought up the equity of the largest tobacco-processing factory – *Suedineni Tjujtunevi Fabriki* (United Tobacco Factories), as well as the textile factory *Berov & Horinks*, in Sofia. It also provided French capital for the setting up of the mining company *Vulkan* (Volcano). Similar to the Italian representatives, it limited credit activities following the crisis of 1931, but retained possession of its enterprises.

The story of German capital in Interwar Balkans and especially Bulgaria is slightly different. German investors were among the first to establish a large bank to explore the investment conditions and provide firms for German enterprises – *Kredinta Banka* (Credit bank) was established in 1905. Up until World War One it focused on providing credits to industry and held very little equity. By 1919, most of its Bulgarian equity holdings were taken over by the victorious Allies. It acquired direct ownership of companies only as late as 1934, with the acquisition of two large mining companies⁶⁹. It did, however, oversee the running of a number of firms with direct German investments in them – its directors were members of the boards of directors of the largest construction company in Bulgaria – *Cyclone* - and the two largest mining and cement producing firms – *Pirin* and *Granitoid*⁷⁰. As a financial institution it served a monitoring purpose, as well as providing liquidity to enterprises with German capital, without having to hold a lot of equity on its balance sheet.

The narrative on foreign investment in the Balkans during the 1920s and 1930s has focused on its contributions to liquidity and credit provisions. Despite substantial, if not systematic, evidence that foreign money was heavily involved in the organising and running of enterprises of a number of sectors, both contemporaries and modern day historians have not paid too much attention to indirect benefits it may bring. The

⁶⁸ *ibid.* p. 65.

⁶⁹ *Ibid.* p. 67.

⁷⁰ Marco Ryaskov, the longest-serving Bulgarian national on the Board of Directors of *Kreditna Banka*, was also a member of the boards of *Cyclone*, *Piril* and *Granitoid*. He was a one time Governor of the Bulgarian National Bank and a Finance Minister for a short term during the mid-1930s.

size and proportion of foreign capital was certainly important. Figure 2.1, further below, suggests it reached almost 50% of all the corporate paid-in capital in Bulgaria by 1930. If the problem of development in Southeast Europe was one of credit constraints and general shortage of funds for industry, then foreign investment's contribution ought to have been very important, given the scale. It is difficult, however, to pinpoint to specific and conclusive evidence on credit restrictions. The data on interest rates shows some convergence to a medium to low level (see above, pp. 9-10) as competition in the banking sector stiffened from the entry of numerous domestic institutions and large foreign banks. In fact, there may have been oversupply of credit, given the rapid expansion in banking capital in the late 1920s (see next chapter) and the sharp crash in the early 1930s.

The second argument presented in the narratives of the secondary literature, one of strategic investments in resource-rich sectors that resulted in little if any benefits to the domestic economies, is also misplaced. It is put forward most vigorously by Marxist historians in the period immediately after 1945, but has also found some ground in the writings of some modern day historians⁷¹. Aldcroft (2006) has suggested that despite the interest of foreign investors in the economies in the Balkans, no significant growth in industry can be observed⁷². Hoffman, quoted above, has suggested in the same spirit that foreign investment focused on extraction and shipment of raw materials and was never involved in building up processing industry, where technological improvements may play a part. Such claims made on the basis of unsystematic evidence are unsubstantiated without bringing forward comprehensive data, as I have done below, to the size, location, and the micro effects of investment on firm performance. The theoretical section above argued that macroeconomic evidence is inappropriate to distinguish effects of investment on productivity, as there may be reverse causality problems.

Another reason why conclusions based on macro observations will be difficult to prove under scrutiny, is the fact that incremental changes in young or new industries may appear undetectable on the aggregate, but may be significant when singled out⁷³. Both Lampe (1986) and Aldcroft (2006) claim that despite some growth in certain industrial sectors, overall growth did not pick up during the Interwar Period. More recent estimates by Ivanov and Tooze (2007) have suggested otherwise. They present data on structural changes in the agricultural sector, but also industrial and services growth pick up from the mid-1930s onwards, when the depression downturn was

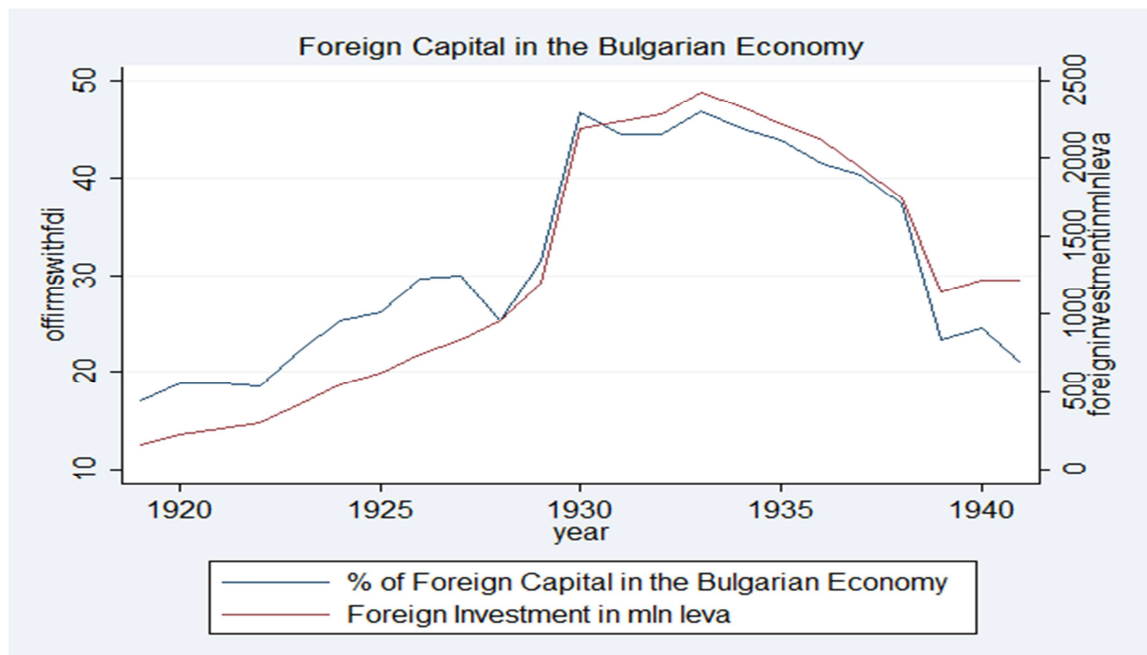
⁷¹ see Berov, (1989b); also Aldcroft (2006), p. 74.

⁷² Aldcroft (2006) pp. 74-75.

⁷³ This issue is at the heart of the classic growth accounting debate about the speed of British industrialisation in the late 18th and early 19th centuries, explained in details in Deane and Cole (1962).

overcome⁷⁴. Important changes occurred in the finance and insurance sectors, as well as the commerce sector – all areas that attracted foreign investment. Furthermore, a number of innovations that foreign investors may have spurred on in the mining and electricity sectors during the 1930s may not be clearly visible in stock figures provided by Ivanov and Tooze, because these sectors were relatively small and technological change needs time to show in productivity figures. This is why firm-level production functions are estimated in the sections below. Productivity improvements from technological spillovers will first be visible at the firm level, before being detectable in the semi-aggregate or aggregate level.

Figure 2.1: Foreign Capital in the Bulgarian Economy



Source: Own Calculations and Dataset; Chakalov (1945)

⁷⁴ Ivanov and Tooze (2007), p. 685, table 2.

Table 2.5: Active Joint Stock Companies with Foreign Capital in Bulgaria, 1919-1941 (according to own calculations and Chakalov, 1945)

Year	Credit		Industrial		Insurance		All firms with FDI		All firms		
	number	in 000s leva	number	in 000s leva	number	in 000s leva	number	in 000s leva	number	in 000s leva	% of firms with FDI
1919	10	67320	26	61843	2	1800	49	162263	-	954389	17
1920	11	87320	26	85243	2	3600	54	222863	-	1182891	18.8
1921	11	98270	28	114203	2	2600	60	264119	503	1402030	18.8
1922	11	99270	30	135728	2	5600	65	300294	531	1620564	18.5
1923	11	130720	29	208380	3	5900	78	418910	536	1879230	22.3
1924	12	181895	33	251380	9	4500	86	546123	539	2158247	25.3
1925	13	244895	35	260880	9	4500	99	618673	561	2362778	26.2
1926	13	268395	39	326893	9	7000	106	736686	569	2476405	29.7
1927	13	270395	44	411716	9	7500	104	829726	594	2775207	29.9
1928	14	384619	44	442716	10	8500	107	955405	622	3768900	25.3
1929	13	422919	44	625895	11	28770	114	1194219	604	3791900	31.5
1930	9	397271	50	1586405	11	28700	114	2185871	641	4685200	46.7
1931	9	397271	57	1614955	11	28700	119	2234721	761	5018700	44.5
1932	9	397271	60	1614955	13	31800	120	2284721	787	5130700	44.5
1933	9	397271	60	1701300	13	32800	115	2422671	838	5172500	46.8
1934	9	325900	56	1683300	13	32800	112	2332700	905	5185000	45
1935	8	295900	54	1598600	13	32800	103	2219700	989	5053600	43.9
1936	8	210000	49	1582300	14	27000	103	2117900	1072	5116600	41.4
1937	5	161000	48	1451300	14	27000	103	1935700	1049	4818100	40.2
1938	4	161000	46	1275000	14	27000	112	1745500	1165	4686000	37.2
1939	4	161000	54	672000	14	33600	110	1142500	1335	4908600	23.3
1940	4	161000	52	736100	14	37000	113	1219700	1426	4967500	24.6
1941	4	161000	50	677300	14	55100	127	1221300	1566	5825300	21

Empirical Strategy

This chapter attempts to estimate the productivity outcome of spillover effects from foreign direct investment. It moves away from the idea that foreign capital moved into post-World War 1 Balkans for strategic reasons only and the effects were simply a boost to much-needed liquidity. The recent literature on finance and growth suggests that an important part of the effects of foreign investment are indirect and need to be traced at the firm or even factory level. Southeast Europe did not experience a growth take off during the Interwar Period. It did experience significant structural change and the setting up of a variety of new industries. Historians' narratives have suggested that foreign investors have been heavily involved in this process, but have not formally assessed any technological contributions international capital may have made. This aim of this section is to present a strategy to do this. It presents the techniques applied in the most recent econometric work on multinational affiliates and productivity, using a firm level panel from the Interwar period in South-East Europe. The empirical strategy involves addressing the issues of possible non-random selection of firms to be acquired by foreign investors as well as taking care of possible simultaneity in choice of inputs when calculating productivity.

Our dataset allows us to estimate a production function and account for possible simultaneity in the inputs. Because the estimating procedure to do that assumes clearing markets and a competitive environment, we complement this with labour productivity estimates. Wage data at sectoral level and the company wage bill allows us to compute the number of workers employed and hence a labour productivity figures in the following lines:

A measure for output is the total output of the company in constant 1930s dollars, i.e. the total revenue. The input measure is working hours. This means that our final measure of labour productivity is output, measured in constant dollars, per hour worked. This measure was chosen over the measure of output per worker because of the slight disadvantage the latter has when accounting for employment composition. Labour markets in the Interwar Balkans were not characterised by strict legal regulation and precise contractual agreements, which may include a bias in the measure of productivity in terms of output per worker, in case of increase of part-time workers for instance⁷⁵.

⁷⁵ Ryaskov, M., *Spomeni i Dokumenti*, (2010), p. 50.

A more common measure of productivity – total factor productivity (TFP) – is the alternative point of comparison. It is defined as the residual of a Cobb-Douglas production function of the standard two-factor type:

$$Y_{it} = A_{it}L_{it}^{\beta}K_{it}^{\gamma}, \quad \text{where } \beta + \gamma = 1 \text{ implies constant return to scale}$$

There is a problem in estimating such a production function with an OLS methodology. It is known as the simultaneity problem and refers to the fact that at least a part of the TFP will be observed by the firm at a point in time early enough so as to allow the firm to change the factor input decision. If that is the case, then profit maximisation of the firm implies that the realisation of the error term of the production function is expected to influence the choices of factor inputs. This means that the regressors and the error term are correlated, which makes an OLS estimate biased.

To remedy the simultaneity issue, we estimate the production function using the semi-parametric method proposed by Levinson and Petrin (2003)⁷⁶. This method uses intermediate inputs, such as materials, as a proxy to unobserved productivity shocks. The Levinson-Petrin estimator is an alternative to one developed earlier by Olley and Pakes (1996)⁷⁷, which uses investment figures to control for possible correlation between input levels and firm-specific productivity process. In this paper, a composite measure of intermediaries (including fuels and inventories) is used, due to data availability⁷⁸.

Once we have our measures of productivity, either TFP or labour productivity, we are interested in finding out its causal link to foreign investment. Despite a number of controls (a set of firm characteristics, like size, profitability, leverage, etc), there could still be a self-selection bias caused by so-called ‘cherry picking’ on the part of foreign investors. Ideally, we would be able to observe a comparison between a firm with foreign investment over the period of 22 years and a counterfactual of the same firm over the same period without foreign investment. Since this is impossible, an alternative framework involving finding a close match of a firm with foreign investment for a comparison can be used. Propensity score matching is a technique frequently used to deal with selection or ‘cherry picking’ bias.

Instead of using the firm characteristics directly to compare firms with and without foreign investment, Rosenbaum and Rubin (1983) have suggested using balancing

⁷⁶ Levinson and Petrin, (2003); see also an unpublished note by Arnold, J., On Estimating Productivity at the Plant Level; (2005).

⁷⁷ Olley and Pakes, (1996).

⁷⁸ More discussion on variable construction follows further down in the data section.

scores conditional on the firm characteristics to measure the effect of FDI. Propensity matching scores are effectively balancing scores, defined as the probability of being in a treatment group given a set of observable firm characteristics.

This chapter uses the propensity score matching technique after Arnold and Javorcik (2005) to make causal inference on FDI effects. Propensity score matching estimates each firm's propensity to receive a binary treatment (in our case 1 if FDI has been received during the period 1919-1941 and 0 otherwise, via a probit model) as a function of a vector of observables (from our balance sheet firm-level data) and matches firms with similar propensities. As Rosenbaum and Rubin (1983) have theoretically shown if the propensity were known for each case, it would incorporate all the information about selection and the propensity score matching could achieve optimal efficiency and consistency. Thus effectively the propensity matching technique creates the missing counterfactual for a firm that has received FDI and allows the researcher to estimate the difference in productivity performance.

To compare the productivity performance of firms that were recipients of foreign investment and those that were not, we use the difference-in-differences technique. The causal effect is as follows:

$$E(Y_1 - Y_0 |_{FDI=1}) = E(Y_1 |_{FDI=1}) - E(Y_0 |_{FDI=1}) \quad (1)$$

Where equation (1) is the difference between the performance paths of firms that changed ownership (Y_1) and the analogous outcome of the same firms had they not been acquired by foreign investors (Y_0). The outcome variable, Y , represents total factor productivity growth across the period. The subscript, either 1 or 0, indicates the circumstances under which the outcome is observed. $FDI=1$ indicates that the firms have been acquired by foreign investor in reality, i.e. the treatment group, while $FDI=0$ refers to control observations of no foreign investment. The outcome Y_0 is a missing counterfactual, created by the matching process. There is an underlying assumption that both the treated (firms recipients of foreign investment) and the non-treated (domestically owned firms) terms would have exhibited similar performance based on the vector of observable characteristics, used to estimate the propensity scores. These are represented by a set of firm observables X .

$$E(Y_1 - Y_0 |_{FDI=1,x}) = [E(Y_1 |_{FDI=1,x}) - E(Y_0 |_{FDI=0,x})] - [E(Y_0 |_{FDI=1,x}) - E(Y_0 |_{FDI=0,x})] \quad (2)$$

In equation (2) the second difference is the selection bias. If this bias is zero then the difference-in-differences methodology estimates the causal effect only. If the selection of observables X is sufficient for an optimal matching process, then the methodology successfully estimates a causal effect of FDI equal to the difference between treatment (with foreign investment) and controlled (without foreign investment) firms.

Given that TFP has been estimated in logarithmic form, the difference-in-differences technique provides us with a percentage difference in TFP growth between firms that are FDI recipients and ones that are not. In our alternative scenario – where labour productivity is used – we observe the differences in real dollar values.

Data and Variables

The archives in South East European capitals are rich in micro data. Institutional changes immediately after World War I, which continued throughout the Interwar Period, meant that commercial data was collected from individual companies on an annual basis. Any joint stock company in Bulgaria and Yugoslavia in existence, had to register for commercial operations with the Ministry of Industry, Finance and Economics⁷⁹. By law, its balance accounts had to appear in annually the State Newspaper in both Bulgaria and Yugoslavia. These provided incomplete records for the aims of this study and were only used for cross checking where other records were missing. Extensive archival research was undertaken through the individual firm folders of each ministry in the State Archive in Sofia, as well as the Sofia Local Archive, and at the Archive of the Kingdom of Yugoslavia in Belgrade. Although a wealth of information for a large number of companies was available, unsystematic ordering and often partially preserved records made for a difficult process of random sampling and the creation of a comprehensive, but unbalanced panel of 22 years.

There is some criticism for using balance sheet data to infer about choice of business policy of managers and firm performance. This is based on possible unreliability of the records because of profit concealment and ‘window dressing’⁸⁰. While this is a valid contention when observing the profitability of one firm only, there are a number of reasons why it is not a problem when working with a large sample of firms. Additional efforts were made to correct for any reliability issues that remained. Firstly, the bias is likely to go in one direction for all firms. If it is profit concealment

⁷⁹ In Bulgaria: *Министерство на Финансите* for banks and *Министерство на Индустрията* for all non financial firms; similarly for Yugoslavia: *Ministarstvo Trgovine i Industrije*.

⁸⁰ Brambilla, C. in Baubeau and Ogren, (2010).

for tax purposes, the incentive should be equal for all firms. Secondly, from the late-1920s and throughout the 1930s balance sheets and profit and loss statements for groups of firms, banks in particular, were collected by accountants from the ministry of finance and the central banks. This was done in an effort to account for the widespread failures during the Depression. These sources do not exhibit differing trends when compared to documents collected for earlier years and other groups of firms. Thirdly, the most likely source of bias is thought to be the capital series reported and the depreciation rates. In an effort to account for this, we estimated not only a TFP figure, which relies on capital series as inputs, but also a labour productivity series, which are based on labour-hour inputs and total revenue as a measure of output. A discussion on the outcomes of productivity differences between foreign and domestically owned firms when using TFP and labour productivity estimates follows in the results section.

The data contains information on firm performance, ownership structure, and less systematic (mostly for the banking sector) on firm activities. Company folders usually contained balance sheets and profit/loss statements, shareholder lists of people attending the annual shareholder meetings, usually with the number of shares deposited by each participant. Records of the shareholder meetings' debates were also deposited in the company folders, although these are of limited value for the quantitative part of the study.

A sample balance sheet is shown in the table below. It is only illustrative of the actual structure of balance sheets of Bulgarian and Yugoslavia in the 1920s and 1930s. There were a number of differences between the reports of firms that had to be corrected for. Until 1931 there were no legal requirements for a standardised format of the balance sheet or profit and loss reports⁸¹. The formats in the 1920s differed across firms. They also differed across sectors. The banking and insurance sectors, for example, reported entries on securities, deposits, and loans, but did not report raw materials or machines and equipment as assets. A standardised form of the balance sheets and income statements, shown in the table below, has been used in all the regression analysis in the dissertation.

⁸¹ See Bulgarian State Newspaper (1932), vol. 216; pp. 3723-3725.

Table 2.6: Sample Balance Sheet and Profit and Loss Statement

Sample Balance Sheet and Income Statement from the Firm Level Dataset

Balance Sheet			
Assets		Liabilities	
Cash	Cash Cash-like assets (short-term cheques and securities; deposits with National Bank; Deposits at other banks)	Capital	Paid in Capital
Securities	Securities Bonds Equities <i>Mortgage backed Guarantee backed</i> Other Securities <i>Discounted Securities</i> <i>Rediscounted Securities</i> <i>Company Participations</i>	Cash	Reserve Fund Bank Debts Credits owed <i>Deposits</i> <i>Bank-to-Bank deposits</i> Profits
Nominal Debt Instruments	<i>Loans</i> Debts owed to firms	Non Cash	building sites losses from real estate advances of inventories advances of raw materials
Non Cash	Fixed Assets / Real Estate Furniture / Office Equipment Machines and Equipment Inventories Raw Materials		
Income Statement			
Profits		Losses	
Revenue	from sales from interest from rent from company participation from government bonds carried from previous years	Outgoings	Dividends Paid interest Salaries Administrative Costs Costs of Production / Fuel Costs
Income		Depreciation Taxes Losses	fixed / mobile capital
Net Loss		Net Profit	for distribution

in italics - bank/insurance specific entries

Data was collected on the following sectors from both the Kingdom of Bulgaria and the Kingdom of Yugoslavia (firms engaged in similar types of production were put in the same categories for both countries, irrespective of the Ministry of Finance's own classification. This was done for consistency reasons):

Cement Production

Chemicals Production (including Sugar and Gunpowder, among others)

Electrical Industry

Extraction and Mining

Finance and Banking

Insurance

Manufacturing (including Metal works, Textiles, Automobile Production, Paper production, Machine tools, and others)

The final panel consists of 115 firms from all the above sectors in Bulgaria and 108 firms from all sectors in Yugoslavia. The number of firms in each sector is not uniform, due to the large differences in the total number of firms in the sectors. The largest number of firms is found in the Financial and Banking and the Manufacturing sectors, mostly because the other sectors tended to have an oligopoly structure, i.e. were dominated by a few large companies. We ignored the information on the Agriculture and Food Processing sectors. It was felt during the data collection process that these two sectors would be unsuitable for the aims of the study as there was likely very little foreign investment there and also the opportunity for technological spillovers and improvements were smaller. This is largely due to the market structure of both sectors – consisting of a very large number of small-sized firms, each engaged in very similar activities, using simple technologies. The main purpose of the chapter is to estimate if there were technological and productivity gains of foreign investment in industry and differentiate this from the practice of cherry picking. It is therefore essential that the sample be collected from industries where foreign investment was present in substantial amounts. Anecdotal sources pointed out to mining, financial and insurance services, as well as heavy manufacturing (in Yugoslavia, in particular) as the main sectors, which attracted foreign investors⁸².

⁸² Bochev, S., (1998) for Bulgaria and Cvetkovic, (2006) for Yugoslavia.

Table 2.7, below, shows a list of the variables used in the production function estimation, the propensity score matching process and the probit regressions. Capital series were calculated by taking the reported stock values for each year, applying a deflator, and depreciating them. The deflators used are different for the two countries. For Bulgaria, we have reported series of prices by sector. The information for the Kingdom of Yugoslavia is more general and only a wholesale price series was available (see Annex 2 for a summary table). The issue of depreciation was more complex. No agreed depreciating factor is present in the literature for Interwar Eastern Europe. Palairret (2003) has applied an arbitrary figure for mobile capital depreciation of 8% and 3% to 4% for fixed capital⁸³. In addition to this, some of the firm level data reports depreciation figures, summed together over a few years.

Table 2.7: Variables

Table of Variables	
Dummies	
Foreign Capital	1 if present, 0 otherwise; In this chapter, we follow the definition of Markusen (1995) that foreign owned means 50% or more ownership, i.e. control over the decision making process;
Liquidation	1 if gone in liquidation during 1919-1941, 0 otherwise
Bank Links	1 if had lender/borrower relationship with a bank, 0 otherwise
Political Links	1 if member of board of shareholder occupied ministerial/parliamentary post during 1919-1941
Observables	
Age	equals year of founding - 1919
Size	total assets
Leverage	debt over equity
Profits	profit / loss (negative) in current year
Production Function Inputs	
Capital	capital series (see text)
Labour	labour series (see text)
Intermediaries	intermediary inputs, fuels and inventories
Output	total revenue
Estimated Variables	
TFP	Total Factor Productivity, estimated via a Levinson-Petrin Technique (see main text)
LabProd	Labour Productivity equal to labour hours

⁸³ Palairret, (2003).

	over total output
Spillover	Ratio of assets of firms with FDI to the assets of all firms in each sector (see text, Djankov and Hoekman, (1995); Javorcik (2004))
HHI Comp	Herfindahl-Hirshman Index; Measure for competition or industry concentration;
Imports	A measure of import competition; Ratio of imports in an industry to the industry output; (Javorcik and Spatareanu, (2008))

These proved unreliable, as they are not consistent for all the companies in the sample and varied in proportion to capital stock reported in a random manner. One way to explain this may have been issues with tax evasion, another simply changing accounting techniques, which are impossible to clarify at this stage. We therefore ended up using the suggested rates of Palairret, 8% for mobile capital (machines) and 3% for fixed capital (buildings). The method of perpetual inventories was not used since no explicit expenditure (investment) figures were reported in the balance sheets or the income statements. A variable *Investment* was used in the regressions as a control, however it did not turn out significant and was later excluded. It was calculated as the rate of change of the capital stock figures.

Labour inputs are reported as an aggregate figure for both blue and white-collar workers. A number of balance sheets simply report a figure for total costs. There, labour costs have been computed as a fraction of total costs. The fraction was estimated from other firms within the same industry that report a breakdown of total cost. In all sectors, for both Bulgaria and Yugoslavia, the labour input figure was deflated using wage data reported in the International Labour Organisation yearbooks (see Annex II for a summary table).

Some of the summary statistics in the sample are reported below. Annex II provides a number of tables, which give a feel for the data. There are 223 firms in the sample used in the regression models. Some 115 are from the Kingdom of Bulgaria and the rest, 108, are from the Kingdom of Yugoslavia. Of these, the firms with foreign investment are just under 35% - some 75. Forty of them are from the Bulgarian subsample and thirty-five from the Yugoslav one. Figures 2.2 and 2.2 illustrate the fraction of FDI in each industry as a fraction of the total FDI in the economies of Bulgaria and Yugoslavia. The Insurance sector has attracted relatively more foreign investment in both countries, with more than 50% of the size of each sector (measured by total output, see table above) being made up of foreign money. The two other sectors to attract relatively large share of foreign investment in Bulgaria were

mining and banking. Yugoslavia, on the other hand saw the second largest share of FDI go into manufacturing.

Figure 2.2: Fraction of FDI per sector in Interwar Bulgaria

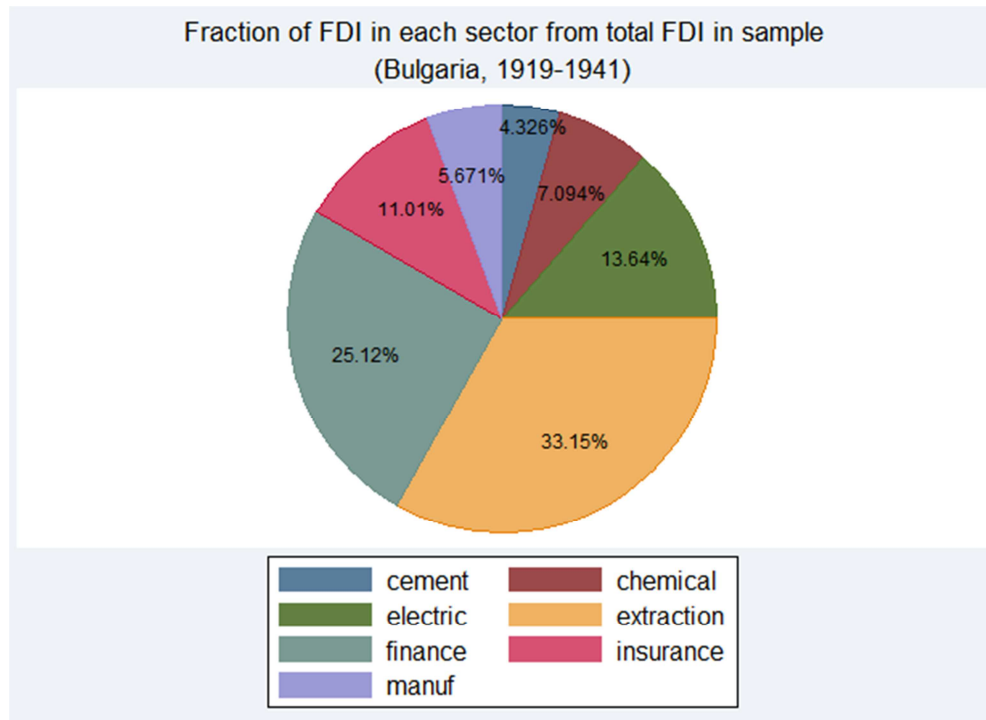


Figure 2.3: Fraction of FDI per sector in Interwar Yugoslavia

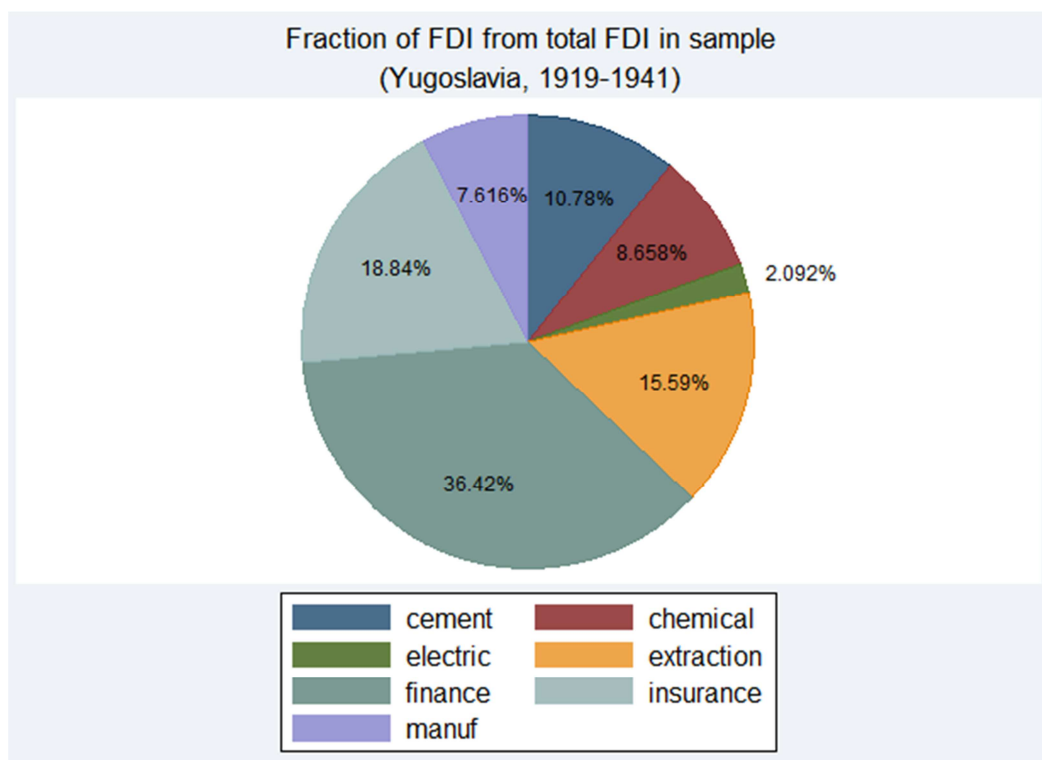


Table 2.8 a: Comparison of Averages of Firms with Foreign Investment (1) and without (0); Yugoslavia 1919-1941, in Dinars														
Sector	cement		chemical		electric		extraction		finance		insurance		manufacturing	
FDI	1	0	1	0	1	0	1	0	1	0	1	0	1	0
Size	12,477,651	10,571,087	108,970,406	42,697,355	1,960,158	4,369,575	28,232,281	12,663,855	93,554,384	258,990,092	34,911,787	76,979,978	25,029,184	13,671,651
Machines	2,415,631	2,310,484	219,007	42,860	140,708	2,104,660	1,898,415	617,157	472,375	212,889	360,824	48,594	2,018,817	3,950,672
Fixed Assets	5,206,227	4,769,292	6,491,535	1,304,830	552,436	1,180,003	6,840,056	2,849,572	3,103,871	2,881,268	8,259,527	5,409,011	4,764,259	658,368
Leverage	0.5	0.5	2.4	0.7	1.4	1.0	2.7	2.5	1.7	18.0	3.3	0.6	3.4	2.6
profits	715,002	686,323	89,435	-108,946	417,434	18,355	276,086	65,842	726,421	1,444,542	70,920	1,058,030	788,958	464,006
Total Output	6,661,062	4,502,211	5,352,060	1,482,386	1,293,070	633,972	7,640,211	3,818,317	37,515,227	6,638,217	116,468,650	79,227,649	4,707,667	3,586,997
Capital Items	7,412,005	5,758,908	6,547,509	1,366,713	665,314	3,080,891	8,381,396	3,331,870	3,462,036	2,990,425	8,343,699	5,291,447	6,478,643	4,820,548
Fixed capital	5,082,021	3,852,918	6,346,023	1,327,282	535,863	1,144,603	6,634,854	2,764,085	3,334,678	2,794,830	8,011,741	5,246,740	4,621,331	1,184,412
mobile Capital	2,329,984	1,905,990	201,486	39,431	129,451	1,936,287	1,746,542	567,785	127,358	195,595	331,958	44,707	1,857,312	3,636,136
Investment	741	9,611	-65,466	22,409	-1,127	-201,704	-86,696	-40,792	-23,700	98,088	78,301	74,769	68,381	-12,284
Labour Series	1,529,710	1,213,531	1,003,416	303,578	597,760	188,848	2,699,289	1,415,662	2,318,534	3,979,141	68,890,518	36,073,521	2,957,109	2,437,102
Intermediaries	573,411	551,175	64,589	99,439	396,998	27,674	434,608	191,251	276,436	551,148	7,087,524	1,146,014	7,088,881	1,662,826
LabProd (ratio)	68.5	25.6	36.9	26.6	32.8	106.6	13.3	7.0	222.7	14.1	28.2	14.1	9.0	6.0
TFP (%growth)	1.3	1.2	0.7	0.7	0.9	1.1	0.9	0.9	1.4	1.1	0.7	0.5	0.5	0.4

Table 2.8 b. Comparison of Averages of Firms with Foreign Investment (1) and without (0); Bulgaria 1919-1941, in Leva														
Sector	Cement		Chemical		Electric		Extraction		Finance		Insurance		Manufacturing	
FDI	1	0	1	0	1	0	1	0	1	0	1	0	1	0
Size	16,690,209	9,288,520	38,614,758	8,806,332	310,938,527	10,785,264	333,084,393	6,433,838	413,371,860	38,930,000	50,738,915	172,429,238	40,262,164	19,040,050
Machines	3,880,015	1,025,874	7,072,124	941,688	10,476,262	745,021	49,255,516	1,217,589	457,556	128,226	5,678,000	292,836	4,822,390	2,251,379
Fixed Assets	6,544,153	2,804,789	3,447,332	2,830,230	173,102,117	5,953,374	185,882,716	1,219,348	8,984,590	2,101,486	17,412,967	11,405,099	7,787,595	3,103,769
Leverage	0.8	0.7	2.4	1.3	10.5	3.1	0.8	0.3	20.9	2.8	4.5	2.4	7.6	1.9
profits	1,376,438	673,413	-103,686	238,578	-20,882,882	66,949	13,174,931	61,134	2,595,622	300,430	223,370	1,407,749	798,400	609,341
Total Output	4,884,013	4,458,167	8,008,633	3,812,678	15,394,719	3,931,484	37,423,628	812,639	18,355,896	43,019,520	124,302,950	59,701,595	6,401,978	5,013,109
Capital Items	9,917,442	3,853,817	9,850,266	3,611,676	177,950,441	6,460,192	248,509,603	2,302,949	9,135,593	2,155,274	22,114,338	11,332,356	11,701,770	208,426,844
Fixed capital	6,347,828	2,831,118	3,343,912	2,745,323	175,731,665	5,774,773	203,194,528	1,182,767	8,707,082	2,016,426	16,890,578	11,062,946	7,553,967	115,715,862
mobile Capital	3,569,614	1,022,699	6,506,354	866,353	2,218,776	685,419	45,315,075	1,120,182	428,510	138,848	5,223,760	269,409	4,147,803	92,060,693
Labour Series	1,430,183	1,378,739	1,282,701	1,367,191	2,648,306	617,362	6,941,049	107,145	7,464,975	910,671	70,451,244	13,397,717	3,432,803	1,963,295
Intermediaries	2,097,362	279,488	1,477,233	940,654	3,898,239	163,411	3,136,900	340,650	797,762	152,710	7,525,175	622,707	10,438,131	3,884,485
LabProd(ratio)	24.1	57.5	239.3	55.1	85.0	50.4	42.9	463.9	116.2	377.2	85.7	626.0	21.7	56.7
TFP(%growth)	0.1	0.2	0.4	0.2	0.3	0.2	1.8	0.6	0.9	0.6	0.3	0.2	0.4	0.2

Table 2.8 provides a comparison of all the sector averages for both countries divided by ownership. The most striking difference between foreign owned and domestically owned firms is the size. Firms with FDI appear larger in all Bulgarian sectors, apart from Insurance. In Yugoslavia, Electric, Financial and Insurance sectors, appear to have smaller foreign owned enterprises on average. We expect foreign owned firms to be larger, following the hypothesis that multinationals ‘cherry-pick’ larger, more productive, and more transparent enterprises⁸⁴.

Interestingly, in Bulgaria, firms with FDI appear to be more leveraged. This supports a hypothesis that foreign investment provided access to liquidity and increased the level of trust and transparency between banks and industry⁸⁵. There is no similar trend in the Yugoslavian data; in fact the banking sector is more leveraged among domestically owned firms.

Labour productivity figures, measured in output per labour-hour in the local currency, tell a different story. The Yugoslav data exhibits higher labour productivity values for foreign owned firms in all sectors, but the electric one. Average TFP growth in this sector was also higher for domestically owned. Average TFP growth for the period 1919-1941 was higher for foreign owned firms in the cement, financial, insurance and manufacturing sectors, and on par with TFP growth of the domestic firms in the electrical and extraction sectors.

Average TFP growth for foreign owned firms in Bulgaria was higher in all sectors but cement production. Differently, labour productivity was higher on average for domestic firms in extraction, finance, insurance, manufacturing and cement. Since my hypothesis is that foreign investors cherry-picked more productive domestic firms but also increased their productivity via technological spillovers, an explanation is needed for the disparity in productivity estimates presented in the descriptive statistics.

One way to think about the conflicting difference between labour productivity and TFP growth in the Bulgarian case is the difference in labour retention during the long period of crisis in the late 1920s and early to mid 1930s. Labour productivity figures are strongly influenced by the labour input. It may be the case that Bulgaria firms with FDI retained their workers, while domestic ones cut labour costs by firing workers. The reverse must have happened in Yugoslavia. This claim is difficult to verify, since there are no official unemployment statistics, especially ones that report labour conditions on a sectoral level. One can look at anecdotal evidence to see if

⁸⁴ Navaretti and Venables (2004).

⁸⁵ King and Levine, (1993).

firms with different ownerships reacted in a different manner to the Depression (dealt with in chapter 3 of the thesis). Of course, anecdotal evidence cannot be taken as proof that different labour policies existed between foreign and domestic companies across certain sectors.

The following section looks at estimation results to allow us to make concrete conclusions about the effects of foreign investment on the productivity of industry in Bulgaria and Yugoslavia in the Interwar Period. First we will look at firm characteristics that correlated with TFP, our main measure of technology growth, and then matching technique will be applied to establish a causal link. Importantly, we will attempt to point to some of the channels, through which FDI impacted on productivity.

Estimation Results

The estimation methodology proceeds as follows. First we estimate Total Factor Productivity (TFP) growth, in percentage terms, as a main indicator of technological progress. Then we run a probabilistic regression with a dependent binary variable – presence or absence of FDI in the particular firm – and a control group of independent variables that represent company characteristics (see table 2.7 above). This suggests which firm characteristic variables predict FDI presence to a statistically significant degree. The significant variables are then used in the matching process and propensity scores estimation. A difference-in-differences estimation is conducted to report the differences in percentage TFP growth between foreign owned firms versus domestically owned ones. Finally, we estimate a probit and an OLS models to investigate two possible channels for technological spillover from foreign investment to the rest of industry.

The TFP measure was calculated by estimating a Cobb-Douglas production function using the procedure suggested by Levinson and Petrin (2003) to account for possible inputs simultaneity⁸⁶. Their estimator uses intermediary inputs to proxy productivity shocks that may be unobservable to the researcher, but observable to the contemporary managers. Such unobservables can bias the production function estimation because they remain uncontrolled for and thus become part of the residual, thought of as TFP. Levinson and Petrin (2003) suggest the use of fuels, in particular electricity as an intermediary input that is likely to follow closely the trends in

⁸⁶ Levinson and Petrin (2003), see also Arnold (2005) for explanation of alternative methodologies and why Levinson/Petrin's is a preferred one.

production. In this chapter an aggregate measure of intermediary inputs is used, largely because it is reported in the balance sheets of the companies in the sample. It includes all fuel inputs and is likely to include inventories in some cases.

Because of problems with the capital stock figures, we calculate an alternative measure of technological change. The labour productivity variable is measured as a ratio of output per labour/hour input. This allows us to report a robustness check on the technological differences estimated using TFP. The results can be seen on charts 3 and 4 in Annex II. Bulgarian TFP growth has a slowly growing trend line, which peak in the late 1930s, while the Yugoslav one is rather flat. Labour productivity exhibits slightly different trends. Bulgarian data suggests a concave shape, with a peak during the middle of the 22-year period. The Yugoslav productivity has a somewhat flat shape, with a downturn during the mid and late 1930s and a recovery and upturn in 1940 and 1941. These series of estimates form the basis of the matching and difference-in-difference methodology below.

Figure 2.4: TFP growth and Labour Productivity of Interwar Bulgaria

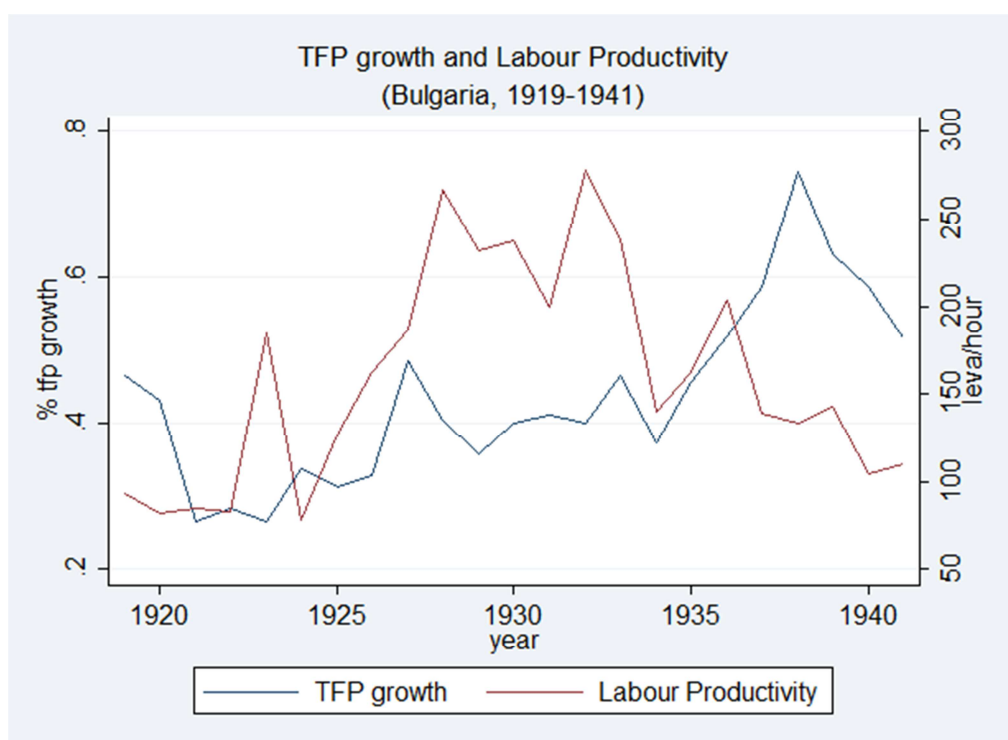
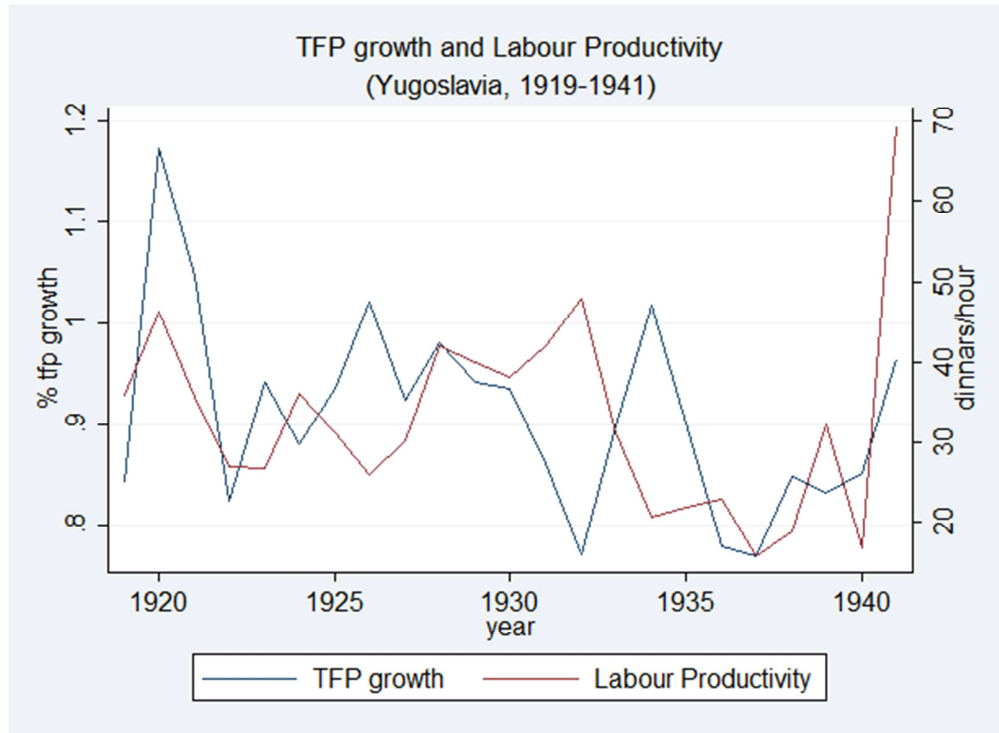


Figure 2.5: TFP growth and Labour Productivity of Interwar Yugoslavia



The process of propensity score matching involves creating a treatment group, made up of companies recipient of foreign investment, and a control group, where no foreign investment has been observed. The propensity scores used for matching are calculated on the basis of a range of observable firm characteristics, such as age, size, debt/equity ratio, profits, investment, size of capital stock, as well as a dummy for having gone in liquidation during the period 1919-1941 (see table 2.9)⁸⁷. These factors are hypothesised to have influenced a decision of a foreign investor regarding firm acquisition. The probit regression results shown in Table 1 use data from the whole sample. For the matching results, reported in Table 2, propensity scores were calculated at the appropriate level – grouped by country or sector.

The propensity scores are estimated using a probit regression via the *pscore* Stata command developed by Becker and Ichino (2002)⁸⁸. All variables in the probit regression were lagged one period to account for the fact that investment decision would be based on past characteristics. The primary matching technique used was a Kernel Matching Estimator. This was first suggested by Rosenbaum and Rubin (1983) and later further developed by Heckman, Ichimura and Todd (1998). It effectively

⁸⁷ The value for investment has been calculated for each firm as the difference of capital stock from year to year. It is therefore a derived variable and not directly observable.

⁸⁸ Becker, O. and Ichino, A., (2002);

constructs a match for each of the firms in the treatment group (FDI) using a weighted average over multiple firms in the control group (no FDI). An alternative procedure is nearest-neighbour matching (NNR), which pairs up firms with the closest neighbour based on the propensity score. Although the results were not qualitatively different, Kernel Matching was preferred for the majority of estimations, because of its efficiency advantage over NNR for relatively small samples.

The results from the probit regression, shown in table 2.9, indicate that foreign capital was more likely to be present in plants that did not go into liquidation, were younger, but also larger, in terms of total assets under operation. The lagged values of TFP and Labour Productivity also have positive and significant coefficients, which suggests that some form of ‘cherry picking’, or investing in already productive firms, may have occurred. High levels of investment, profit and capital inputs were associated with higher probability of the firm being under foreign ownership. A number of insignificant variables are not reported in the table. Among these are Leverage and Bank Links.

Table 2.10 is the final step of the procedure to detect effects of foreign investment on productivity. It presents the result of the calculated average treatment effect on the treated, or the difference between the change in TFP in foreign-owned firms and the change in TFP of domestically owned firms in matched pairs, during 1919-1941. The table is broken down into sections of the sample that are used in the matching process. The first part estimates the treatment effects across the whole sample. Kernel matching reports some 45 percent higher TFP for foreign owned firms throughout the period. Nearest Neighbour reports a more modest 25 percent and this result is also statistically significant to the 1percent level. Similar results hold for the difference in output, capital inputs, and machines. Foreign firms appear to be twice more leveraged on average. These are ambiguous results, however, as matching across the whole sample can create a bias given that no controls are in place to ensure the matched firms come from the same country or sector.

Table 2.9: Probit Regression on Aggregate Sample

Probit Regression Aggregate Sample Dependent Variable: binary FDI	
TFP	0.15 (0.03) ***
LabProd	0.09 (0.01) ***
Age	-0.004 (0.002) *
Size	0.02 (0.007) ***
Machines	0.03 (0.005) ***
FixedK	0.02 (0.003) ***
Profit	0.03 (0.007) ***
Invest	0.012 (0.008) **

Interm
intercept 0.03 (0.007) ***
 -0.02 (0.07)

N: 2716
pseudo R sq 0.09
Chi sq 362.3
Prob>Chi sq 0

* denotes statistical significance at the 10%
level, ** - at the 5%, and *** at the 1%

Table 2.10: Matching Results

			Matching Results				
	Matching Method	Treated Var	Treated	Controlled	ATT	Std Err	T-statistic
Whole Sample	Kernel	TFP	1353	1362	0.454	0.257	1.763
	NNR	TFP	1353	647	0.259	0.075	3.454
	Kernel	lnY	1353	1362	0.344	0.088	3.914
	Kernel	lnCapital	1353	1362	0.365	0.062	5.884
	Kernel	lnMachines	1353	1362	0.23	0.1	2.304
	Kernel	Leverage	1353	1362	2.091	1.839	1.137
Bulg	Kernel	TFP	804	985	0.24	0.055	4.377
Yug	Kernel	TFP	549	338	0.295	0.116	2.553
Bulg by industry							
Cement	Kernel	TFP	23	20	0.32	0.24	1.324
Chemical	Kernel	TFP	82	115	0.079	0.106	0.742
Electric	Kernel	TFP	147	56	0.306	0.167	1.83
Extraction	Kernel	TFP	91	12	0.714	0.336	2.18
Finance	Kernel	TFP	268	69	0.34	1.28	2.263
Insurance	Kernel	TFP	80	42	0.067	0.045	1.492
Manufacturing	NNR	TFP	182	85	0.064	0.031	2.099
Yug by industry							
Cement	Kernel	TFP	69	64	0.015	0.275	0.054
Chemical	Kernel	TFP	75	33	0.335	0.289	1.162
Electric	Kernel	TFP	109	32	0.178	0.125	1.424
Extraction	Kernel	TFP	109	34	0.523	0.184	2.843
Finance	Kernel	TFP	122	73	0.406	0.492	0.824
Insurance	Kernel	TFP	39	8	0.125	0.135	0.922
Manufacturing	Kernel	TFP	135	67	0.084	0.189	0.444

Note: Kernel refers to Kernel matching technique; NNR - one-to-one nearest neighbour matching technique; Att - is the average treatment effect of the treated variable; T-statistic - refers to the statistical significance of the outcome difference

Matching within countries, with controls to ensure firms are picked from the same sector, the TFP differences is 25 percent for Bulgaria and 29 percent for Yugoslavia. Further down the table, results can be observed for each sector.

In perspective, these productivity differences are smaller than the positive productivity advantage of 34 percentage points gained by plants acquired by foreigners in the work of Arnold and Javorcik (2007) for Indonesian industry during the 1980s and 1990s. The 10 or less percentage points difference suggest that contrary to cherry picking, foreign capital may have made some not entirely successful choices of acquisition. The effect is larger, however, than the finding of 14 percent differential found for the UK manufacturing sector by Canyon et al (2002)⁸⁹. The productivity differences between the Bulgarian and Yugoslavian interwar economies and the home countries of foreign capital investors, namely Germany, Belgium, France, Italy, Switzerland, the Czech Republic and the UK, were very likely greater than those of modern day UK and its foreign investors. It is therefore not surprising for the productivity effect of foreign investment to be higher in interwar Bulgaria. The limited data we have on aggregate productivity makes it harder to make similar claims regarding work on Indonesia and other modern day developing countries. Our results are in line with the expectation that FDI will provide higher return in an underdeveloped country over an industrialised one.

The results are consistent with the absolute differences in TFP growth reported in the descriptive statistics tables (2.8 a/b). However, since the absolute differences in TFP are very small and the results above suggest a significant and substantive difference in productivity gains over the whole 22-year period, a discussion is warranted. The propensity score matching procedure is based on isolating cases that are sufficiently similar, according to a set of criteria (which determine the value of the propensity score) and comparing them to observe the difference in productivity - TFP growth in my case. Thus the results reported in the table above suggest that broadly similar firms, where the significant difference was foreign ownership also exhibited significantly different growth in TFP as a result of the foreign investment. The descriptive statistics tables show TFP growth on average across all firms during the 22-year period, in each sector. It is possible that the matching procedure excludes some extreme cases, where no match is available and these outliers affect the data in the descriptive statistics.

This does not alter the direction of the argument. I am interested in investigating the effects of foreign investment on the firm-level, where technological spillovers could make a change in productivity. The following paragraphs explore what is the likely

⁸⁹ Canyon et al, (2002).

reason for productivity gains in foreign owned firms following a methodology, which regresses productivity measures on market and technological characteristics.

The literature on FDI effects on a host country suggests that most important channels of transmission are technological spillovers from foreign firms to domestic ones, competition effects of FDI entry, as well as trade effects⁹⁰. To account for these and attempt to decouple of the aggregate technological advantage of foreign owned firms, we construct the variables Spillover – to account for horizontal spread of technological improvements, Herfindahl-Hirshman Index (HHI) – to measure competition and industry concentration, and Imports – a measure of import competition. Tables 2.11 and 2.12 report the results of the estimation of these variables. The probit model shown in Table 3 suggests that Spillovers has a positive and significant association with presence of FDI. The negative and significant HHI variable suggests that FDI is present in less concentrated industries, in Bulgaria, and the opposite effect in Yugoslavia.

Table 2.11: Disaggregated Probit Model

Probit Model to indicate association of firm specifics, spillovers, and industry concentration with FDI		
	Dependent Variable is FDI (binary)	
	Bulgaria	Yugoslavia
Liquidated	-0.299 (0.023) ***	-0.576 (0.026) ***
Fixed Capital	0.032 (0.0057) ***	0.083 (0.013) ***
Machines	0.012 (0.0016) ***	0.263 (0.034) ***
Labour	0.012 (0.0025) ***	0.035 (0.00031) ***
Size	-0.02 (0.01) **	-0.001 (0.01)
Leverage	0.02 (0.01)	0.02 (0.01)
TFP	0.11 (0.52) ***	0.11 (0.52) ***
Age	-0.03 (0.02)	-0.09 (0.08)
Spillover	1.27 (0.202) ***	0.27 (0.12) ***
HHI Comp	-0.606(0.23) ***	0.418 (0.14) ***
intercept	-0.606 (0.23) ***	-0677 (0.11) ***
N:	1817	899
Pseudo R sq	0.15	0.19

* denotes statistical significance at the 10% level, ** - at the 5%, and *** at the 1%

Table 2.12: OLS Regression Model using TFP and Labour Productivity

Results from OLS using TFP and Labour Productivity as Dependent Variables			
Bulgaria		Yugoslavia	
LabProd	TFP	LabProd	TFP

⁹⁰ Navaretti and Venables (2004), pp. 60-64.

spillovers	1.32 (0.43) ***	0.23 (0.0617) ***	1.32 (0.43) ***	1.44 (.15) ***
HHI Comp	-1.43 (1.25)	-0.13 (0.09)	1.43 (0.25) ***	0.385 (0.091) ***
Imports	-0.12 (0.14)	-0.01 (0.02)	-0.12 (0.04) ***	-0.002 (0.001) **
intercept	1.76 (0.89) ***	0.187 (0.0413) ***	-1.06 (0.69) **	-0.546 (0.114) ***
N:	1817	1817	899	899
R sq	0.062	0.07	0.11	0.12

* denotes statistical significance at the 10% level, ** at the 5%, and *** at the 1%

The results from Table 2.12 are more interesting as they report the correlation between three effects of FDI to productivity, as measured by TFP and Labour Productivity. The table presents only the variables under discussion. The control variables are not reported. Positive and significant coefficient for the Spillover is in line with the hypothesis that foreign investment creates spillovers within the sector by introducing a range of productivity improvements. These may be more efficient management structure, new production methods, or simply new production technology in the form of capital. The effects of FDI on the competition variable are more ambiguous. It may be the case that a large multinational firm with superior technology enters a market and restricts competition, thus enhancing market concentration. This would mean a HH index closer to one. It may also be the case that a foreign investor pushes competing domestic firms into more efficient production mode and a break down of rigid market structures. This will result in smaller market share for individual firms and an HH index closer to zero. Trade effects are also expected to be significant, as foreign investors usually bring an established link with a foreign market.

In Bulgaria, Spillovers are positively and significantly correlated to TFP growth and Labour Productivity growth. The other two variables have negative signs but are not significant. Yugoslavia, on the other hand, exhibits positive correlation of spillovers with productivity improvements. FDI seems to result in higher industry concentration, i.e. the competition effects are negative for the economy. Imports appear negatively correlated with productivity. This may be because of protectionist tendencies during the period, which have resulted in tariff-jumping FDI. Or it may be that FDI entered sectors like insurance, finance and mining, where foreign money used local resources rather than import capital from abroad. Hence TFP growth was a result of technological improvement and not simply imports of new machines and equipment. Further research is needed to verify these propositions.

Conclusions

A large volume of empirical literature has attempted to establish quantitatively the connection between foreign direct investment and domestic productivity. Earlier studies were only able to detect a positive correlation, but most recent papers in development and international economics have applied cleaner econometric techniques to deal with the issue of possible endogeneity between FDI and productivity. This paper follows the methodology of creating a treated group, composed of firms recipients of FDI, and a control group of firms with similar observable characteristic, but with no foreign investors on their shareholder lists. By comparing the changes in the TFP residual between matched pairs of firms from these two groups we can estimate the difference and calculate a proximate effect of foreign investment on domestic firms. In this way, the propensity score matching methodology allows us to create a counterfactual to deal with the possible endogeneity issue.

Applied to historical data, such research method can contribute both to the debate on FDI and domestic productivity, but also to the debate about the role of finance in the process of economic growth. This paper finds a positive effect of FDI on domestic firm productivity in both the Kingdom of Yugoslavia and Bulgaria in the period 1919-1941. This means that money inflows in the 1920s did not simply create liquidity, but also generated productivity enhancing spillovers. The restrictive policies of capital controls pursued since the crisis of the late 1920s onwards in the Balkans may well have contributed to the slowdown in transformation from agriculturally dominated economies to industrialised ones.

The regression analysis suggests that technological spillovers from foreign owned firms were an important factor in boosting industrial TFP growth. Results from testing for the other two theoretical effects of FDI – competition and trade effects – are ambiguous and do not allow for concrete conclusions. This is not a surprising result for a region and time period where industry structure and trade depended on a number of factors, not least government intervention. This latter is likely to have a stronger effect than inflows of foreign capital.

The contribution of foreign capital to the development of a domestic economy, at an early stage of industrialisation, through technological spillovers, be they in the production process, firm operating management techniques or business know-how, is an important theoretical claim.

Overall, I find that foreign investment boosted TFP growth of host country firms. As argued above, however, the propensity score matching methodology allows us to argue with confidence that this was true for the matched firms. It is more difficult to argue that this productivity leadership could make the difference across all the sectors in Bulgaria and Yugoslavia during the Interwar Period. Not only was overall TFP growth slow, but also both countries started from a very low level of development in comparison to the industrialised economies of the West. As the following chapters argue, the financial and economic crisis of the early 1930s, as well as political economy constraints of an inefficient public sector, bent on redistributing resources to insiders, probably affected more strongly the aggregate economy and were responsible for the failure of the Balkan economies to catch up to their Central and Western European neighbours.

CHAPTER 3

Banking in the Interwar Period: Universality, Deflation, and the Depression - Evidence from South East Europe

Chapter Summary:

There are two leading views of the role of banking in the origins and perpetuation of the Great Depression. One blames the panics that spread amongst the belligerent economies following asset price crashes and bank runs. The other suggests that the erosion of bank assets through prolonged deflation was at the core of the longevity of the depression. The seminal work of Bernanke and James (1991) has pointed to the mechanism, through which deflation by reducing the worth of banks and borrowers can affect flows and the quality of credit and thus have negative feedbacks to the real economy. This chapter provides evidence of such feedbacks from the European periphery, which operated without obvious bank runs and panics. It argues that universal banks were the key to this channel and led to insolvency in the local credit markets in a time of global illiquidity.

Introduction:

Banking systems are important for real sector development. They provide credit and transmit information within the economy. Effectively, they stand at the heart of an economy. In time of an economic slump the organisation of the banking system can alter the experience of the real economy. Feinstein, Temin and Toniolo (2008) have argued that the experience of the Great Depression in a given European country depended on the severity of the depression in the real economy, the policy stance of

the central bank, and the organisation of the banking system. The literature on banking and the Interwar Economic Crisis has broadly concluded that banks were more likely to fail in countries where the real slump was more severe and was accompanied by price deflation, where the central bank was unwilling or unable to act as a swift lender of last resort, and where banks established close links to industry, typical for the German model of universal banking⁹¹. Where banking crisis did occur, they in turn produced feedback effects on output and employment, the real side of the economy.

One reason to explore the issue of bank failures and the damage these did to the real sector is the need to explain the failure of nominal variables to adjust. The monetary contraction transmitted via the gold standard channel and accounted for deflationary policies ought to have been transitory, as suggested by a number of theories of monetary non-neutrality, based on sticky menu costs or the misunderstanding of relative and absolute price levels⁹². In fact, contraction persisted and exerted a negative effect on the real economy in terms of falling investment and production. Bernanke (1983) has pointed to an important problem with financial contracts, set in nominal terms, where two channels may account for the declining output as a result of the decline in money stocks and price shocks⁹³. One mechanism is debt deflation and the other operates via contraction of banks' capital.

Originally developed by Fisher (1933), the idea of debt deflation has been formally elaborated by Kiyotaki and Moore (1993)⁹⁴. In a dynamic process, an initial fall in asset and commodities prices creates pressure on debtors, forcing them into distressed sales. This in turn causes further price falls and more financial difficulties.

Further to this insight, more recent theories of agency costs and imperfect information in financial markets have built on the debt deflation mechanism⁹⁵. Agency cost theories suggest that an important factor in the lending decision is the structure of the borrower's balance sheet⁹⁶. In the language of principal (the lender in this scenario)-agent (the borrower) setting, the borrower's net worth (his own funds and collateral) - plays a very important role. If a borrower (agent) has little or no collateral and has or is willing to allocate a small amount to the project he wants to

⁹¹ See Bernanke (1995) and Jonker and Van Zanden (1995), among others.

⁹² Bernanke (1995), p. 16; Eichengreen (1995).

⁹³ Bernanke (1983), p. 3.

⁹⁴ See also Mishkin (1978), Bernanke and Gertler (1990).

⁹⁵ Calomiris (1993) accounts for financial factors and agency costs during the Depression.

⁹⁶ Aghion, Bacchetta, and Abnerjee (2004).

finance, the principal or lender has little incentive to provide funds. Or if he does, the interest and the cost of monitoring will be high. This can be seen as a deadweight cost in the borrower-lender interaction. If borrowers net worth falls then the value of the deadweight loss increases. In fact if the net worth value decreases below a certain threshold borrowers may not have access to any funds.

What deflation does is to redistribute wealth away from borrowers, i.e. increase the value of nominal assets and decrease it for real assets. Thus with lower collateral and lower or no opportunity to borrow, a fall in investment and production will result. Hence, by inducing financial distress in borrowers, deflation can have real effects on the economy.

The second channel of negative influence from debt deflation to the real economy is through the erosion of banks' own balance sheets. Since banks hold mostly nominal assets and nominal liabilities, deflation should increase their balance sheet value in the short run. However, as deflation erodes the value of borrowers and banks begin to recall debt, they will have to take possession of real assets. From this point on, deflation begins to squeeze banks too.

There are a number of reasons why bank efficiency and loan provisions are affected in the above situation. Firstly, in case of panic from bank losses, deposit withdrawals and bank runs deprive banks of lending capital. This is especially severe in financial systems without deposit insurance. Secondly, the simple threat of runs will make banks hold on to and even increase cash holdings, thus trying to boost their liquidity, but effectively decreasing lending capital even further. This effect is known as a credit crunch. Finally, bank lending is usually information heavy and bank failures, losses, and restricted lending will destroy some of the information gathered on borrowers. This will hamper further the workings of the financial system and its lending activities, exacerbating the credit crunch.

This chapter argues that some of the above effects are enhanced in the environment of a peripheral economy with increased information problems and transaction costs. First of all – much of the banking systems of central and Eastern Europe during the pre-1945 period were universal types. They held a mixture of real and nominal assets, for instance - a lot of equity amongst their assets - which would put them under pressure even earlier in the deflationary process. Speculatively, this argument can be extended to a general pool of banking systems in underdeveloped economies, where the high information costs mean banks have to be close to their borrowers and often take equity or take part in running the borrowers firms⁹⁷. This is particularly true in

⁹⁷ Cottrell, Lindgren, and Teichova (1992).

economic environments where there are no functioning capital markets and thus no alternatives to bank lending as a source of finance.

Similarly, financial systems in peripheral economies may not enjoy fully mature legal protection and regulatory practices. For instance, deposit insurance or de facto lenders of last resort did not exist in Eastern and South Eastern Europe prior to the financial crises of the early 1930s. Thus, bank runs or that threat had a much greater effect in squeezing capital available for lending, than in the financial system of the UK, where the Bank of England had established a reputation as a swift lender of last resort and pre-empted fears of illiquidity.

This chapter sets out to explore the reasons for bank failure in South East Europe. It argues that the effects from the crisis in the early 1930s were severe in both the real and the financial sectors. The institutional setting of universal banking and the deep involvement of the banking sector with industry amplified these effects and increased the deadweight loss of credit contraction.

I first explore the specifics of the banking systems in the Balkans, using firm and bank-level evidence from Yugoslavia and Bulgaria over the period 1919-1941. I will show that the 1920s were a very dynamic period for private joint stock banks, where liquidity was boosted by foreign investment in the sector and the hyperinflations of the early 1920s. In addition, League of Nations-supported loans were recycled by the domestic financial systems of the two countries. Banks were eager to explore investment opportunities in a changing economic environment and took on equity from practically all economic sectors. They also actively participated in the activities of a large number of enterprises by virtue of significant equity ownership and managerial expertise, which they transferred via interlocking directorates. This boosted the economic activity in the region and might have led to a Gerschenkronian-type of development. The prolonged crisis of the late 1920s and early 1930s, however, drastically changed this process. Real sector losses were transferred onto banks and the Depression experience proved an exceptionally negative one, largely because of the close bank-industry interaction. The argument we advance is that banks closely linked to firms via interlocking directorates or equity holdings fared worse during the crisis of 1931 and the following years. Similarly, firms that depended on bank debt for investment and production found their activities constrained. This contagion that ran both ways between banks and firms contributed to the large fall in economic activity in the European periphery in the early 1930s⁹⁸. This domestic failure should be added

⁹⁸ Giannetti (2003) has developed a model in support of the hypothesis that close bank-firm relationships may suffer from a contagion problem during a crisis. She has described a situation where the trigger for contagion is given by foreign lenders, who find it impossible to distinguish between crony bank-firm links versus good main bank relationships. We focus on domestic contagion between firms and bank, without putting too much stress on a trigger. It indeed may have come from abroad, as we emphasise the loss of export markets and fall in prices of

to the stylised depression story recently presented by Aldcroft (2006) of falling export volumes, market restrictions, government intervention in the form of protectionism, and deflationary macroeconomic policies driven by the heavy foreign indebtedness.

A number of econometric tests are applied to a firm-level panel dataset to explore the above issues. Fixed effects panel regressions are used to look at the determinants of bank and firm performance during the Interwar period. Time dummies representing the crisis years are introduced, as suggested by Borensztein and Lee (2002), to observe banks and firms reactions to the depression. They report how the asset and liabilities sides of the balance sheets of these institutions changed over 1931-1935. Finally, interactions are introduced to measure the differences in the output of firms that had access to different finance – debt instruments, money gained from exports and foreign investment⁹⁹.

The results very much support the initial hypotheses. Indeed, banks that had their balance sheets laden with equity or other securities that exposed them directly to the real side of the economy felt strongly the deflationary shock. These were the ones that either had higher probability of failing during the period or had to restrict lending most, while attempting to boost liquidity and cash holdings. Firms' experience during the crisis period 1931-1935 was along similar lines. Indebtedness increased, while assets also increased, as firms attempted to find security in greater size, but asset write-downs increased too. Profitability, on the other hand, fell and output fell for firms that had interlocking links or large debts. Firms that had foreign ownership throughout the whole period and had access to export markets not only survived the crisis but also had moderate increase in output.

Section two of the chapter explains to a greater extent the theoretical grounds of the argument. Section three presents descriptive evidence of the banking structures in the Balkans. Archival evidence supports the descriptive statistics with case study evidence in section four. The following two sections present the data and the empirical strategy and the final two parts report the results and the conclusions.

goods that Balkan firms produced.

⁹⁹ A similar methodology was applied in Kalemli-Ozcan and Kamil, 2(010) to the recent credit crunch.

Theories of Bank Distress during the Depression in the Core and Periphery:

Notel (1986) in his contribution to *The Economic History of Eastern Europe* outlines a group of factors that accounted for the plight of banking in the Balkans during the Great Depression¹⁰⁰. The external constraint of heavily indebted countries that lost hard currency income through loss of exports and the change in terms of trade, following a fall in agricultural prices, accounted for restrictive macroeconomic policies and high interest rates. The international crisis caused a breakdown in international financial relations in 1931. Capital movements dried out and the money flow from core to periphery reversed direction and caused a further strain on liquidity¹⁰¹. The failure of the Austrian Kreditanstalt in 1931 caused a knock-on effect throughout the banking systems of Central and Eastern Europe and a number of panics over the next two years accounted for widespread bank failures.

Similarly broad, macroeconomic, observations are presented in the works of Lampe (1986) on the Bulgarian Economy and Lampe and Jackson in their volume on Balkan Economic History¹⁰². Aldcroft, in a recent book on the European Periphery in the Interwar Period, very much follows the arguments of the American interwar economist Leo Pasvolsky¹⁰³. The latter claimed that the majority of the Balkan state's borrowing was short run, but recycled into long-term investments by the banking sectors. A severe liquidity problem surfaced once the foreign money flow ceased¹⁰⁴. There is awareness that bank credit was an important problem, as both Aldcroft (2006) and Lampe (1986) trace the efforts by Balkan policy makers to keep money in by imposing exchange controls, increasing subsidies, especially to the agricultural sectors, and protecting debtors from bankruptcy. There is not, however, a concerted effort to explain bank failures beyond the few macroeconomic reasons mentioned above.

Avramov (2007) is an exception. He stressed the interlocking of banks to industry as the most important reason for the credit sector's failure in Bulgaria in the early 1930s. His evidence is microeconomic in nature and traces the banks' links to firms and how it restricted the former lending opportunities during the Depression years. He follows

¹⁰⁰ Notel, R., in Kaser and Radice (1986), v. 2, pp. 170-287.

¹⁰¹ Also reported in Feinstein (1995).

¹⁰² Lampe (1986) and Lampe and Jackson (1982).

¹⁰³ Aldcroft (2006) and Pasvolsky (1930).

¹⁰⁴ Pasvolsky (1930), pp. 248-250.

the theory of tunneling, as explained by Johnson et al (2000), where firms and banks have close connections, usually via director interlocking, and the financial interactions between them effectively represent looting. A possibility is that the firms' directors use funds from the bank, where they hold a director post too, beyond the agreed line of credit and without the agreement of the controlling committee or the majority of shareholders. During a crisis, they channel funds to the firm to cover losses and maintain liquidity, thus endangering the bank's own liquidity and solvency. Avramov's example of a small provincial Bulgarian bank, which went into bankruptcy because of interlocking, is not enough to persuade that the underdeveloped financial systems of the Balkans were widely permeated with such practices. It however, represents a good starting point.

Interestingly, little effort has been made to explain the Great Depression in the periphery, using the vast theoretical literature on bank crisis and contagion that developed to explain the mid-Interwar crisis in the US, Germany and other core countries. If anything, financial historians continue a debate made prominent by Friedman and Schwartz (1963) on whether bank distress, seen as widespread bank failures and deposit contraction, reflected deterioration of fundamentals of banks, or alternatively, financial panics or sudden crises of systematic illiquidity that may force even viable banks to fail¹⁰⁵. This is still organized around data from the US and Germany, out of convenience – data is available for a large number of banks over the crisis period- but also almost after a fashion.

The causes and consequences of bank distress are of relevance from the perspective of both financial economics and macroeconomics of economic fluctuations. In fact, insights into this topic have become more relevant in recent times amidst policy debates on central bank intervention in banking crises, regulatory structure, and the extent to which the banking sector itself can be an important source of negative shocks¹⁰⁶.

There is little doubt that economic crises weaken banks. They cause a decline in bank loan portfolios, driven by rising default risk in the wake of regional, sectoral, or even international macroeconomic shocks that affect borrowers. Similarly, monetary policy induced declines in the value of assets or bonds held by banks may affect bank stability. The real question is how far such shocks tip well-working banks into distress, and how far they simply seek out already troubled banks. In other words, a distinction should be made between illiquid and insolvent banks.

¹⁰⁵ Calomiris and Mason (2003).

¹⁰⁶ For a view on shocks originating in the financial system, see Diamond and Dybvig (1983), Allen and Gale (2000), Diamond and Rajan (2002), among others.

Friedman and Schwartz (1963) were the most prominent advocates of the view that the majority of banks that failed during the US Depression were simply illiquid and that their failure resulted from panics, caused by the general fall of asset prices. In particular, they date the contagion of distress amongst US banks to the crisis in late 1930, started by the failure of the large New York bank – the Bank of the United States, itself a victim of a panic.

The defining observations in Friedman and Schwartz (1963) hypothesis are the severity and suddenness of the banking sector collapse in 1931, the accompanying decline in deposits, and the fall in the money multiplier. As causal factors, they point to the decision of the Federal Reserve to tighten monetary policy and its failure to address banks' illiquidity and stem the spread of bank panics. The fact that macroeconomic fundamentals had not collapsed prior to the banking crises led them to conclude that the latter had exogenous origins, i.e. banks were solvent but squeezed by faulty policy in reaction to an economic crisis of the real sectors¹⁰⁷.

Along similar lines, Wigmore (1987) and Temin (2008) point to further exogenous factors that may have contributed to bank squeeze and bank panic. Wigmore (1987) suggests that abandoning the Gold Standard was an important exogenous motivator for depositor flight from otherwise solvent banks. Temin (2008) has strongly argued in favour of viewing currency problems, the inability of the Weimar Government of Interwar Germany to cope with a fixed exchange rate and the lack of international cooperation on capital flow issues, as the main reason the German economy and its banking system collapsed in 1931¹⁰⁸. He puts forward evidence of the depletion of gold reserves in the Reichsbank in 1931 and the continued contractionary policy of the German Chancellor Brüning, to support his argument that a run on the German currency and then the banks caused the crisis.

These views are in direct confrontation with the literature, which seeks the causes of banking crises within banks and the financial system. Harold James (James, 1984; 1986), for example, explained the crisis in Germany as a run on the banks. German banks contained structural weaknesses and were fundamentally unsound¹⁰⁹. He did, however, admit that the banking collapse had dual causes; problems of public finance and public confidence have to be considered in addition to bank's internal faults. James used evidence on the money supply to support his argument; much like Friedman and Schwartz (1963), he decomposed the money supply to obtain a deposit-currency ratio, typically taken as an index of confidence in banks. Both in Germany

¹⁰⁷ Friedman and Schwartz (1963), p. 309.

¹⁰⁸ Temin (2008) p. 14, see also Ferguson and Temin (2003).

¹⁰⁹ James (1986), pp. 294-295.

and in the USA this measure started declining in mid-1930, showing the expectation of depositors that banks would not survive the slowdown.

Disaggregated evidence at regional or bank level has gone in support of the view that bank failures cannot be aggregated into national panics, as Friedman and Schwartz (1963) suggest, but rather need to be examined more in depth. Wicker (1980, 1996) used regional data from the USA and argued that the banking crises that Friedman and Schwartz identified were very disparate events depending on geography, and reflected regional shocks. Temin (1985) reached similar conclusions about the failure of a number of prominent banks, which reflected the fundamental weakness within these institutions.

The unique industrial organization of the American banking industry (preponderance of unit banks with local asset and liability portfolios) seems to be of central importance for a regional view of banking crises¹¹⁰. US banks were smaller and isolated institutions, unlike those in Germany for instance, and regional shocks could produce waves of failures without a visible economic shock on the aggregate¹¹¹. For instance, White (1984) has provided some microeconomic evidence to show that the failures of banks in the 1930s were linked to the agricultural distress of the 1920s. Calomiris and Mason (1997) studied the Chicago banking panic of 1932 and found that the panic resulted from a local contraction of deposits. Yet, what explained the bankruptcy of banks were medium to long run contraction of deposits dependent on local economic fundamentals.

Thus, studies that use micro evidence seem to show that fundamentals played a large role in determining bank failure. It may be that the panics and large-scale waves of bank failures observed at the macro level have specific, medium to long term underlying reasons, found both in the economic fundamentals and the specifics of banking institutions. Furthermore, the economic environment where banks operate may have an effect over their behaviour, the structure of their balance sheets, and finally the response they have to shocks.

Literature looking at macro evidence has insisted on the importance of the latter. More recent micro studies have emphasized the relevance of banks' micro decisions and the role of banking fundamentals. Clearly, there is interplay between different factors, and banking institutions are products of the surrounding environment, while their response to shocks is determined by the underlying fundamentals.

¹¹⁰ Calomiris and Mason (2003) p. 1617.

¹¹¹ See evidence for lack of aggregate shocks in the cross-country evidence provided by Bernanke and James (1991); Grossman, (1994).

So far the majority of studies on banking in the Depression and using microeconomic techniques have dealt with limited samples. Similarly, they have used a small number of bank or firm characteristics, sometimes too broad to point to the exact channel of shock transmission. Calomiris and Mason (2000) have tried to rectify these omissions. They have used a bank level dataset on a national and regional level, where they try to distinguish between the relative importance of fundamentals and contagion as causes of bank failure. More specifically, they reject the idea that bank runs themselves were the crucial reason for bank failure and instead suggest that wherever such runs were observed, like in Chicago in 1932 for instance, they were not a result of illiquidity crises but of failure or sudden deterioration of fundamentals (measured by regional economic variables)¹¹². Liquidity constraints and bank runs appear with limited significance in the Calomiris and Mason study, and their conclusions emphasize bank characteristics and fundamentals as causes of the failures during the Depression.

Although econometrically robust, Calomiris and Mason (2000) results are limited geographically, looking only at US financial institutions. They pay attention to differences at the regional and national level, but admit that their results may be driven by the institutional specifics of US banks¹¹³. In a previous paper they developed the starting point of their argument – that regional factors affect fundamentals, which in turn force banks with weak balance sheets into bankruptcy – focusing on a limited dataset describing the 1932 Chicago banking panic¹¹⁴.

While important, given the results of Calomiris and Mason (2000), regional fundamentals are only part of the story. The forces leading up to the Depression were complex and this needs to be acknowledged in an econometric exercise. Even regional economies were affected by their access to markets, which is particularly important for banking systems characterized by unit banks, where portfolio holdings are geographically concentrated. In the case of small open economies, like the Balkan ones in the 1920s, access to export markets was crucial for liquidity. US unit banks experienced similar liquidity constraints when world agricultural prices fell. Deposit withdrawal, one of the measures of panic in the Calomiris and Mason (2000) paper, can alternatively be seen as a cash constraint on small scale producers or running down of savings, because of declining economic activity. These channels are explored there via controls for declining prices, agricultural production, and employment.

¹¹² Calomiris and Mason (2000), p. 33.

¹¹³ *ibid.*, p. 8.

¹¹⁴ Calomiris and Mason (1997).

There are no controls, however, for links to external markets, an important source of liquidity, and for firm-bank interaction¹¹⁵.

To rectify these ‘omissions’ and add further dimensions to a study of the causes and consequences of banking crises, this paper aims to identify the fundamentals that weakened bank balance sheets, control for the specifics of banking institutions in the economic periphery, and trace the changes that the crisis forced on bank and firm balance sheets. At the heart of the study is an attempt to determine why banks failed in small open economies, but also how did this affect industrial investment and production.

The theoretical underpinnings of this chapter are to be found in the model of bank distress suggested as early as 1933 by Fisher and more recently by Bernanke and Getleib (1995), Bernanke and James (1991) and others. The vast literature on the causes and spread of the Depression has reached some consensus around blaming the Gold Standard, as a fixed exchange rate system, for the deflationary monetary policies followed by policy makers that spread the downturn and turned it into a long term Depression¹¹⁶. The gold standard explanation for the Depression is compelling, because of the length and depth of the deflation in the late 1920s and early 1930s. There is also ample amount of evidence that suggest strong correlation between deflation and government policy adhering strictly to the gold standard¹¹⁷.

To dig deeper into the causes of the depression, however, one needs to step back and inquire into the channels through which deflation affected output and investment negatively. One of the important channels that have largely been ignored by the gold standard literature is the disruptive effect of deflation on the financial system¹¹⁸. This particular mechanism has been inspired by modern theories of financial institutions in the presence of agency costs and information asymmetry, responsible for the creation of deadweight costs in the intermediation process, and ultimately resulting in decreased real sector investment and output.

Debt instruments, including deposits, are set in nominal terms. Deflation decreases the value of real assets and increases that of nominal ones. Thus it worsens the position of borrowers versus the economic position of lenders. The collateral of

¹¹⁵ See Calomiris and Mason (2003), where they present a somewhat incomplete test of the loan-lending channel as the reason why firms fare badly after a financial crisis.

¹¹⁶ Eichengreen, (1995).

¹¹⁷ Eichengreen and Sachs (1985).

¹¹⁸ Bernanke and James (1991), p. 3; Other transmission channels, via the interest rates and real wages are also important and a separate literature has dealt with these, see Chaudri and Kochin (1980); O’Brien, (1989); Bordo, Erceg, and Evans (1997), among others.

borrowers, in other words, their net worth will be decreased. This is where agency theory can inform us on the decisions made by lenders¹¹⁹. Whenever there is asymmetry between lenders and borrowers, the optimal financial arrangements will entail deadweight costs (the agency costs). This is because under imperfect information, it will be costly to find the reliability of borrowers, the real net present value of their investment projects, or the real value of their collateral. This extra information cost will manifest in higher monitoring cost, less funds being made available, or higher transaction costs when forming lending arrangements. Under stable economic conditions, although present, agency costs are usually minimized because of accumulated knowledge by the lender, projecting forward expectations of borrowers' project success, or because the value of borrowers' collateral is stable. In times of economic distress, like persistent deflation, however, borrowers' net worth (collateral plus the value of projects and investment undertaken) and the value of their collateral will change in an unexpected way. This pushes up agency costs and may result in restricted lending, which in turn will result in lower investment and output.

The second mechanism is the one termed debt deflation, as defined by Irvin Fisher in 1933. Bank liabilities, essentially consisting of deposits, are primarily fixed in nominal terms. The assets may be a mix of real and nominal instruments, like debt and equity. This depends largely on the type of banking system that exists. In the universal banking systems of Central and Eastern Europe during the Interwar Period, banks tended to hold quite significant fraction of their assets as equity¹²⁰. Ownership of debt and equity instruments is essentially equivalent to direct ownership of capital. Thus the banks' liabilities are nominal and parts of their assets are real. An unanticipated deflation will begin to squeeze real assets and thus the capital of the banks immediately. There will be a time lag in worsening the capital position of banks in case they hold predominantly debt instruments as assets. In the short run, the effects of deflation may even be positive. In the long run, however, if deflation persists, borrowers' equity cushions will be exhausted and the banks will become owners of their borrowers' real assets. This will laden the banks' balance sheets with real assets and following the mechanism above will squeeze the capital of these intuitions.

As pressure on the banks' capital grows, their normal functions will be impeded. They will restrict lending, start calling in loans, which will affect the credit and liquidity situation of the whole economy. Eventually, impending exhaustion of bank liquidity may cause a depositors' run, which will either eliminate the bank or restrict drastically its functioning. Thus debt deflation translates into dysfunctional financial

¹¹⁹ Bernanke and Gertler (1989).

¹²⁰ Cottrell, Lindgren, and Teichova (1992).

systems, restricted lending, credit crunch, and lower investment and output for the real sector.

To summarise the arguments outlined above and focus on the main issues at stake – this chapter makes a case that the Depression in the periphery suffered from the general fall in prices and restrictions of access to markets. This was worsened by a problem of debt deflation and increased agency costs, because of the specifics of the financial systems in the underdeveloped economies of South East Europe. Without experiencing widespread bank runs, the banks and firms in the real sectors still felt the effects of a severe depression as measured by falls in investment and output on the real side of the economy and the failures of banks and the restrictions of credit on the financial side of the economy. The following section discusses the data used to argue these points.

The Sources and the Data:

As argued in the theoretical section above, aggregate or semi-aggregate data is not particularly useful in trying to trace out the causes of crises of liquidity or insolvency, or the channels of crisis transmission through banks and the real sector. This is why this chapter utilises firm-level data, collected from balance sheets, income statements and company reports, submitted to the central financial authorities – the central banks of the Kingdom of Bulgaria and the Kingdom of Yugoslavia, as well as their Ministries of Finance.

There are two main sources from where such data is available. Incorporated joint-stock companies were required by law to submit annual reports on economic activities in the form of balance sheets and income statements to the formal regulators¹²¹. The ministries of both Bulgaria and Yugoslavia kept folders for each registered joint stock company from its creation to it going into administration or until the political regime changed, in 1944. If a company had gone into bankruptcy, a special note by the

¹²¹ As of 1931, there were official accounting guidelines as to the format of a company balance sheet and income statement, uniform for all joint-stock firms in Bulgaria (see the Annex: Sources for a description and illustration of the official guidelines). This made calculating variables easy for the 1930s. With regards to data prior to 1931, I have made best efforts to edit the balance sheets to the official format of 1931, sometimes having to make subjective judgments. Balance sheet data for Yugoslavia was found to be in a largely uniform format, although, I have not found official accounting guidelines in relation to it.

centrally appointed administrators accompanies a final balance sheet that estimates of assets and liabilities. Sometimes, especially for the larger companies, the administrators recorded balances until all assets had been cleared and distributed amongst creditors.

In the Bulgarian case, there was an opportunity to double-check the numerical data for the financial sector. The Central Bank of Bulgaria created an independent Banking Committee (*Bankerski Suvet*) to investigate the deteriorating position of private joint-stock banks and to determine the causes for the failures post-1931. This committee sent government auditors, who produced independent estimates of the assets and liabilities of banks. Often, detailed reports describing the investigation and containing the auditors' own analysis of the reasons for the bank's failure, accompany these estimates. These reports provide an opportunity to a view on the banking sector performance and its links to the real side of the economy, based on narrative¹²².

This chapter tests numerically the hypothesis of banking distress during the Depression and the consequences for the real sector. The data necessary for this has been divided into three main components – bank characteristics, bank asset composition, and firm characteristics (see table 3.7 for a list of all the variables).

The majority of the bank and firm characteristics were collected from banks' balance sheets (see figure 3.1). These were available on an annual basis, hence all statistical regression models, described in the empirical section of the chapter, use data with annual frequency. Output, a general variable used as a dependent variable in the regression analysis, is extracted from the revenue reported in the balance sheets. For banks it is usually a measure of total revenue, return to assets (profit or earnings over assets). Similarly – firms' output is reported as return to assets, revenue, as well as total sales or a ratio of total sales over assets. The risk-taking attitude of the banks is measured by two variables – leverage (debt over equity) and liquidity (cash over all assets). A number of other core variables are calculated – size, total assets, losses (expenses net of earnings), cash holdings, deposit holdings, loans. These have mostly been used as control variables or to form part of ratio measures of firm and bank performance and asset/liability composition (see discussion below).

¹²² See the Annex: Sources for a full description of the primary sources and a list of their archive numbers and references.

Figure 3.1: Bulgarian Black Sea Bank, Balance Sheet and Income Statement from 1928;
Source: Bulgarian State Newspaper, 1929, volume 282, p. 21

Брой 282

ДЪРЖАВЕН ВЕСТНИКЪ

Стр. 21

Българска Черноморска банка — Анхиало

[П О К А Н А]

Д О К Л А Д Ъ

Управителния съвет на Българската Черноморска банка — Анхиало, има чест да покани т. г. акционерите, на 11-то редовно общо годишно събрание на 31 мартъ т. г. в 10 часа преди обяд, в салона на читалище „Прогрива“, при следния дневен редъ: 1) отчетъ отъ управителния съветъ за операцията 1928 год.; 2) докладъ на ревизионния съветъ; 3) одобрение „годинната равностътка“ и събската „загуби и печалби“; 4) одобрение разпределението на печалбите и определените дати за раздаване дивидентите; 5) освобождаване отъ отговорностъ управителния и ревизионния съвети; 6) одобрение станалото увеличение на капитала съ 1.000.000 лева; 7) изменение членове 3, 4, 14, 22, 31 отъ устава и вземане решение за ново увеличение на капитала; 8) избирание трима членове за управителния съветъ на мястото на излизалите по жребие; 9) избирание трима членове за ревизионния съветъ и двама запасни. За правоучастие въ събранията т. г. акционерите депозиратъ акциите си въ касите на банката — Анхиало, до 28 мартъ т. г. Въ случай, че събранията не се състоят на тази дата по непредставени нужното число акции, то ще се отложи за следния следващ денъ безъ особена покана.

Отъ управителния съветъ

на ревизионния съветъ, до 11-то общо годишно събрание на т. г. акционерите на Българската Черноморска банка — Анхиало.

Господа акционери,

Въ качеството си на ревизионния съветъ на банката ни, честь ни е да ви донесемъ, че съгласно постановлението на търговския законъ и чл. 29 отъ устава, сме правили необходимите ревизии и констатирали сме алиаси въ определената за тази целъ протоколна книга. Следъ годишното приключване, също така направихме нуждната ревизия и проверихме съставения годишенъ „балансъ“ и събската „загуби и печалби“ и ги намерихме за вѣрно издѣлени отъ счетоводните книги. Предвидъ на горепозначеното ви излизамъ: 1) да одобрите така представения ви „годинна равностътка“ и събката „печалби и загуби“ така както съ съставени; 2) да приемете разпределението на печалбите направено въ събската „печалби и загуби“ отъ управителния съветъ; 3) да освободите отъ отговорностъ управителния съветъ за дейността му презъ изтеклата операция 1928 година.

Гр. Анхиало, мартъ 1929 год.

Ревизионния съветъ:

{ Христо Василевъ

{ Слави Мариновъ

РАВНОСМЪТКА

на Българската Черноморска банка — Анхиало, къмъ 31 декемврий 1928 год.

1	Каса	232.752	27	1	Капиталъ	1.500.000	—
2	Ценни книжа	53.107	20	2	Резервиръ фондъ	180.125	17
3	Земни полици	2.200.476	—	3	Фондъ увеличение капитала	297.225	—
4	Сконтирани полици	205.613	—	4	Банки и кореспонденти	279.245	—
5	Специални тек. с/ки вр. поручителъ	6.620	—	5	Текущи кредитни сметки	226.501	—
6	Специални тек. с/ки гар. впротекъ	53.175	—	6	Кредиторна с/ки—якоговъ	963.829	05
7	Недвижими имоти	38.314	05	7	Печалба	188.477	65
8	Мобилъ	48.418	—	8	Счетоводни сметки	8.500	—
9	Протестирани полици	49.261	—	9	Нали ефекти въ инкасо	2.181.635	—
10	Свѣдѣния дѣла	188.935	15	10	Кредитори по преск. и предпоз. вѣци	299.654	—
11	Далеси за гар. ценни книжа	6.000	—	11	Седанти	212.300	—
12	Парисиспации	230.100	—	12	Депозити на ценности	564.000	—
13	Преводни сметки	322.721	20	13	Дѣлжници по записи за гаранции	6.100	—
14	Статистически сметки:						
15	Кореспонденти за инкасо	8.500	—				
16	Пресконтрирани полици	1.799.635	—				
17	Предпозирани полици	382.000	—				
18	Полици за събиране	299.684	—				
19	Депозити за гаранции	212.300	—				
20	Записи за гаранции	564.000	—				
21	Дѣлжници по записи за гаранции	6.100	—				
		6.907.620	87			6.907.620	87

СМЪТКА „ПЕЧАЛБИ И ЗАГУБИ“

на Българската Черноморска банка — Анхиало, къмъ 31 декемврий 1928 год.

1	Погасение общи разходи, заплати, иземи, амортизации и др.	145.806	10	1	Отъ лихви, комисиони, порто и др.	620.102	90
2	Платени лихви по влогове и пресконтрирани полици	285.819	15				
3	Разпределението чистата печалба:						
4	1) 10% запасенъ фондъ	18.847	—				
5	2) Лични	23.247	5				
6	3) 10% тангенси прѣвъ съветъ	18.847	—				
7	4) 2% тангенси ревиз. съветъ	3.768	—				
8	5) 2% тангенси чиновничествъ	3.768	—				
9	Дивидентъ за разпределение 10% на 1.000.000 лв. и 2% на 500.000 лв. за 3 месеца	120.000	—				
		620.102	90			620.102	90

Директоръ: С. Хрусановъ
Счетоводителъ: не се сѣте

Ревизионния съветъ: { Христо Василевъ
Слави Мариновъ

1—(1.19084)—1

A number of variables are specifically related to the models I use to answer questions on bank and firm performance, the causes of bank failures, and the consequences of bank insolvency for firms. In models investigating the causes of bank troubles during the depression I have used variable not found on balance sheets. Ownership variables, like foreign and interlocked, or bank specific ones, like unit (measure of the bank branches), I extracted from shareholder lists and bank/firm reports, where issues of ownership changes and bank/firm attachments are recorded. Figures 3.2 and 3.3 are examples of such evidence:

Figure 3.2: Front page of Annual Report of Credit Bank (German owned Kreditna Banka) from 1932; Source: Central State Archive, see Bibliography for full citation.

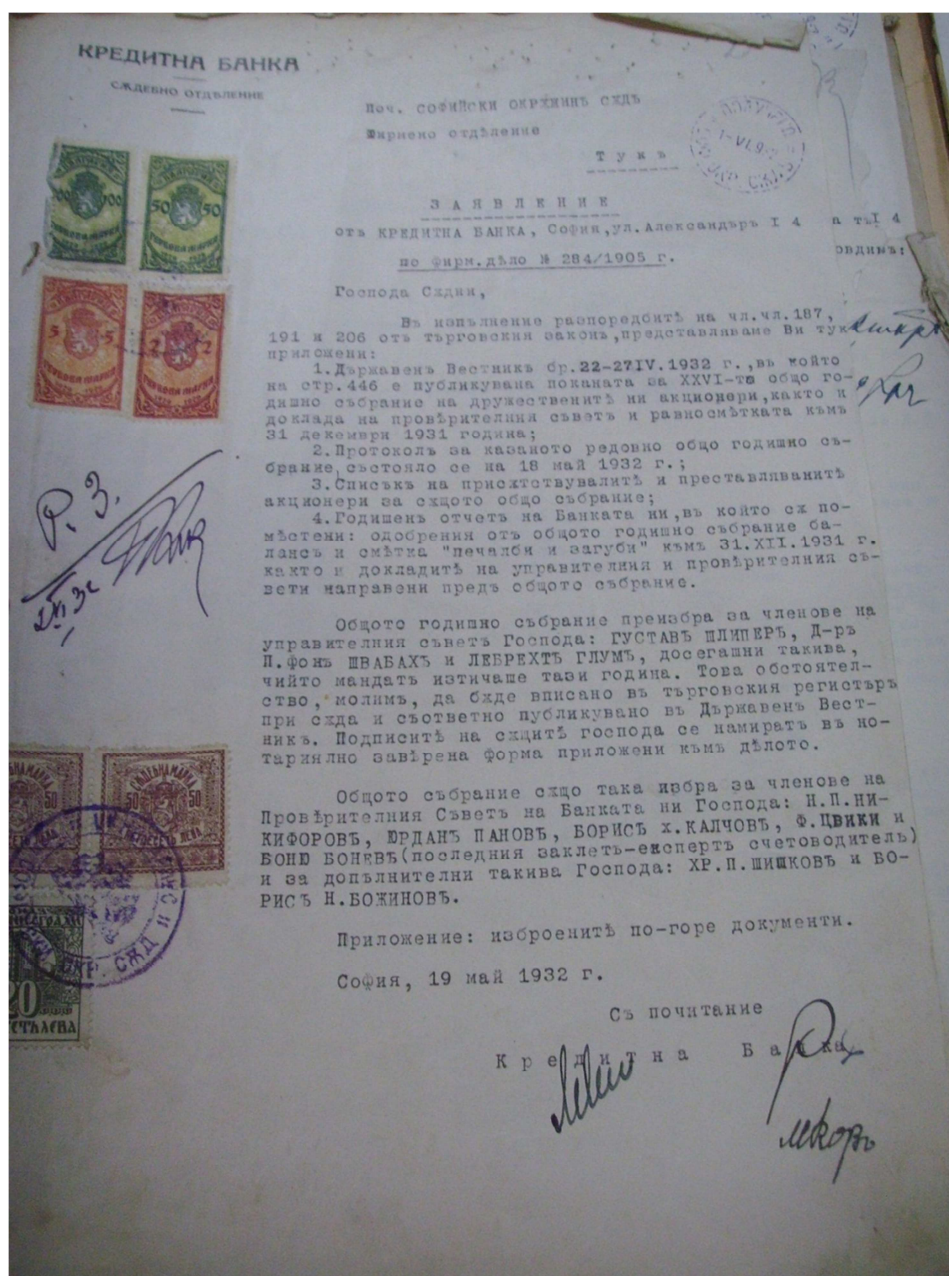


Figure 3.3: *Second page of Annual Report of Credit Bank (German owned Kreditna Banka) from 1932; Contains list of shareholders, number of shares and value in Bulgarian Leva;*

Source: Central State Archive, see Bibliography for full citation.

XXVI-ТО ОБЩО СЪБРАНИЕ
на Акционерите на КРЕДИТНА БАНКА, София,
състояло се в София на 18 Маѝ 1932 г.

ДЕПОЗИРАНИ И ПРЕДСТАВЛЯВАНИ АКЦИИ:

гласове	капиталъ	акционеръ	представлявани отъ Г.
12 71	лв. 48.643.750.-	Дойче Банкъ и Дисконто Гезелшафтъ, Берлинъ	Д.М. Яслански
250	" 940.000.-	И-ци на Ив. Ев. Геновъ	Ев. Ив. Геновъ лично
8	" 30.000.-	Д.М. Яслански	лично
8	" 30.000.-	Густавъ Шлиперъ	Д.М. Яслански
8	" 30.000.-	Д-ръ П.Ф. Швабахъ	Ед. Наудашеръ
8	" 30.000.-	Лебрехтъ Глумъ	Ед. Наудашеръ
8	" 30.000.-	Н. Ив. Геновъ	лично
8	" 30.000.-	Ив. Даневъ	лично
8	" 30.000.-	Ед. Наудашеръ	лично
36	" 136.250.-	Д-ръ Ст. Даневъ	Ив. Даневъ
13 13	лв. 49.930.000.-		

Членъ Г. Геновъ
Д.М. Яслански
Ед. Наудашеръ
Ив. Даневъ
А. Ив. Геновъ

All firms in the sample were publicly traded, joint-stock companies. Focusing solely on publicly listed firms was dictated by data availability. A disadvantage of this is that the patterns observed may not be representative of the whole economy.

As in all unbalanced panel samples, where some firms have had to exit the sample because of bankruptcy, there is a danger of survivorship bias. To avoid it I have only dropped firms that only enter our sample for less than 5 years, i.e. if they were created and failed within a 5-year period, failed before 1924, or were created after 1937. This allows me to observe within-firm changes over a period of at least 5 years.

Some firms were also dropped because the accounting data was inconsistent. For example, where the sum of assets is greater to the sum of liabilities; where the ratio of export revenue to total revenue was greater than one; where there is a clear case of an outlier, i.e. a spike of fixed capital in one year that is not observed in the year before or after. This leaves a sample of 56 banks and 171 firms for both Bulgaria and Yugoslavia. This provides an unbalanced sample of 4,086 firm/bank-year observations.

Most of the variables in the regression models are expressed as ratios. Where this is not the case, they are in logarithmic values to ease the interpretation of the coefficients as percentage changes. Before logs are applied, the nominal magnitudes are deflated using sector specific price series taken from Statistical Yearbooks or the publications of the League of Nations, especially the International Labour Organisation Yearbook.

In addition to micro-level data, aggregate and semi-aggregate data helped for the construction of sectoral variables and for a semi-aggregate glance at the banking sectors of the Kingdoms of Bulgaria and Yugoslavia. I deemed necessary to include such data, because a central part of the argument rests on an assumption, that has become a stylized fact in the literature, that the banking systems of both countries (similarly to the rest of Central and Eastern Europe) were of a universal type, i.e. combining both an investment and commercial arm and containing a large amount of equity on their balance sheets. This data was collected from printed primary sources: the annual Statistical Yearbooks of both Bulgaria and Yugoslavia for the period 1919-1941; the monthly and quarterly reports of the Bulgarian National Bank on the state of the banking sector, and a Statistical Collection of Documents of the Kingdom of Serbs, Croats and Slovenes (as the Kingdom of Yugoslavia was known in the 1920s). Aggregate data was also taken from a number of secondary publications, which are cited as the data is presented.

Banking in the Balkans - First Glance at the Data

Lampe and Jackson's (1982) sweeping analysis of Balkan economic history from 1550 to 1950, although dated, established a primer for research on the region. Their summary vision of the Interwar credit situation is one of 'shortage of short and long-term capital that constrained all sectors of the economy' where the only sectors that could grow were the ones that could overcome this constraint¹²³.

Table 3.1 summarises some characteristics of the banking sectors of Bulgaria, Yugoslavia, and compares them to the two other Balkan economies (Greece and Romania), as well as the three leading core economies of Germany, the UK, and the USA. In both Bulgaria and Yugoslavia banks had few or no branches. The Yugoslav government legislated against it, while in Bulgaria only very few large banks operated a branch network. Characteristically for unit banks, the majority were small in size with limited capital and reserves. Deposits in Bulgarian, Yugoslav, and Romanian, banks were limited, which suggests a lot of their assets came from capital paid-in by the shareholders. On average they combined the small size of US unit banks with German style universal banking (as is shown below) – a structure not particularly well-suited to weather a deflationary crisis. Greece was the 'odd' Balkan country with relatively well-capitalised banking sector that was organized around a widespread branching network.

Table 3.1: Comparison of Banking Sector Structure in 1930; Sources: League of Nations, Commercial Banks 1925-1933, Commercial Banks 1929-1934; League of Nations, Statistical Yearbooks, various years;

	Bank Structure, 1930						
	Some Comparisons						
	Bulgaria	Yugoslavia	Greece	Romania	Germany	UK	US
Branches / Bank	1.43	1.00	7.43	1.00	3.06	613.44	1.14
Population per Bank	43.10	21.10	180.30	16.00	176.10	2481.30	16.20

¹²³ Lampe and Jackson (1982), p. 376.

(000s)

Average Capital + Reserves *	0.07	0.10	0.55	0.09	1.30	43.92	0.47
Average Assets *	0.40	0.50	2.43	0.45	13.09	686.09	3.86
Average Deposits *	0.31	0.39	1.72	0.29	8.27	601.26	2.63
Capital / Asset	0.15	0.16	0.14	0.13	0.10	0.04	0.06

* All figures are in 1930s \$ millions

The central banks of both Bulgaria and Yugoslavia played a limited role in the provision of credit. Both banks were involved in some commercial lending activities in the early 1920s, but the post-World War 1 period was a difficult period for credit provision to the commercial sector, as they mostly acted as a lender to the government. Exchange rate problems caused by hyperinflations in both countries and attempts to rejoin the Gold Standard (in 1926 and 1928 respectively for Bulgaria and Yugoslavia) further limited the ability of the National Banks, seen as the pillars of credit provision prior to 1914, to continue in such roles¹²⁴. The limited commercial funds made available by the Yugoslavian National Bank in the 1920s were mostly aimed at Serbian borrowers – by 1927 Serbian borrowers received funds that were twice the amount received by Croatians and four times that of Slovenians¹²⁵. The Bulgarian National Bank experienced similar commitments to lending to the government, which lead to the League of Nations-facilitated loans of 1927 and 1929. A condition of these loans was the ceasing of all commercial lending of the Central Bank to private individuals or firms. Its assets had been 43% of the total assets of Bulgarian banks in 1911 and shrunk to 27% by the late 1920s¹²⁶. Joint-stock commercial banks filled in the gap left by the declining share of national banks' deposits and loans in both Bulgaria and Yugoslavia. Commercial banks obtained liquidity in the early 1920s from the increase in savings deposits and from inflows of foreign capital.

¹²⁴ Ibid., p. 391;

¹²⁵ Djurovic, S. (1977) .

¹²⁶ Lample and Jackson (1982), p. 395.

Table 3.2: Evolution of Commercial Bank Assets in Yugoslavia, 1921-1930; Sources: League of Nations, Commercial Banks, 1925-1933, Commercial Banks, 1929-1934; League of Nations, Statistical Yearbooks

Commercial Bank Assets, Yugoslavia			
Year	Current Dinars (mil)	Constant Pre-war Exchange Values	
		Amount(mln)	Per Capita (dns)
1921	6,056	744	61.7
1923	9,906	550	44.3
1925	13,286	1173.6	91.7
1928	15,627	1424.5	106.5
1930	19,879	1820.4	132.1

Table 3.3: Structure of Bank Assets in Yugoslavia 1930; Sources: League of Nations, Commercial Banks, 1925-1933, Commercial Banks, 1929-1934; League of Nations, Statistical Yearbooks; various years;

Structure of Bank Assets and Loans in Yugoslavia in 1930		
(mln dinars)		
Banks	Assets	Loans
National Bank	8,145	5,746
Postal and Mortgage Banks	5,151	3,965
649 Commercial Banks	19,879	16,792

56 Savings Banks	2,634	1,684
Cooperative Credit	4,042	3,087
total	39,851	31,274

Tables 3.2 and 3.3 show that by 1930 the Yugoslavian National Bank had less than one third of the loans of the commercial banks. In Bulgaria, by 1928 the ratio was less than 1/5th and declined rapidly even further in compliance with the League of Nations regulation to cease all deposit taking and lending. This does not mean that state's role in finance declined to insignificance. Both the Postal and Mortgage Bank in Yugoslavia and the Agricultural Bank in Bulgaria held as much as one quarter of the loans and assets of commercial banks in Yugoslavia and almost half of them in Bulgaria. They had, however, little involvement with industry, being specialized in funding small-scale agriculture or mortgage lending.

Both countries' banking sectors were reasonably concentrated. In Bulgaria, the nine largest private commercial banks were based in Sofia (five of them foreign owned) held a little less than 2/3 of the total assets of private commercial banks¹²⁷. The Herfindahl-Hirschman Index for the Bulgarian and Yugoslavian Banking sector, based on the bank-level dataset collected for this study, was 0.76 and 0.64 respectively on average for the period 1919-1941. Concentration increased over the 1930s, especially after the numerous failures or mergers during the Depression.

The opening up of the banking sectors for foreign investment, post-1919 resulted in an influx of capital from abroad. High interest rates, due to underdevelopment of the financial markets, attracted foreign money to both countries. No systematic evidence is available for the short-term interest rates charged by commercial banks on loans, or the rates they paid on deposits. Anecdotal evidence provided by Notel (1986) and Lampe and Jackson (1982) suggest rates charged for loans as high as 20% in some Bulgarian banks¹²⁸.

¹²⁷ Ibid, p. 396, table 11.5

¹²⁸ Notel (1986) in Kaser and Radice, p. 174; Lampe and Jackson, (1982) p. 395.

As argued in the previous chapter, French, Swiss, Belgian and Italian money substituted the decreased German holdings in Bulgaria, while French, English and US money continued to come into Yugoslavia. By the late 1920s, the foreign share in Bulgarian banking sector capital was about 31%, while that in Yugoslavian bank capital was 14%¹²⁹. By 1927 the five big foreign banks in Bulgaria, all based in Sofia, commanded paid in capital that was twice that of the four largest native banks¹³⁰.

In Yugoslavia, similarly to Bulgaria, foreign money in banking was concentrated in a commercial hub. The Croatian capital Zagreb contained most of the foreign investment in Yugoslavia. The *Jugoslovenska Banka* owned by the Czech *Zivnostenska Banka* was the largest Croatian or Slovenian bank under direct foreign control. *Prva Hrvatska Stedionica* remained the largest Zagreb bank, with a majority of its stock in native hands.

The Yugoslavian capital Belgrade contained one large foreign-owned bank – *Franco-Serbe*. Three other foreign banks opened up in Belgrade during the 1920s, but still most of the funds in Serbia came from native commercial banks or the National Bank (*Narodna Banka*). The latter tended to only lend to Serbian commercial banks, which helped the geographical and economic concentration of Yugoslavian banking during the Interwar Period. In Sarajevo, credit restrictions applied to non-Serbian financial institutions, resulted in the fall of the number of banks in the Bosnian capital from twenty in 1923 to nine by 1927.

Table 3.4 presents a breakdown of the regional structure of Yugoslavian banking. The financial sector in Yugoslavia was concentrated in Croatia and its capital Zagreb. Evidently, the origins of this distribution were path dependent. Croatia was a province in Austria-Hungary before World War I and had already a large number of banks. State policy to encourage the shift of financial services towards Serbia and Belgrade seem to have resulted in almost doubling the number of banks in Serbia, but it failed to attract funds, which appear to have remained in Croatia.

¹²⁹ Ibid, p. 395; for precise breakdown in sectors see previous chapter.

¹³⁰ In that year the big foreign banks held paid-in capital of 205 mln golden leva, as opposed to 127 mln golden leva in the four largest private native banks. See Chakalov (1944), p. 27; Bulgarska Narodna Banka (1929), p. 38; Department of Overseas Trade, (1926), pp. 9-10.

Table 3.4: Regional Structure of banks, Yugoslavia in 1930; Sources: Lampe and Jackson, 1982;

Regional Structures, Yugoslavia in 1930		
Prewar	Banks	Assets (mln franks)
Serbia	177	364
Croatia	189	580
Bosnia and Herzegovina	38	70
<i>total</i>	<i>404</i>	<i>1014</i>
During 1930s		
Serbia and Mont	307	371.3
Croatia	142	500.2
Bosnia and Herz	71	117.9
Slovenia	11	141.1
Dalmatia	13	24.4
Voivodina	127	172.8
Total	672	1,328

Tables 3.5 and 3.6 present the changes in the structure and lending volumes in Bulgarian banking during the boom years preceding the Great Depression. In a decade during the 1920s the capital and reserves of private commercial banks more than doubled and loans more than tripled. In the second half of the decade only assets of these institutions almost doubled. Bank concentrations also increased. The nine largest banks including the foreign institutions based in Sofia owned almost 2/3 of the assets, with less than one half of the capital and reserves, and allocated 70% of the

loans. It is evident from table 6 that the state had a sizeable part of the commercial loans market. The Bulgarian National Bank, Agricultural Bank, and the Central Cooperative Bank jointly allocated 4,876 mln leva in loans, almost 70% of the loans provided by the private commercial banks that year. This was the high point of state participation in commercial banking prior to the Depression. As discussed earlier, the National Bank stopped deposit taking and commercial lending operations in the next two years. The state would only return as a major participant in this market in 1935. That year it created Banka Bulgarski Kredit (Bulgarian Credit Bank), which agglomerated all the failing private commercial banks and recapitalized them with public money. Figure 3.1 shows that 1928/29 was indeed the peak of the banking sector development in terms of the value of assets, paid-in capital, and number of institutions in Bulgaria. The 1930s were characterized by a steady decline in all three indicators across all joint stock banks.

Figure 3.4: Assets of Bulgarian Joint Stock Banks, 1922-1940;

Source: Statistical Yearbook of the Kingdom of Bulgaria, various years;

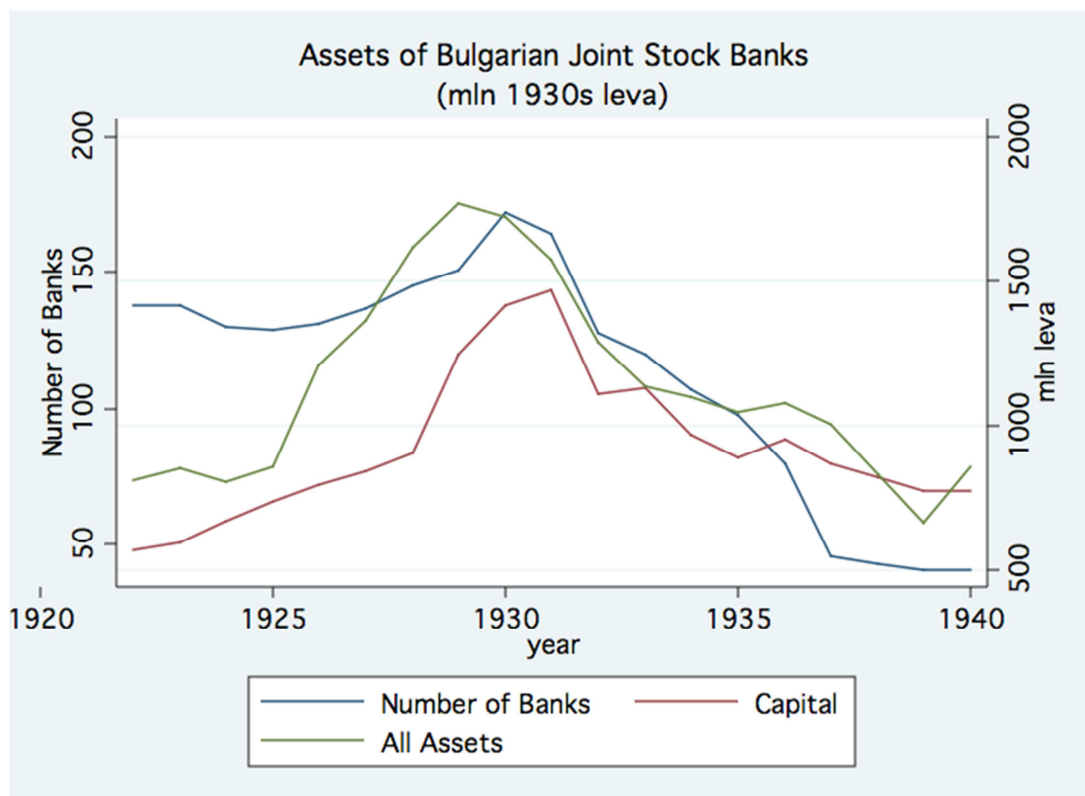


Table 3.5: Structure of Commercial Banking in 1920s Bulgaria; Source: Lampe and Jackson (1982);

**Structure of Bulgarian Commercial Banking, 1920s (in
mln leva)**

Private Commercial Banks				
Year	N	Total Assets	Capital and Reserves	Loans
1912	42	165	42	148
1920	117	-	426	1,697
1924	117	4,312	655	3,453
1928	128	7,837	1,007	6,448

Nine Largest Sofia Private Commercial Banks

Year	N	Total Assets	Capital and Reserves	Loans
1924	9	2,921	272	2,345
1928	9	5,026	426	4,597

Table 3.6: Bank Loans in Bulgaria; Source: Lampe and Jackson (1982);

Volume of Loans by type of bank (mln leva); Bulgaria				
Bank	1911	1926	1927	1928
Private Commercial Banks	125	4,307	4,983	6,446
National Bank	126	885	902	1,288
(to private banks)		131	256	447
Agricultural Bank	113	2,448	2,654	3,207
Central Cooperative Banks	2	284	289	372
Popular Banks		829	1,044	1,429
Agricultural Credit Cooperatives		353	405	487
Total	366	9,105	10,177	13,229

Commercial banks in both countries continued a pre-1914 trend to place any investments and loans into short-term instruments. The only long-term instrument they held was equity. Figures 3.5 and 3.6 illustrate some of the types of assets held by Bulgarian and Yugoslav joint stock banks¹³¹. Equity holdings were the largest asset class on bank balance sheets. During the 1920s more industrial involvement was evident, while in the 1930s there was an attempt to increase liquidity via increased cash holdings.

¹³¹ The author-collected, firm level, dataset, collected by the author is used in the creation of all figures in this chapter, apart from figures 3.1-3.4.

Figure 3.5: Loans and Deposits of Bulgarian Joint Stock Banks; (in log form)

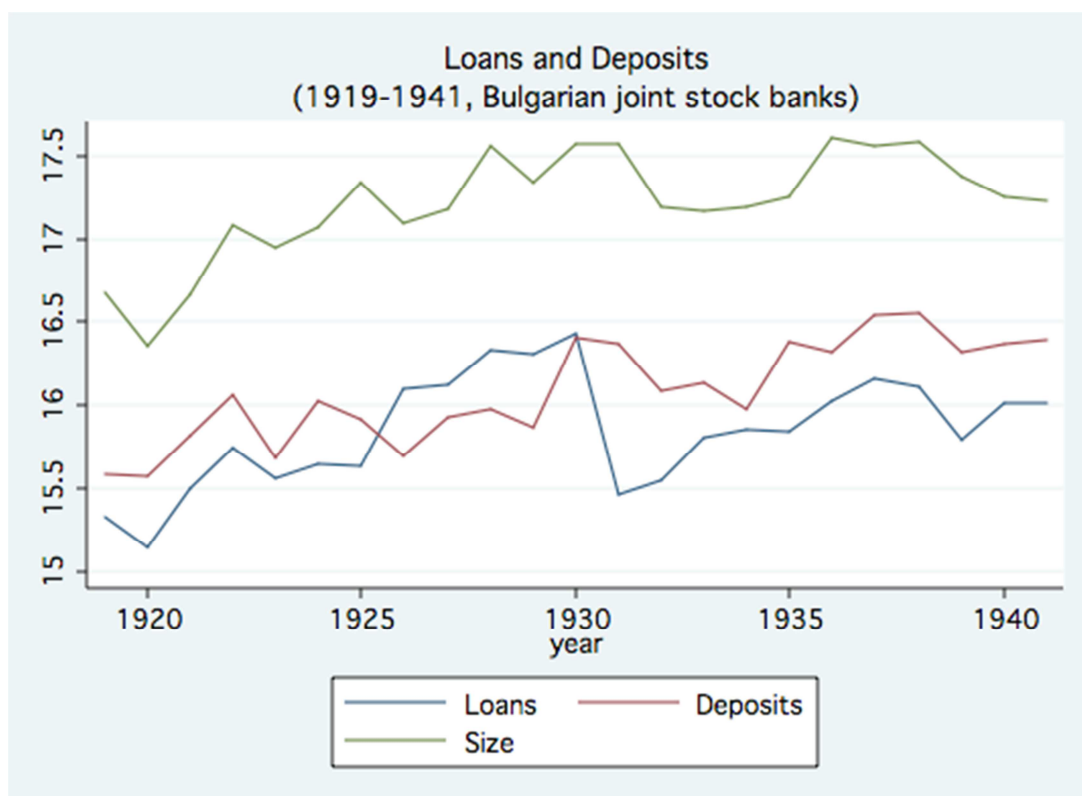


Figure 3.6: Bank Asset Types, selected Bulgarian joint stock banks; (ratios, relative to total assets)

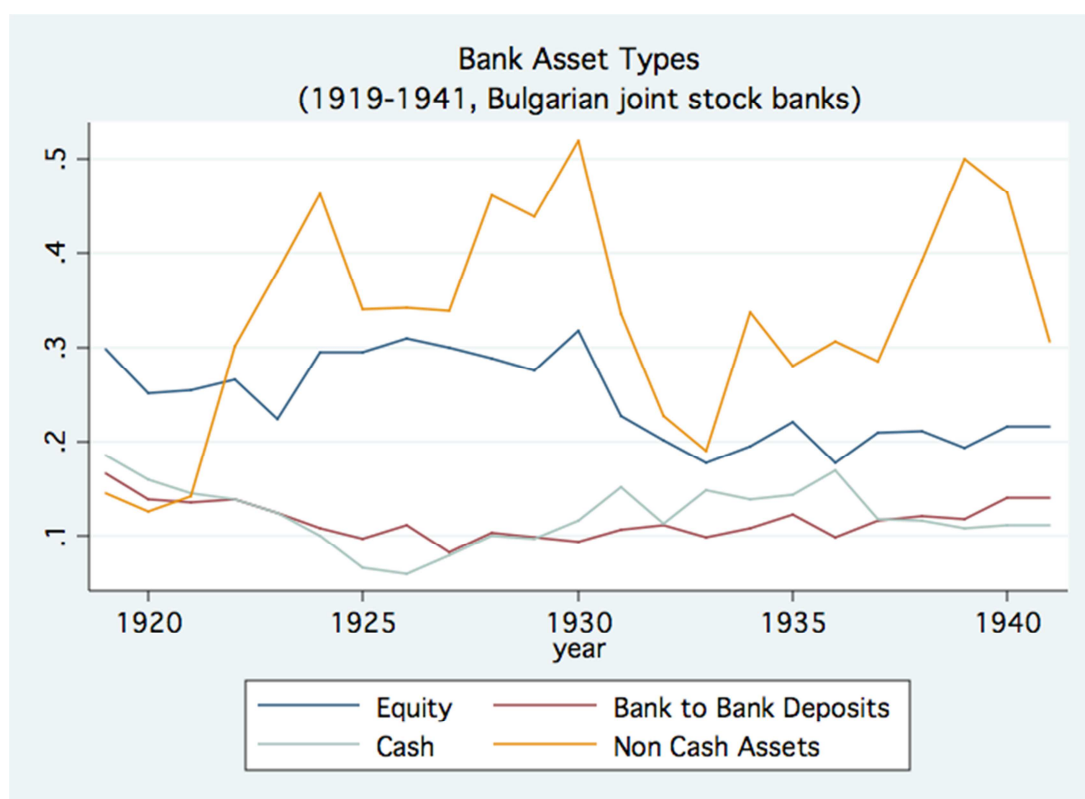


Figure 3.7: Deposit/Loans and Capital/Loans Ratios, selected Bulgarian joint stock banks; note: High capital to loans ratio in the late 1920s and early 30s may be explained by the lack of outside last-resort financing, similar to the one ensured by the Bank of England.

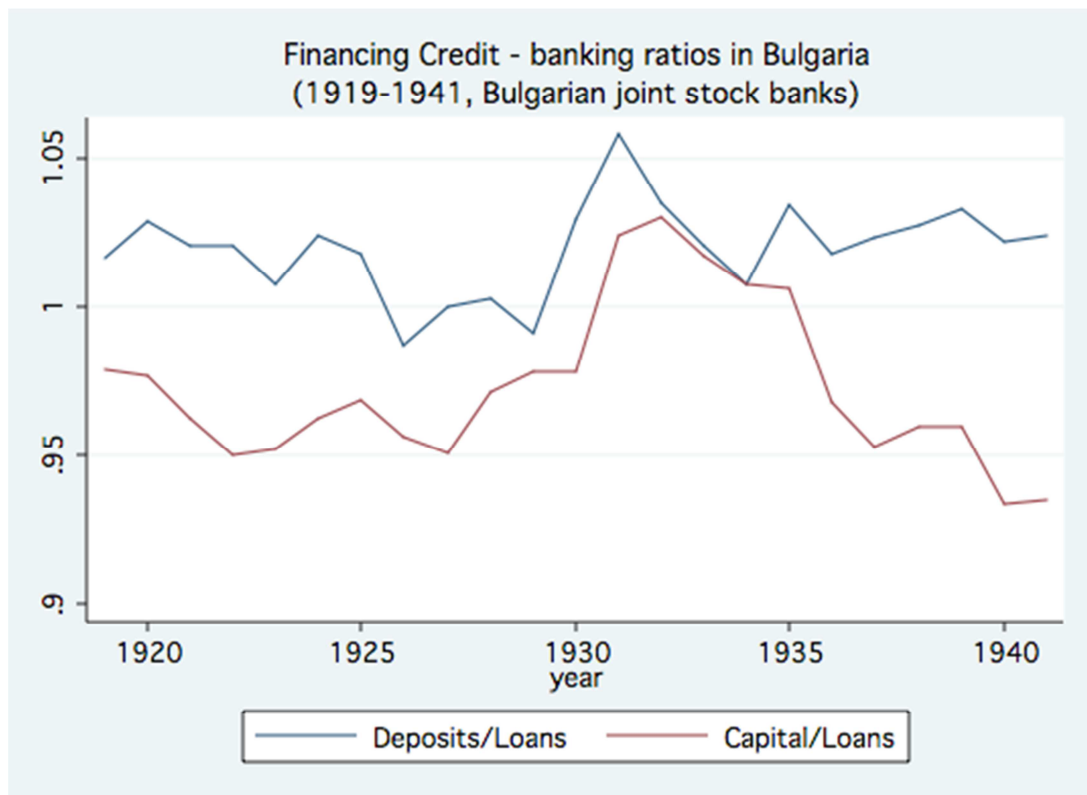


Figure 3.8: Loans, Deposits, and Assets; selected Yugoslavian joint stock banks; (in log form)

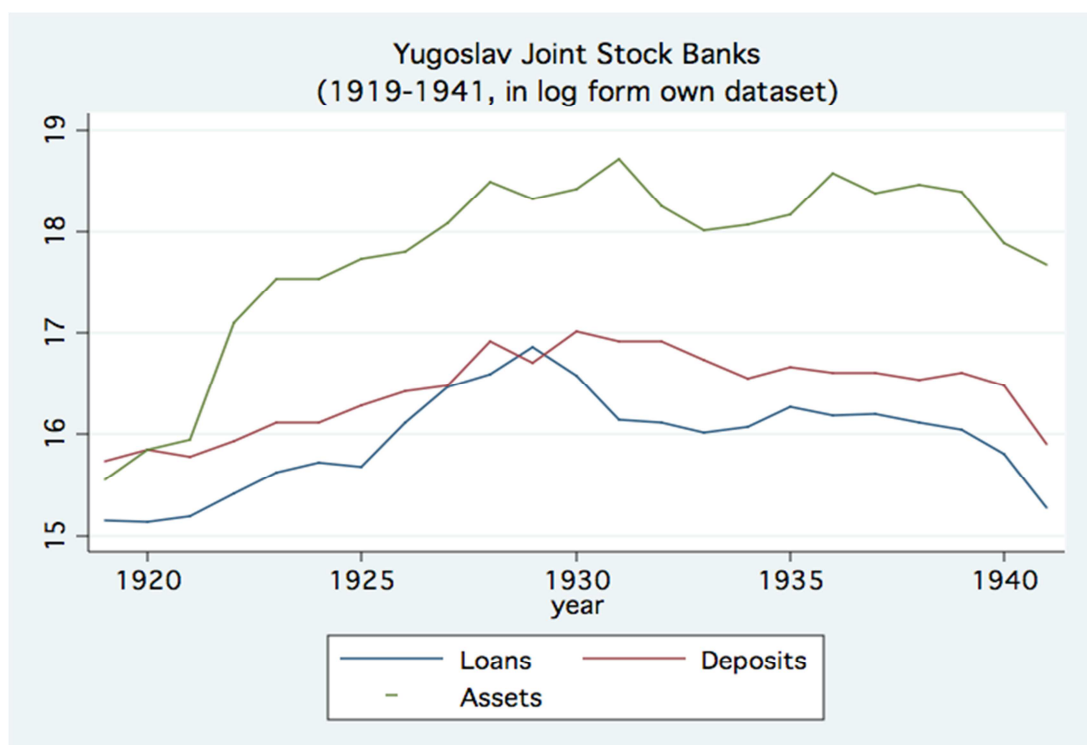
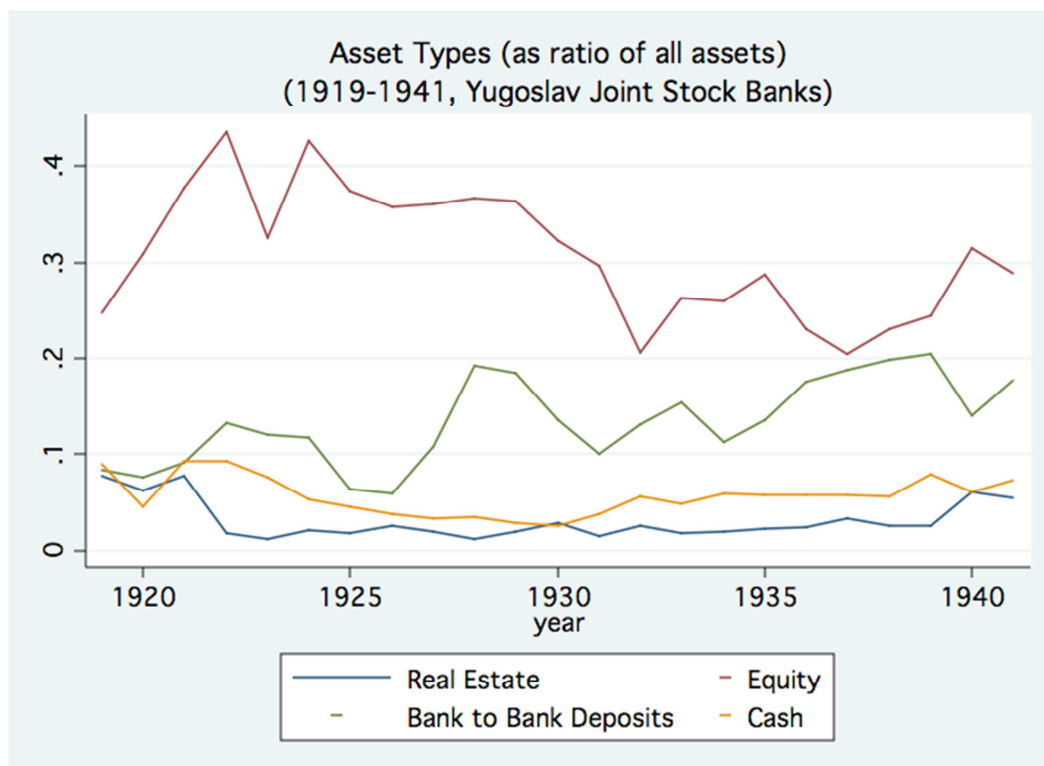
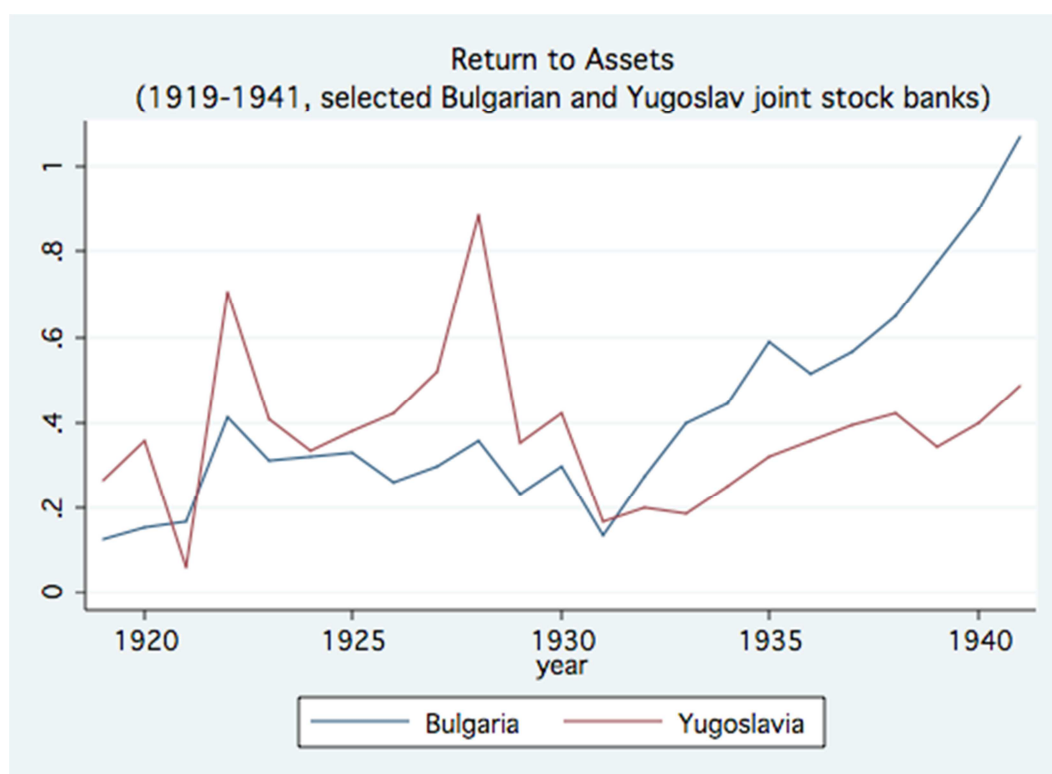


Figure 3.9: Asset Types; selected Yugoslavian joint stock banks; (ratios, relative to total assets)



In Bulgaria, banks never managed to completely overcome illiquidity by increasing inter-bank lending and cash holding. In Yugoslavia non-cash assets, mainly consisting of real estate, were reasonably low for the whole of the Interwar period. In both countries banks actively decreased equity holdings during and after the depression years – starting as early as 1929 in Yugoslavia. The same year industrial involvement peaked in Bulgaria and then sharply fell. Avramov (2007) claims that the short period 1927-1929 formed the most active bank-industry interaction due to the liquidity boost of the foreign loans assisted by the League of Nations (the Stabilisation and Refugees loans). Profitability difficulties must have begun in 1928 as return to assets in both countries show a decreasing trend from then on until a trough in 1931 (see Figure 3.10).

Figure 3.10: Return to Assets; selected Bulgarian and Yugoslavian joint stock banks;



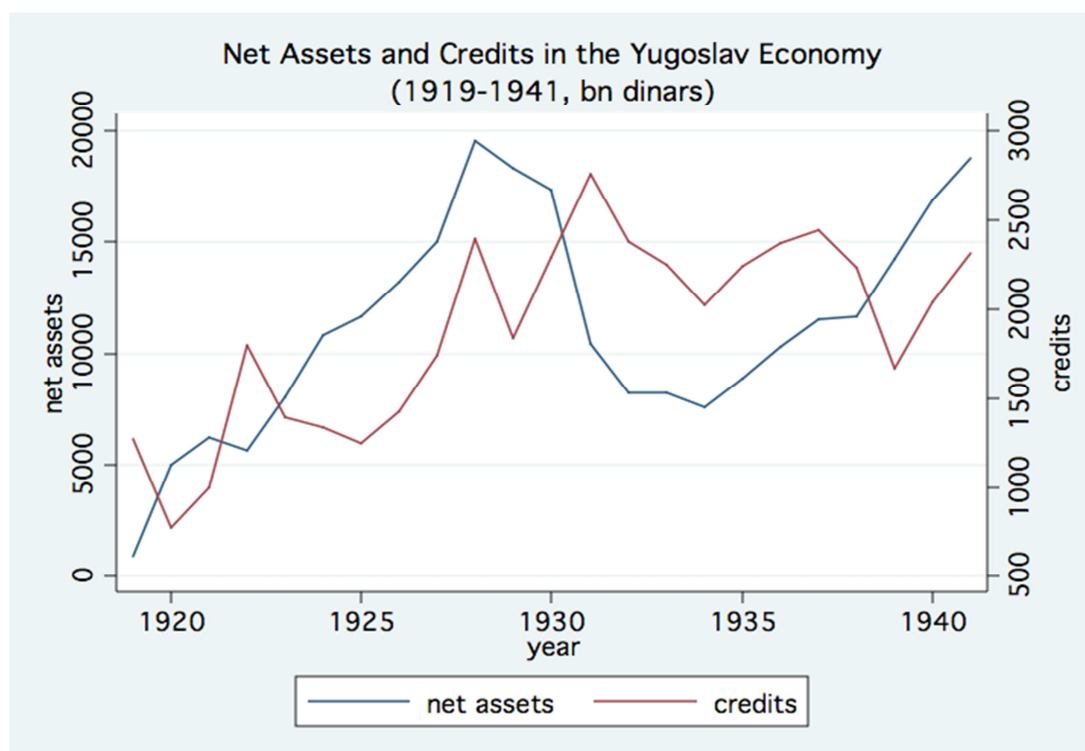
Figures 3.11 and 3.12 trace the net assets and credits of the banking systems of Bulgaria and Yugoslavia. Net assets is a measure of cash and non-cash assets, including equity, real estate, discount bills, net of non-cash liabilities (i.e. excluding loans). The non-cash assets are discounted by price series specific to the asset class to account for the long-term deflation that has been described in the literature as a perpetrator of the Depression¹³². Both charts show that deflation (or simply losses) eroded the assets of banks in the early 1930s, and in the case of Bulgaria for the whole decade. In Bulgaria this clearly affected credit provisions – a measure of credit availability constructed from bank-level data on loans, both commercial and private. As discussed in the theoretical part above, this is one of the channels that leads to deadweight losses in an economy suffering from an economic crisis that translates into a banking one. Interestingly credit did not decline in Yugoslavia. In fact, it continued to grow into 1930 and 1931, before dipping in 1934 and again in 1939. There is no clear reason why this was the case. One hypothesis to explain is that there were government provisions to ensure the availability of credit, by for instance making bank bailouts contingent on continued lending¹³³. Another possibility, discussed more often in the case of Bulgaria,

¹³² See Bernanke and James (1990), pp.4-29 for a review of cross country evidence of the complementary themes of Gold Standard, Deflation, and Financial Crisis as the three components of the crisis that formed the Depression experience.

¹³³ Aleksic, (2009).

is that short-term loans were converted to long-term by government legislation¹³⁴. Debt protection legislation became popular in the early 1930s, when it became clear that industrial and agricultural borrowers were unable to meet their debt obligations. The Bulgarian state-owned Agricultural Bank began a practice of extending the repayment dates and excusing interest payments from 1931¹³⁵. Industrial debtors were protected from bank repossessions too – a practice, which contributed to the process of creating insolvent banks out of illiquid ones. The process of government intervention and regulation during the Depression is the topic of the following chapter.

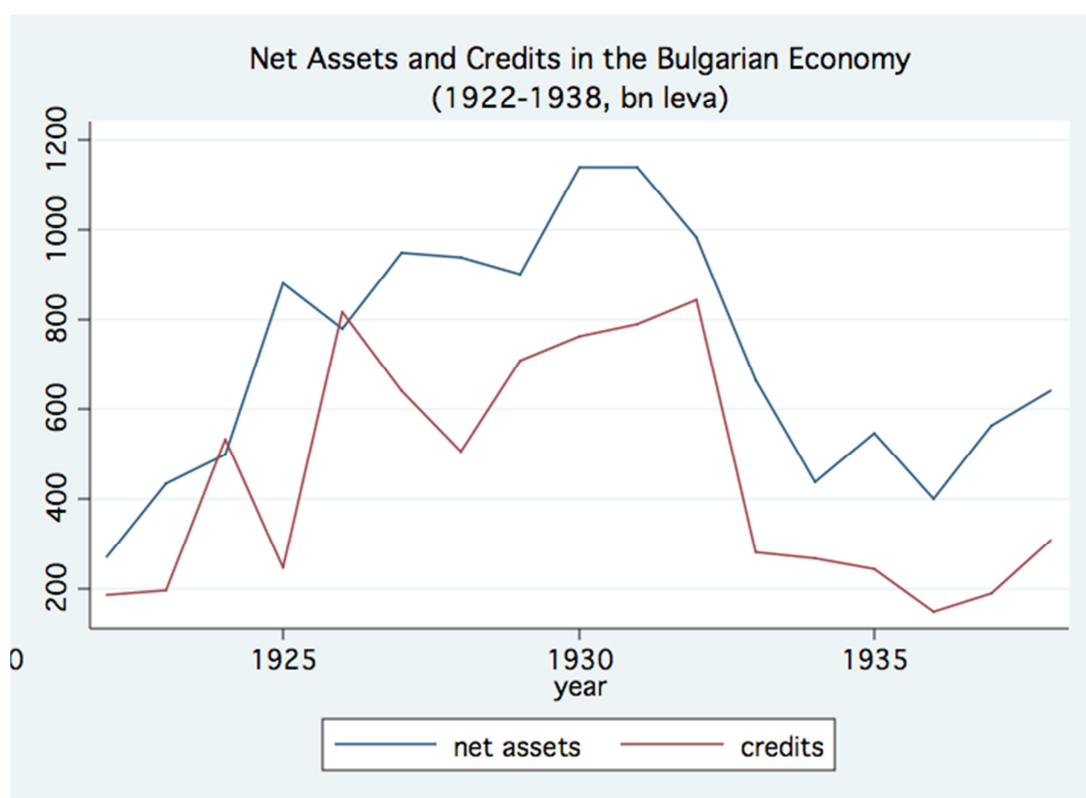
Figure 3.11: Net Assets and Credits; selected Yugoslavian joint stock companies from all sectors;



¹³⁴ Avramov (2007), p. 405.

¹³⁵ Ibid, p. 626;

Figure 3.12: Net Assets and Credits; selected Bulgarian joint stock companies from all sectors;



Now I turn to explaining the empirical strategy to trace banks' and firms' reaction to the crisis, their interaction, and to test debt deflation theories that were the main reason why the financial sectors of the peripheral economies of Bulgaria and Yugoslavia collapsed in the early 1930s.

Empirical Strategies

This section describes the empirical techniques applied to answer the questions raised in the theoretical parts of the chapter. Firstly, an important aim of this chapter is to explain the reasons for bank distress during the Depression in the economic periphery. Using a restricted panel, to include only the crisis years, we look further into the issue of how banks dealt with the crisis. A second important theme is the interaction of banks and industry. We find evidence to confirm that the financial distress channel was an important cause for the severity of the depression. Finally, we look at the firms' dataset to account for the type of firms that suffered the most and

how they weathered the Depression and crucially, the credit constraint that bank failures imposed on them.

I first look into the causes of bank failures. In order to do this, we have constructed three panel-data models, which utilize two groups of variables: bank characteristics used as controls and measures of liquidity/solvency as the reasons for failure. The key relationships are modeled as follows:

$$1 \quad failed_{i,c,t,j} = \beta_1 + \beta_2 btob_{i,c,t,j} + \beta_3 equity_{i,c,t,j} + \beta_4 unit_{i,c,t,j} + \beta_5 lev_{i,c,t,j} + \beta_6 X_{i,c,t,j} + \beta_7 Y_{t,c,j} + \epsilon_{i,c,t,j}$$

where $failed_{i,c,t,j}$ is a dummy taking the value of 1 if bank i , from country c , in time t , and sector j , has failed; or zero otherwise. X is a set of control variables, including size, cash holdings, deposit holdings, loans, and non-cash assets; Y is a set of sector and country fixed effects. This binary model simply investigates what are the correlates of failed banks and provides a first piece of evidence on the dichotomous reasons of bank distress – illiquidity or insolvency.

$$2 \quad ROA_{i,c,t,j} = \beta_1 + \beta_2 btob_{i,c,t,j} + \beta_3 equity_{i,c,t,j} + \beta_4 unit_{i,c,t,j} + \beta_5 lev_{i,c,t,j} + \beta_6 X_{i,c,t,j} + \beta_7 Y_{t,c,j} + \epsilon_{i,c,t,j}$$

where $ROA_{i,c,t,j}$ is the return to assets of bank i , from country c , in time t , and sector j . The rest of the set up is similar to the binary model above. Equation 2 was run as both a fixed effects model, including sector/country fixed effects, and a simple pooled OLS model with country fixed effects.

Many important conclusions can be drawn from these models. First of all, the interpretation of the coefficients of the control variables from the banks' balance sheets will be different for the independent variables, *failure* and *return to assets*. For instance, taking greater risks, expressed through higher leverage ratios, may lead to greater returns, but also make the bank more prone to failure. This will provide a feel for the relationships involved and allow us to establish initial hypotheses for the later analysis. Second, the results will provide a first answer to the causes of bank distress during the Interwar Period and the Depression in particular.

The key variables of interest are the bank-to-bank deposits (*btob*), equity as a share of assets (*equity*), and branches per bank (*unit*). They express the basic characteristics of

the banking systems. Similarly, they are also simple measures of theoretical factors that contribute to banking failure during a downturn. *Btob* is a measure of the degree of contagion that can ensue once liquidity decreases. It is expected that *btob* should be positively correlated to failure. It is unclear how bank-to-bank lending affects return to assets. During periods of rising asset values, deposits in other banks may ensure liquidity and positive returns. In a time of downturn, as discussed, a high value of *btob* may generate loss of liquidity and the possibility of contagion. *Equity* measures the link of the banks to industry. One important characteristic of a universal banking system is the large amount of equity that these institutions hold on the asset side of their balance sheets. The spread of losses due to a deflationary crisis can be seen through the erosion of the value of equity on bank balance sheets. Thus, if debt deflation was the reason for bank failures during the early 1930s equity should be positively correlated with the dummy variable of failure and negatively correlated with bank performance variable (*roe*). The *unit* variable (applicable only to the Bulgarian banks in the dataset), measured as branches per bank, is expected to be negatively correlated with failure and return to assets. In time of liquidity pressure, inability to diversify a portfolio in either geographical terms or across different asset classes has proven to be a significant cause of bank distress¹³⁶.

To observe the changes in bank lending to firms as a reason for the Depression and the debt-deflation effects, we investigate credit allocation across firms in panel estimation with sector fixed effects, using the firms-only dataset. The aim of the models is to find appropriate explanation for the credit borrowings of firms. In particular, we seek to explore whether foreign ownership, export opportunities, or interlocking directorships provided better access to bank lending. Equation 3, below, is the base model where we also control for basic firm characteristics, like size, age, and firm leverage, foreign ownership and, importantly, interlocking.

$$3 \quad firmborrow_{i,c,t,j} = \beta_1 + \beta_2 foreign_{i,c,t,j} + \beta_3 export_{i,c,t,j} + \beta_4 age_{i,c,t,j} + \beta_5 interlock_{i,c,t,j} + \beta_6 X_{i,c,t,j} + \beta_7 Y_{i,c,t,j} + \varepsilon_{i,c,t,j}$$

Equation 3 presents a model, which explores the relationship between firm debt and interlocking. Interlocking directorships have been identified in the financial history literature as a particularly important feature of firm-bank relationships. They ensure information exchange between industry and credit institutions and can be a valuable

¹³⁶ Calomiris (1995) presents a convincing argument, backed by empirical findings, along the same lines about the US banks during the Depression.

channel of finance provision in an environment with underdeveloped financial markets. Thus, interlocking can be the main predictor of firm borrowings and in addition to bank equity holdings can be the crucial link between firms and banks that provides proof for the debt deflation theory.

here the dependent variable, *firmborrow*, is a measure of company credit borrowings (see variables explanations in table 7), *interlocked* is a share of interlocked assets (assets/shares owned by a local bank).

Export is a variable measuring indirectly access to funds in hard currency through trade. There was considerable difficulty in finding comprehensive export data on the firm level. A simple and rather inaccurate way to pick firms with access to foreign currency via export income, was to look through the aggregate trade statistics published in the *Statistical Yearbooks* and take note, which sectors exported what goods/materials/services. Then I simply matched this information to the activities of firms and constructed a dummy variable, where 1 indicates export activities throughout the period 1919-1941 and 0 no exports. A much more precise and time-consuming alternative was constructed browsing through the income statements of the firms to extract fraction of revenue gained from sales abroad. A complication is that information is often ambiguous. In addition to explicit sales for export there were a number of instances when goods and materials were sold to intermediaries, like a state agency, which then sold them on the world markets. It is almost impossible to get precise numerical data on these activities, because evidence is mostly anecdotal¹³⁷. As a result of this, I have only used the data directly generated by export revenue – thus the variable as such is likely to underestimate the effect of exports.

Age tests the argument that older and more established firms have easier time trying to access bank funds. Controls are the two sets of variables X and Y. X is a set of firm characteristics like size, leverage, costs, profits, non-cash holding, and Y – a set of lagged firm borrowing, which is thought to influence access to future credit.

¹³⁷ See Natan and Berov (1958), where firms' links to foreign buyers are reported on an individual basis, but precise numerical data is not reported on a regular basis and most of it seems unreliable. Given that the text was written for the purpose of identifying the industry prior to 1944 as a rent-seeking monopoly, it is likely that a lot of the numbers are exaggerated.

Table 3.7: Variables Description

Variables Description	
<i>Basic Bank Characteristics</i>	
lev	leverage (debt over equity)
roa	return to assets
liquidity	cash/assets
lnsize	ln (total assets)
lnexpenses	ln (costs)
lnlosses	ln (losses
lncapital	ln (capital)
lncash	ln (cash holdings)
lndeposits	ln (deposit holdings)
lnloans	ln (loans on the liability side)
unit	Branches per bank
<i>Bank Asset Composition</i>	
btob	bank to bank deposits
equity	share of equity on bank asset sheet / absolute and as a ratio of total assets
capas	capital over total assets
loanas	loans over total assets
depas	deposits over total assets
cashas	cash over total assets
lnestate	ln (real estate ownership)
<i>Firm Characteristics</i>	
FB	firm borrowing; change in total debt growth

FB2	firm borrowing 2; total debt / total assets
output	change in total sales
age	age of firms in years
interlocked	dummy equal to 1, interlocked directorate; 0 otherwise
interlock	share of interlocked assets from total assets
surv	Dummy equal to 1 if the company survived;
Tcr	Year Dummy equal to 1 during the crisis years: 1931-1935, and 0 otherwise
foreign	Dummy equal to 1 if foreign shareholders owned more than 60% of the company, and 0 otherwise

Credit allocation during a turbulent time like the Interwar period ought to be quite insightful when researching bank-lending behaviour. Stylised theory suggests that factors like profitability, size, links to banks, and good credit history, should influence access to borrowed funds. In time of bank distress, some of these factors may be more important than others. Profitability and size are expected to still be good predictors of ability to borrow and the variables profit/size/fixed capital, should be positively correlated with firms' ability to borrow. Export income ought to be strongly correlated to borrowing, given that access to foreign markets remained one of the very few streams of income during the Depression. Similar is the argument about *foreign* (see definition in table 3.7) – a proxy of access to foreign funds through foreign investment.

Interlocked should also be positively correlated to firm borrowing following the argument made above that connections and bank links were the best way to insure access to funds. The role of interlocking directorships as a developmental institution is contested in the literature¹³⁸. Our data is very well placed to provide evidence on the importance of interlocked networks as a channel of funding for credit-constrained firms.

¹³⁸ See Lamoreaux (1996) for a view that interlocks were a cheap way of solving information asymmetry between lender and borrower and were widespread at an early stage of development of financial institutions. Fohlin (2007) on the other hand has provided wide-ranging empirical evidence that this was not the case in Imperial Germany and its financial sector of large, universal banks.

To construct a simple test of whether the occurrence of a crisis is followed by a significant change in the behavior of banks and the key variables on their balance sheets, I estimate an OLS regression, in which each variable is regressed on five time dummies, one for the year of the crisis, and one for each of the four consecutive Depression years¹³⁹. To control for heterogeneity across sectors and countries, there are also sector and country dummy variables in the regression. More formally:

$$4 \quad y_{i,c,t} = \gamma_{i,c} + \beta_t + \varepsilon_{i,j} \text{ (for } t = T, T + 1, T + 2, T + 3, T + 4)$$

$$5 \quad roa_{i,c,t} = \gamma_{i,c} + \beta_t + \varepsilon_{i,j} \text{ (for } t = T, T + 1, T + 2, T + 3, T + 4)$$

$$6 \quad equity_{i,c,t} = \gamma_{i,c} + \beta_t + \varepsilon_{i,j} \text{ (for } t = T, T + 1, T + 2, T + 3, T + 4)$$

where $y_{i,j,t}$ is an observation for variable y , in country j , bank i , time period t ; γ and β are regression coefficients; I have defined T as the year of the crisis (1931). I have chosen 1931 as the crisis year based on an estimate of the number of banking institutions that failed in each of 1929 to 1935. Most banks went into administration in 1931 and hence this is considered the year of most severe banking distress.

Equation 4 is the general form of the regression framework, while equations 5 and 6 are examples of the OLS regression of return to assets and equity holdings regressed over the period 1931-1935.

In this framework, the OLS estimate of each β (coefficient of the period t dummy) is the mean difference between the value of the variable at time t and the mean of the pre-crisis period (1919-1930). If the estimated β values are significantly different from zero, then the variable behaves differently in the post-crisis period than in the pre-crisis one.

An identical analysis is done with the firm dataset, excluding the banking sector. The questions explored there are similar – how did firms react to the crisis, did they change the liquidity position, what happened to their access to credit?

¹³⁹ The econometric test was suggested in Demirguc-Kunt et al. (2006);

This methodology cannot claim to accurately evaluate the full impact of a banking crisis on the rest of the economy and provide strong evidence for causality of firm performance in a post-crisis, credit-constraint environment. It simply attempts to estimate the size of the changes that occurred on the balance sheets of banks and firms during a crisis and its aftermath. Thus, through a set of correlations, it can shed light on the effects of the crisis and identify possible causal links to be investigated more closely. This methodology can also provide supporting evidence to the hypothesis that debt deflation, via the channel of equity holdings on the banks' balance sheets, was the crucial factor of the spread of the Depression. This can be observed if the banks tried to shed equity from their balance sheets in the years following the crisis. Similarly, arguments can be made retrospectively about the behaviour of other non-cash assets and loans. The expectation is to see a resolute attempt to shed equity together with non-liquid assets off banks' balance sheets, which should appear as a negatively significant coefficient for each of the year dummies.

So far the methodology employed to disentangle the channel of crisis spread – illiquidity versus insolvency – has focused mainly on the banking sector. We have traced the determinants of firm borrowing and the linkage to banks, and also made observations on what happened to firms' balance sheets during the 1931 crisis and the years immediately afterwards. The key question in the chapter, in addition to banking distress, is whether insolvency toppled the real sector or a credit crunch acted as a feedback from banks' illiquidity and resulted in a lengthy depression.

The identification strategy to do this is focused on exploiting the firm-level variation between the liquidity constraints of different firms: foreign-owned firms, ones with export income, and finally, ones that have interlocking directorships with banks. Firms react to recessions by decreasing investment in the short run and use up inventories to keep output level. Beyond the short run, however, output will also decrease, unless investment levels pick up. A liquidity crisis will thus impact negatively on investment and consequently output. The argument we made earlier in the chapter was that banks suffered a prolonged crisis of liquidity eventually becoming insolvent, because of their links to industry, where large amounts of equity on their balance sheets became illiquid assets with no real value. A suggestion was made, following the theoretical literature, that secondary feedback from the banking sector to industry would amplify this illiquidity and further exacerbate the investment and output drop. This specification can be tested using firms with different access to hard cash, despite the banking and currency exchange crises that occurred in the early 1930s.

The price deflation in the late 1920s that transformed into a recession in 1930-1931 decreased the value of firms' real assets and final products. The banking crisis that developed at the same time effectively dried the domestic funding channel, as banks lost liquidity and ceased to provide credit. Further to this, government debt became a serious burden to the peripheral economies in the Balkans. As export revenues dried down and tax income fell, the only way to keep the local currencies linked to the Gold Standard was to put up interest rates and deflate the economies, already at a downturn, even further. The only sources of credit, in hard currency, unaffected by the threat of devaluation of domestic currencies, were foreign money from export revenues and foreign transfers, either investment or multinationals supporting their local branches with liquidity.

Heavily indebted firms were in a bad position during the deflation years, as the real value of their debts increased. What worsened their positions is when banks began demanding the funds back, to recapitalize their own balance sheets.

We exploit this firm heterogeneity to observe, which channel affected firm output and profitability in the crisis years. One way of doing this is by interacting the terms of possible liquidity gains - foreign ownership and export revenues, with the term of illiquidity - size of bank indebtedness¹⁴⁰. In the set up suggested by the equation below, β_1 represents the full interaction term between foreign ownership, export revenue, bank debt, and the time dummy variable to represent the crisis years (1931, 1932, 1933). It measures the effect on Output ($y_{i,c,j,t}$ is the Output/Profit/Return to Assets of firm i , in sector c , country j , at time t ; in three consecutive regression models) of having bank debt for foreign owned exporters during the crisis years. The methodology of interaction variables allows us to isolate the effects on Output/Profitability of firms that had different access to liquidity during the banking crisis. The rest of the interactions are set up to single out the three groups of firms – foreign exporters with debt on their balance sheets, domestic exporters with debt, and indebted firms with no access to extra liquidity.

¹⁴⁰ This set up is suggested by Kalemli-Ozcan and Kamil (2010) who investigate this dichotomy of illiquidity versus insolvency in terms of a troubled banking sector that restricts credit provisions and company balance sheets containing debt denominated in foreign currency. In time of a currency crisis and banking crisis credit restrictions appear to matter and result in fall in investment and output. At the same time, domestic firms that hold debt denominated in foreign currency may see their balance sheets weaken, once domestic currency depreciates. Kalemli-Ozcan and Kamil find that domestic firms decrease investment and output, when compared to foreign firms, when the former hold debt in foreign currency *and* there was a banking crisis, simultaneous with currency depreciation. This is consistent with the argument we make, when one thinks of debt in foreign currency as the equivalent to real assets depreciating in value due to debt deflation.

The argument follows as such. The crisis was started by the deflationary pressures of the late 1920s, transferred onto bank balance sheets via the continued decline in value of real assets, and finally affected the real sector via a feedback from banks' drop in lending, in the form of a credit crunch. If this was the case then firms, laden with bank debt on their balance sheets (and with strong links to banks via director interlocking – a hypothesis looked at in the robustness checks) should see sharpest fall in output and/or profitability. These firms will have had no access to domestic liquidity and will have also suffered from the devaluation of the domestic currencies following the split from gold in 1931. Thus the coefficient β_9 in the equation below should have lowest value, as it measures the impact on output of those firms, once we have controlled for exporting firms, foreign-owned firms and the combination of the two.

Firms with access to liquidity in hard currency from export or foreign ownership, on the other hand, may have suffered only moderate losses to output, or even been able to increase it, because they had the funds to continue investing during the height of the crisis. By comparing the coefficients β_2 and β_5 we will be able to see if foreign ownership or export access ensured better stream of hard currency funds and if these indeed had less of a negative effect on output/profits. Of course, if the negative feedback from banks was negligible and the crisis was not perpetuated by the bank failures, then the effects of the three types of firms on output/profits should be similar, because the source of the crisis will then be the exogenous fall in the value of real assets and fall in demand.

Regression Equation:

$$\begin{aligned} y_{i,c,j,t} = & \beta_1 For_{i,c,j,t-1} Exp_{i,c,j,t-1} BankD_{i,c,j,t-1} Tcr_{c,t} + \beta_2 For_{i,c,j,t-1} BankD_{i,c,j,t-1} Tcr_{c,t} \\ & + \beta_3 For_{i,c,j,t-1} BankD_{i,c,j,t-1} + \beta_4 For_{i,c,j,t-1} Tcr_{c,t} \\ & + \beta_5 Exp_{i,c,j,t-1} BankD_{i,c,j,t-1} Tcr_{c,t} \\ & + \beta_6 For_{i,c,j,t-1} Exp_{i,c,j,t-1} BankD_{i,c,j,t-1} \\ & + \beta_7 Exp_{i,c,j,t-1} BankD_{i,c,j,t-1} + \beta_8 Exp_{i,c,j,t-1} Tcr_{c,t} \\ & + \beta_9 BankD_{i,c,j,t-1} Tcr_{c,t} + \beta_{10} For_{i,c,j,t-1} + \beta_{11} Exp_{i,c,j,t-1} \\ & + \beta_{12} BankD_{i,c,j,t-1} + \beta_{13} \varphi_{i,c,j,t} + \beta_{14} \gamma_{i,j,t} + \beta_{15} \theta_{i,c,j} + \varepsilon_{i,c,j,t} \end{aligned}$$

Table 21 provides a summary the definitions of the variables. A group of binary variables are used to differentiate the firms: *Foreign* is a binary variable, equal to one where foreign owned share of the company is greater than 49%, and 0 otherwise. *BankDebt* is a log of the bank debt held on the balance sheet of each firm. *Export* is a binary variable equal to 1 if the firm has revenue generated from sales abroad, and 0 otherwise. *Tcr* is a dummy variable equal to 1 for the crisis years of 1931, 1932, 1933,

and 0 for the rest of the period. The variable $\varphi_{i,c,j,t}$ is a set of firm characteristics, which may also affect output/profitability. The variables $\gamma_{i,j,t}$ and $\theta_{i,c,j}$ are firm and sector fixed effects and $\varepsilon_{i,c,j,t}$ is the random variation.

I explore a set of robustness checks in three more models. In the first one I control for cash holdings, since domestic firms that had reserves of cash are likely to suffer less when banks cut lending. Potentially this can mitigate the effects of extra liquidity gained from foreign ownership of export opportunities. In addition I introduce two further measures of liquidity - leverage and bank interlocking. I suspect that interlocking directorships acted in a similar way for firms, as did banks' asset holdings. It provided access to funds during good economic times, but locked firms to insolvent banks during crisis times. In effect, leverage and interlocking directorates are used as substitutes to firm indebtedness in expectation that they acted in a similar direction.

Table 3.8: Summary Statistics for Bulgarian Bank Sample.

Summary Statistics for Bulgarian Bank Sample				
variable	mean	max	min	sd
btob	0.13	0.97	0.00	0.16
equity	0.22	2.00	0.00	0.25
lev	13.65	85.14	0.00	17.47
capas	0.22	2.30	0.00	0.24
loanas	0.53	23.10	0.00	1.53
depas	3.14	26.24	0.00	9.94
cashas	0.13	1.11	0.00	0.18
roa	0.91	45.63	0.00	3.80
lnsize	17.21	22.05	10.33	2.26
lnestate	13.78	17.54	6.99	2.16
lnexpenses	14.53	20.49	7.38	2.20
lnlosses	13.39	18.32	6.11	2.57
lnnca	15.11	20.74	7.20	2.61

lncash	14.46	20.28	5.13	2.94
lndeposits	16.09	22.02	5.79	2.66
lnloans	15.74	20.11	9.67	2.26
lncapital	15.17	19.60	9.30	1.91

Table 3.9: Summary Statistics for the Yugoslav Bank Sample

Summary Statistics for Yugoslavian Bank Sample				
variable	mean	max	min	sd
bto	0.14	1.51	0.00	0.22
equity	0.26	1.00	0.00	0.26
lev	16.88	73.04	0.03	13.58
capas	0.22	13.82	0.00	0.79
loanas	0.47	23.10	0.00	1.63
depas	3.73	16.24	0.00	4.18
cashas	0.05	0.65	0.00	0.08
roa	0.44	50.01	0.00	2.66
lnsize	18.10	22.76	10.28	2.87
lnestate	14.55	18.54	6.99	2.66
lnexpenses	15.28	21.99	7.38	2.97
lnlosses	13.11	18.74	6.11	2.74
lnnca	14.44	19.24	7.20	2.73
lncash	13.34	19.63	6.52	2.90
lndeposits	16.45	23.15	9.75	2.99
lnloans	15.94	22.78	9.38	2.49
lncapital	15.32	19.81	9.23	1.99

Table 3.10: Summary Statistics of all Bank Variables

Summary Table for all Bank Variables					
Variable	Obs	Mean	Std. Dev.	Min	Max
btob	86	0.13	0.19	0.00	1.51
equity	86	0.24	0.26	0.00	2.00
failed	31	0.25	0.43	0.00	1.00
lev	86	17.86	112.16	0.00	246.04
roa	86	0.70	3.34	0.00	50.01
realestate	86	5.90	40.61	0.00	854.37
cash	86	10.22	23.51	0.85	196.34
lnloans	86	15.83	2.37	9.38	22.78
lncash	86	13.96	2.98	5.13	20.28
lnsize	86	17.61	2.59	10.28	22.76
forXequity	86	0.16	0.25	0.00	2.00
forXbtob	86	0.09	0.17	0.00	1.51
equityXrealest	86	2.88	4.49	0.00	13.35
btobXcash	86	1.59	5.65	4.62	55.02
equityXrealestXloans	86	7.46	4.16	1.68	14.30
btobXcashXlev	86	241.40	512.46	0.00	1268.04
Tcr	86	0.15	0.35	0.00	1.00
equityXrealestXTcr	86	0.06	0.49	0.00	7.42
btobXcashXTcr	86	0.25	2.37	1.23	52.80
forXeqXTcr	86	0.02	0.11	0.00	1.14

Table 3.11: Summary Table for Firm Dataset

Summary Table – Firm Dataset (non ratio figures are in ln terms, used in fixed effects ant time dummies regressions)

Variable	Obs	Mean	Std.	Min	Max
year	181	-	-	1919	1941
surv	146	0.2	0.4	0.0	1.0
firmborrow	181	0.4	2.5	0.1	33.3
roa	181	0.0	0.1	0.1	1.2
size	181	17.3	1.7	13.5	22.2
profit	181	10.4	5.4	0.0	17.8
debt	181	0.8	2.4	0.0	32.3
fixedcap	181	15.9	1.9	8.9	20.3
age	181	16.5	8.2	0.0	36.0
bankdebt	181	16.0	1.8	10.9	20.0
lev	181	4.6	11.4	0.0	95.4
interlock	181	7.4	8.0	0.0	21.0
interlockd	181	0.5	0.5	0.0	1.0

Table 3.12: Summary Table of Firm Variables

Summary Table of Firm Variables (Used in Interactions Regressions)

Variable	Obs	Mean	Std. Dev.	Min	Max
firmborrow3	176	2.13	8.28	0.00	111.10
roa	176	0.02	0.12	0.00	1.16
size	176	17.31	1.67	13.46	22.16
profit	176	10.35	5.40	0.00	17.80
debt	176	0.84	2.40	0.00	32.34
age	176	16.54	8.19	0.00	36.00
lev	176	4.64	11.41	0.00	95.42
interlock	48	7.38	8.02	0.00	20.96
interlockd	48	0.49	0.50	0.00	1.00
foreignXexport	56	0.30	0.46	0.00	1.00
interlockdXexport	176	0.31	0.46	0.00	1.00
interlockdXdebt	48	7.81	8.40	0.00	20.03
exportjXdebt	64	7.86	8.44	0.00	20.03
output	176	15.36	1.87	11.05	19.32
foreign	76	0.60	0.49	0.00	1.00
survXforeign	68	0.15	0.36	0.00	1.00
debtXsurv	176	0.05	0.15	0.00	0.85
foreignXexportXdebt	64	0.30	0.46	0.00	1.00
Tcr	176	0.13	0.34	0.00	1.00
survXforXTcr	68	0.02	0.14	0.00	1.00
debtXTcr	176	0.63	6.81	0.00	111.10
intXbankXTcr	48	1.06	4.08	0.00	18.00

Results

Table 3.13 presents regression results from a panel analysis of 86 banks, from both Yugoslavia and Bulgaria, over 22 years. The first column presents a probit model aimed at determining the correlates of failure amongst banks. The second and third column present regression analysis of bank performance measured by the return to assets.

Table 3.13: Determinants of Bank Performance

Determinants of Bank performance and failure (Panel estimate)			
Type of model	Binary (Probit)	FE	Pooled OLS (1)
Dependent Variable	failed=1	roa	roa
btob	-0.96 (0.34)	-0.17 (0.03)	-0.17 (0.03)
equity	0.62 (2.38) *	0.66 (2.14) *	0.67 (2.07) *
unit	-0.14 (5.87) ***	-0.02 (0.25)	-0.03 (0.25)
lnsize	-0.145 (3.35) ***	0.38 (3.29)**	0.58 (2.7) **

lncash	-0.15 (3.94) ***	0.14 (1.35)	0.14 (1.35)
lndeposits	-0.178 (3.96) ***	0.34 (2.20) *	0.25 (2.20) *
lnloans	0.16 (3.7) ***	-0.31 (1.88)	-0.31 (1.88)
leverage	0.03 (2.20) *	0.17 (2.73) **	0.17 (2.13) *
lnestate	0.01 (0.47)	0.17 (0.66)	0.17 (0.66)
_cons	0.36 (1.04)	-3.06 (2.83) **	-3.06 (2.83) **
N	86	86	86

(1) – country fixed
effects

t statistics in
parentheses

* p<0.05; ** p<0.01; *** p<0.001

All three regressions aim to investigate the role of *btoB* (bank-to-bank deposits found on bank balance sheets in log form) and *equity* (equity holdings found on bank balance sheets in log form) in determining the probability of failure for banks and their profitability¹⁴¹. The controls are a set of bank characteristics that describe the institutional structure (unit and universal banks) and the balance sheet structure (leverage, cash holdings, size).

Both Bulgarian and Yugoslavian banks appear to have focused their operations in the locality of their head office (refer to Table 3.1). Together with Romania they have the smallest number of branches per bank amongst European countries. In fact both are very similar to the USA, where the prohibition of branched banks is cited as one of the reasons for the large-scale bank failures (Calomiris, 1995). If we follow this logic then *unit* should be negatively correlated to failure – the few banks that had branches should have been better insulated against the loss of value in their borrowers' assets. The correlation with bank performance is ambiguous. Table 3.13 supports this hypothesis. Having bank branches is statistically significant and negatively correlated to bank failure. There are no significant results to show correlation with bank performance.

The other variables are standard characteristics of banks performance. Being large (*Insize*), having sizeable deposits (*Indeposits*), and appetite for risk (as measured by bank *leverage*) is associated with high bank returns. In terms of bank survivorship large size, cash and deposit reserves, protected banks. Too much lending and high leverage, unsurprisingly led to failures, mostly during the depression period.

Bank-to-bank deposits seem to be negatively correlated to both performance and failure, but the t-statistics are very small. The opportunity for contagion between banks or the deposits that banks held with each other do not appear statistically important.

Holding equity, on the other hand, is statistically significant in all three regressions. It is positively correlated with failure of banks, but also positively correlated with bank performance. One explanation of the positive association with performance can account for the fact that the regression panel measures the correlation over the whole 22-year period. In times of asset price increases holding equity improved bank performance and vice versa, when asset prices fell. Interestingly, however, holding equity did not seem to protect banks from failing. I argue, and later regressions provide more evidence, that the specific reasons for bank distress were strongly linked to the real assets on bank balance sheets, which are proxied by *equity*. If a sizeable majority of the banking institutions went into administration because of the

¹⁴¹ See discussion on the variables in the section of Empirical Setting, above.

prolonged deflation and their strong links to industry, then holding equity does indeed increase the probability of failure.

Following on from the above arguments, table 3.14 shows that key features of bank lending during the whole period were indeed the fundamentals that signaled a well-performing and safe company. Here we use the sample of 181 firms from Bulgaria and Yugoslavia active during the period 1919-1941. The dependent variable *firmborrow* (a ratio of bank debts of firms/ total assets) is regressed on a number of variables that economic theory predicts will influence banks desire to lend and will characterize firms as creditworthy borrowers. Larger and more profitable firms are expected to be more attractive to creditors. Similarly, exporting firms that earned hard currency from exports and those in capital-heavy industries could provide collateral and attracted credit. We add an *age* dummy to account for the longevity of the firm's operations and the dummy *interlocked* to explore the importance of interlocking directorates.

Table 3.14: Determinants of Credit Allocation

Determinants of Credit Allocation					
Dependent Variable FirmBorrow					
	1	2	3	4	5
Foreign	0.22 (2.68) **	0.20 (1.37)	0.20 (1.32)	0.19 (1.22)	0.18 (1.02)
profitLAG	0.07 (2.82) **	0.13 (2.48) *	0.16 (2.56) *	0.16 (2.59)*	0.17 (2.25) *
debtLAG	-0.09 (0.52)	-0.04 (0.21)	-0.05 (0.25)	-0.02 (0.09)	

sizeLAG	0.44 (2.02) *	0.38 (2.87) **	0.29 (2.62) **	0.27 (2.59) *	
fixedcapLAG	0.19 (0.47)	0.03 (0.01)	0.02 (0.05)	0.03 (0.08)	
exportj		0.90 (2.87) **	0.78 (2.71) **	0.46 (2.35) *	0.11 (2.08) *
roaLAG			0.58 (0.59)	0.71 (0.62)	0.54 (0.89)
interlockd				1.03 (1.11)	1.22 (2.33) **
age					0.30 (2.96) **
_cons	4.39 (0.97)	5.99 (1.30)	5.07 (1.04)	4.64 (0.95)	1.27 (0.98)
N	181	181	181	181	181

Panel estimation with country and industry fixed effects

t statistics in parentheses

* p<0.05; ** p<0.01; *** p<0.001

Profits and *Size* appear to be positively correlated to debt, as well as access to export markets (we use the binary definition of export). The role of *interlock* is interesting and is discussed further in the regression analyses. It appears to have no effect on firm borrowing when firm level of debt is controlled for (column 4, table 3.14), yet it appears significant and positively correlated to *firmborrow*, when level of debt is taken out of the equation. This goes some way in confirming our hypothesis that interlocked networks were a method of ensuring access to finance on the part of the firms, and a low cost method of monitoring on the part of the banks. The phenomenon of interlocking is supposed to reduce monitoring costs for lenders and improve the agency costs in assessing the suitability of borrowers and the probability of success of their projects. As a result of this, it is supposed to improve the liquidity position of firms, by giving them access to a deeper pool of potential fund to borrow. Fohlin (2007) has rejected such hypothesis for Imperial Germany pre-1914, what used to be thought of as a classic example of industry heavily interlocked with a universal banking system. The results presented in table 3.15, however, show a positive and statistically significant correlation between interlocking directorships (measured as a binary variable and a ratio of interlocked assets, see table 3.7 for the variables definition; there were no qualitative differences between the two definitions of *interlocked*) and firm borrowings¹⁴². Firm age and foreign ownership are also positively correlated.

Table 3.15: Relationship between Firm Indebtedness and Interlocking

Relationship Between Firm Debt and Interlocking			
Dependent Variable: FirmBorrow			
interlock	0.140*	0.173*	0.164*
	(2.08)	(2.54)	(2.40)

¹⁴² We use a firm-only panel made up of 120 firms for the regressions in table 15. The number of firms is smaller than in the previous regressions, which utilize the full sample of 181 firms, because of the limiting nature of the interlocking evidence. We could only decisively observe possible interlocking directorships for 120 of the firms in the sample.

age	0.261***	0.25***	
	4.18	(4.05)	
lev	-0.0211	-0.0438	-0.0386
	(0.48)	(0.97)	(0.84)
roaLAG	2.723	1.144	
	(0.69)	(0.27)	
sizeLAG	0.054	0.138	
	(0.15)	(0.24)	
foreign	2.658*	2.533*	2.545*
	(2.22)	(1.99)	(2.08)
fixedcapLAG		0.761	0.841
		(1.61)	(1.71)
size			0.397
			(1.13)
profit			0.0194
			(0.18)
roa			9.770*
			(2.05)
N	120	120	120

t statistics in parentheses

* p<0.05, **p<0.01, *** p<0.001

An explanation for the widespread interlocking, especially in small, peripheral, and underdeveloped economies, has often been the desire of the economic elite to control

the majority of economic assets in these countries¹⁴³. If true, this may bring about economic consequences like increased borrowing on behalf of firms or greater involvement into industry, via equity holding and participation in the running of the enterprises, on the part of banks.

The regression results presented in Tables 3.16 and 3.17 trace the reaction of banks and firms to the financial crisis of 1931 and the depression that ensued. These use a restricted panel for the years 1931-1935 and a bank-only (56 banks, table 3.16) and a firm-only (176 firms, table 3.17) dataset respectively. For each of the variables in the first columns of the tables we run a regression with country dummies as well as five time dummies for 1931 and the four consecutive years, as independent variables. This test is used by Demirguc-Kunt et al (2006) to assess whether a banking crisis causes a change in the behaviour of banking characteristics in the subsequent years. If a variable has a positive/negative and significant coefficient associated with a certain year, this suggests that it is exhibiting an increasing/decreasing trend and the change is a statistically significant deviation from the crisis year.

In the analysis of the banks-only sample (table 3.16), *return on assets* is significantly lower in the crisis year and the year after, it is insignificant afterwards. Banks tended to contract their equity holdings, decrease their lending, and deleverage. Unsurprisingly, cash holdings and size grew. It seems that during the crisis period banks scrambled for liquidity by attempting to increase their cash holdings at the expense of non-cash holdings, including equity, real estate (which is, however, insignificant in our test) and loans. They sought further safety in larger scale, possibly through merger or acquisitions.

Interestingly, *losses*, a measure reported on the income statements of banks and firms, appear to increase throughout the period, but only become statistically significant in year 3 and after. This may have been the case if the losses were non-cash/illiquid assets that banks would have hoped to offload, but as the crisis deepened they had to report.

Deposits and bank-to-bank deposits appear statistically unchanged across the years of the crisis, even if exhibiting a slight positive trend. It may be that this trend was caused by the high growth in deposits before the crisis, when the banking system grew both in terms of number of institutions and in volume of assets. It may also be that these variables are affected by survivorship bias, as bank clients moved their savings from underperforming and failing banks to surviving ones. Nevertheless, the sample of banks in both Bulgaria and Yugoslavia is a sizeable part of the banking systems of both countries in terms of assets. Hence, this is interpreted as evidence

¹⁴³ Avramov, (2007);

there was no serious run on deposits or crisis of liquidity for the banks, as we would expect in a time of sharp banking crisis.

Table 3.16: Banks' Reaction to the 1931 crisis

Banks' Reaction to the 1931 crisis					
	T	T1	T2	T3	T4
roa	-0.05 (2.36) *	-0.03 (2.19) *	0.07 (0.33)	0.04 (0.17)	0.01 (0.47)
equity	-0.04 (2.09) *	-0.05 (2.74) **	-0.03 (2.87) **	-0.03 (2.75) **	0.04 (1.08)
lev	-0.03 (1.74)	-0.04 (1.80)	-0.07 (2.03) *	-0.06 (2.92) *	-0.08 (2.09) *
loan/as	-0.03 (2.41) *	-0.08 (2.03) *	-0.05 (2.75) **	0.02 (2.70) *	-0.04 (2.47) *
dep/as	0.09 (0.24)	0.02 (0.69)	0.01 (0.48)	0.08 (0.79)	0.01 (0.32)
cash/as	0.03 (2.35) *	0.06 (2.94)**	0.01 (2.13) *	0.01 (2.08)*	0.00 (1.55)
losses	0.02	0.03	0.04	0.01	0.03

	(1.00)	(1.47)	(2.08) *	(2.22) *	(2.87) **
lnsize	0.05	0.03	0.06	0.02	0.02
	(2.52) *	(2.42) *	(2.8) **	(2.38) *	(2.38) *
lnestate	-0.02	-0.03	-0.06	-0.01	-0.02
	(0.46)	(0.57)	(0.14)	(0.24)	(0.44)
lnexpenses	-0.01	-0.04	-0.05	0.03	0.03
	(1.12)	(1.56)	(1.70)	(1.42)	(1.48)
N	56	56	56	56	56
T = 1931 (T1=t+1), T2=t+2; T3=t+3; T4=t+4); all 4 are time dummies					

t statistics in parentheses;

standard errors are heteroskedasticity -consistent

* p<0.05; ** p<0.01; *** p<0.001

Table 3.17: Firms' Reactions to the 1931 crisis

Firms' Reaction to the 1931 crisis					
	T	T1	T2	T3	T4
roa	-0.03	-0.06	-0.03	-0.04	-0.05
	(2.74) **	(2.69) **	(1.98) *	(1.24)	(1.47)

size	0.59 (2.24) *	0.58 (2.23) *	0.71 (2.49) *	0.95 (2.01) *	0.71 (1.50)
debt/assets	0.16 (0.07)	1.31 (2.56) *	7.16 (3.05) **	0.11 (2.05) *	0.54 (2.23) *
fixedcap	0.74 (1.41)	0.99 (1.91)	0.85 (1.63)	0.98 (1.87)	1.02 (1.95)
lev	-0.29 -1.09	1.00 (2.3) *	1.52 (2.46) *	2.02 (2.62) **	0.99 (2.30) *
depreciation	2.20 (2.96) **	3.20 (2.39) *	4.20 (2.83) *	5.20 (2.26) *	6.20 (2.7) **
interlockd	-0.02 (0.08)	-0.01 (0.05)	-0.01 (0.78)	-0.03 (0.58)	-0.01 (1.28)

T = 1931 (T1=t+1), T2=t+2; T3=t+3; T4=t+4); all 4 are time dummies

t statistics in parentheses

* p<0.05; ** p<0.01; *** p<0.001

Firms' fundamentals behaved in a similar way¹⁴⁴. Profitability went down, size and leverage increased. Relative debt (*debt over assets*) went up, while debt in absolute

¹⁴⁴ See table 3.17;

terms did not – a suggestion that extra credit was not available for industry, which in turn was unable to pay its outstanding debt obligation even in the medium term of the crisis, up to 1935. Further evidence for this is the growth of depreciation measures. This illustrates the fall in assets of firms. Interlocked assets appear to have a decreasing trend. This may again be due to survivorship bias – interlocked firms and banks faced distress together and were more likely to fail, or it may be because banks were keen to extract illiquid and losing assets to boost their own balance sheets, something that shows in the decreasing trend of the equity variable in the banks' regressions¹⁴⁵. This cannot be a firm conclusion, however, because the coefficients are not statistically significant.

Table 3.18: Variables description for Interactions Model

Variables Description	
<i>Interaction Terms</i>	
ForExDebtTcr	Interacted Variable: Foreign Ownership Dummy * Export Dummy * log of Bank Debt * dummy for Crisis Years
ExDebtTcr	Interacted Variable: Export*log Bank Debt* Crisis years
ForDebtTcr	Interacted Variable: Foreign *log Bank Debt* Crisis years
ForExDebt	Interacted Variable: Foreign *Export*log Bank Debt
ExDebt	Interacted Variable: Export*log Bank Debt
ExTcr	Interacted Variable: Export* Crisis years
ForDebt	Interacted Variable: Foreign* log Bank Debt
ForTcr	Interacted Variable: Foreign* Crisis years
BankTcr	Interacted Variable: log Bank Debt* Crisis years
CashTcr	Interaction: log Cash Holding*Crisis Years Dummy
<i>Firm</i>	

¹⁴⁵ See table 3.14;

Characteristics

interlockd	binary, 1 if interlocked, 0 if not
bankdebt	log of bank debt on the liability side
export	binary, 1 if revenue from exports, 0 if not
debt	log of bank debt on the liability side
foreign	binary, 1 if foreign owned (more than 49%), 0 if not
age	age of firm
lev	leverage ratio of firm
size	log of firm size (log of total assets)
Cash	Log of Cash Holdings
Tcr	binary variable equal to 1 for the crisis years 1931, 1932, 1933; 0 otherwise

** means multiplication*

Table 3.19 shows the results from the three fixed effects panel regressions, determining the effects on firm *Output*, *Profit*, and *Return to Assets*. Looking at column 1 (dependent variable *Output*) we can see that foreign exporters (*ForexDebtTcr*, output variable coefficient 0.295) managed to increase output during the crisis period despite being laden with bank debt. It seems that having and retaining access to foreign investment (as approximated by ownership) during the crisis (*Forex*, 0.431) was more important than retaining income from exports (*ExDebtTct*, 0.045), simply comparing the size of their coefficients. Interestingly, both types of firms managed to significantly increase their output over the three-year period 1931-1933. In fact, worst performers in terms of output were local, non-exporting, firms with bank debt on their balance sheets during the crisis (*DebtTcr*, -0.605). Over the whole 22-year period, domestic exporting firms (*export*, 0.285) and domestic exporters with debt (*ExDebt*, 0.0317) increased output more than foreign-owned firms (*foreign*, 0.169) and foreign-owned firms with debt (*ForDebt*, 0.0102).

Table 3.19: Differential Performance of Firms during the Depression

Differential Performance of Firms during the Depression (Main Results)			
<i>dependent variable</i>	<i>output</i>	<i>profit</i>	<i>ROA</i>
ForExDebtTcr	0.295** (2.52)	-0.391* (2.50)	-0.321** (2.82)
ForExTcr	0.114** (2.29)	0.193*** (4.23)	0.143*** (3.83)
ForEx	0.431** (2.46)	0.389** (2.53)	0.585** (2.69)
ExDebtTcr	0.045* (2.30)	-0.144 (0.98)	-0.038 (0.11)
ExTcr	0.0082* (2.01)	0.206 (1.08)	0.076 (1.22)
ExDebt	0.0317 (0.88)	0.229 (0.94)	0.0049 (1.47)
DebtTcr	-0.605** (2.53)	-0.013 (0.22)	-0.017 (1.41)
ForTcr	0.461** (2.79)	0.983 (1.8)	0.08 (1.38)
ForDebtTcr	0.265** (2.12)	-0.397*** (3.21)	-0.195*** (3.51)
ForDebt	0.0102 (1.18)	0.274 (1.10)	0.0034* (1.95)
ForExDebt	0.105** (2.25)	0.0561** (2.16)	0.0287* (2.40)

foreign	0.169*** (2.80)	0.225** (2.41)	0.0182** (2.75)
Tcr	-0.343** (2.75)	-0.256* (1.98)	-0.0117* (2.14)
debt	0.170* (2.28)	0.0496 (0.16)	0.0075 (1.59)
export	0.285 (1.91)	0.848 (1.86)	0.0029 (0.04)
size	0.298*** (3.53)	0.320 (1.03)	0.0011 (0.19)
age	0.0901*** (3.33)	0.0461 (1.04)	0.0066 (0.96)
N observations	1680	1680	1680
N firms	120	120	120

Notes: t statistics in parentheses; Fixed Effects panel model; year * sector fixed effects

* p<0.05; ** p<0.01; *** p<0.001;

When we run the regressions with profits as our chosen measure of profitability (log of profits, *profit*, or Return to Assets, *ROA*) the results change. The crisis had severe effects on profits and profitability. Foreign-owned exporters (designated as the interacted variable *ForExDebtTcr*) had a slump in profits (dependent variables *profit/ROE*) (-0.391 and -0.321, respectively) and so did domestic exporters (*ExDebtTcr*) (-0.144 and -0.038) and foreign-owned firms (but with no export links, *ForDebtTcr*) (-0.397 and -0.195). Interestingly, foreign-owned firms (foreign, see coefficients 0.225 and 0.0182) and exporting firms (exportj, 0.848 and 0.0029), without bank debt did not see a fall in profits. Consistently with out previous results (see chapter 2 on foreign-owned firms' productivity) firms with foreign funding managed to keep their productivity and efficiency gains over the crisis period.

Crucially, debt-laden firms (*DebtTcr*, *profit* coefficient: -0.013 and *ROA* coefficient: -0.017) underperformed consistently during the crisis out of the whole sample for all of the dependent variables. They experienced a significant drop in output, as well as drops in profits and return to assets. This result is consistent with the studies by Demirguc-Kunt and Levine (2001) and Kalemi-Ozcan, Kamil, and Villegas-Sanchez (2010). The former highlight the dependence of firms in underdeveloped regions on the local banking sector and the latter report that this bank dependence produces a negative and significant effect on firm investment during a financial and a currency crisis. Frenkel (in Stiglitz and Ocampo, 2008) also argues that firms in emerging regions develop an unhealthy dependency on the domestic banking sector, which turns into insolvency in times of financial crisis. He also suggests that income from exports may dry up during crises, while foreign investment may experience sudden stops and rapid outflow, in a liberalised financial system. We do not observe this in our results. The reason may be that capital controls were instituted rapidly as the crisis descended, in 1931, which kept some of the international investments in the domestic economy, while untangling from the gold standard the same year, produced a devaluation, which encouraged exports.

In the specification presented in tables 3.20, 3.21, and 3.22, we suggest that the two ways of avoiding insolvency, when facing large volume of illiquid assets on the balance sheet is to have an alternative source of liquidity in hard currency either from a foreign-owner, not stricken by the crisis, or from export income. We already account for the export hypothesis in our main regression results in table 3.19. Our dataset allows us to extract cash holdings from the balance sheets of firms and it is possible that having enough cash may be as important as having extra source of liquidity. We also experiment with two measures of bank links – leverage and interlocking. Leverage is measured according to the standard definition of debt over equity, while interlocking is introduced as a dummy variable equal to 1 where the same directors sit on the board of the firm and a bank. Interlocking was a pervasive phenomenon in South-East Europe prior to World War II and was also widespread at the initial stage of North-American banking development (Lamoreaux, 1986). It may be that firms with largest volumes of bank debt were the once interlocked to banks in the first place and this socio-economic phenomenon of kinship connections explains insolvency of firms during the crisis.

The robustness checks results are organised as follows: Table 3.20 presents the regressions, which explore the effects of cash deposits; Table 3.21 presents results with the effects of interlocking; Table 3.22 presents the results of the alternative bank links measure – leverage. The main results are broadly the same, with foreign exporters able to keep up or increase output faster than domestic exporters or domestic non-exporting firms. Cash holdings appear insignificant over the whole 22-year period, but

are positively correlated to output in the crisis years (0.0595). The interlocked dummy is negative across the three regressions in table 3.21, and similarly – leverage, in table 3.22. These last two results support out initial hypothesis that bank association with firms was one of the main for exacerbating the crisis. Banks lost liquidity, while firms faced a credit crunch and were unable to keep output and investment going.

Table 3.20: Differential Performance of Firms during the Depression: Effects of Cash Deposits

Differential Performance of Firms during the Depression: Effects of Cash Deposits (Robustness Checks 1)			
<i>dependent variable</i>	<i>output</i>	<i>profit</i>	<i>roa</i>
ForExDebtTcr	0.213** (2.72)	-0.141* (2.11)	-0.221* (2.02)
ForExTcr	0.014* (2.01)	0.113* (2.13)	0.102 (1.83)
ForEx	0.221** (2.43)	0.301** (2.48)	0.453** (2.59)
ExDebtTcr	0.043* (2.25)	-0.104 (0.96)	-0.035 (0.21)
ExTcr	0.0038* (2.08)	0.0823 (1.01)	0.0812* (1.01)
ExDebt	0.0542 (0.71)	0.056 (0.71)	0.0817 (0.6)
DebtTcr	-0.181* (2.18)	-0.0213 (0.55)	-0.022 0.07
ForTcr	0.441**	0.783	0.08

	(2.68)	(1.8)	(1.34)
ForDebtTcr	0.0118*	0.0125*	0.0119*
	(2.39)	(2.4)	(2.39)
ForDebt	0.0101	0.124	0.0021*
	(1.14)	(1.01)	(1.99)
ForExDebt	0.101**	0.0161**	0.0137*
	(2.35)	(2.16)	(2.1)
foreign	0.1745***	0.357*	0.0386**
	(3.87)	(2.54)	(2.95)
	-		
Tcr	0.00164**	-0.289**	-0.203**
	(2.14)	(2.52)	(2.44)
bankdebt	0.180*	0.101	0.00216
	(2.35)	(0.33)	(0.53)
exportj	0.306*	0.831	0.0115
	(1.97)	(1.93)	(1.29)
size	0.366***	0.0806	0.0239*
	(3.35)	(0.21)	(2.55)
age	0.0918***	0.0630	0.00786
	(3.43)	(1.44)	(1.41)
cash	0.252	0.317	0.0505
	(1.16)	(1.51)	(1.75)
cashTcr	0.0595**	0.276	0.0336
	(2.23)	(0.34)	(0.41)
N firms	120	120	120

Notes: t statistics in parentheses; Fixed Effects

panel model; year * sector fixed effects

* p<0.05; ** p<0.01; *** p<0.001;

Table 3.21: Differential Performance of Firms during the Depression: Effect of Interlocked Assets

Differential Performance of Firms during the Depression: Effect of Interlocked Assets (Robustness Checks 2)			
<i>dependent variable</i>	<i>output</i>	<i>profit</i>	<i>roa</i>
ForExIntTcr	0.556* (2.12)	-0.115* (2.18)	-0.484 (1.22)
ForExTcr	0.686* (1.98)	0.542* (2.09)	0.485 (1.23)
ForEx	0.417*** (3.02)	0.742*** (3.59)	0.161** (2.90)
ExIntTcr	0.986 (1.27)	-0.357** (2.60)	-0.0354 (1.57)
ExTcr	0.884 (1.80)	0.420 (0.31)	0.00693 (0.41)
ExInt	0.575 (0.84)	-0.318* (2.17)	0.00170 (0.10)
IntTcr	-0.128 (2.61)	-0.293** (2.78)	-0.0098 (0.69)
ForTcr	0.373**	0.748**	0.0624

	(2.87)	(2.98)	(1.53)
ForIntTcr	0.270	0.860	0.0291
	(1.87)	(1.33)	(0.48)
ForInt	0.368	-0.708	0.0100
	(0.50)	(0.46)	(0.44)
ForExInt	0.171	-0.022	-0.102
	(1.35)	(0.88)	(1.55)
foreign	0.456***	0.438	0.0445**
	(4.14)	(1.91)	(2.62)
Tcr	-0.292**	-0.093	-0.0117
	(2.77)	(1.63)	(1.48)
interlockd	-0.564*	-0.141***	-0.0058
	(2.19)	(3.30)	(1.09)
exportj	0.0899*	0.777*	0.0312*
	(2.27)	(2.05)	(2.16)
size	0.315***	0.467*	0.0178*
	(3.47)	(2.38)	(2.01)
age	0.0852***	0.0411*	0.00578
	(3.55)	(2.12)	(0.58)
N firms	120	120	120

Notes: t statistics in parentheses; Fixed Effects panel model; year * sector fixed effects

* p<0.05; ** p<0.01; *** p<0.001;

Table 3.22: Differential Performance of Firms during the Depression: Effect of Leverage

Differential Performance of Firms during the Depression: Effect of Leverage (Robustness Checks 3)			
<i>dependent variable</i>	<i>output</i>	<i>profit</i>	<i>roa</i>
ForExLevTcr	0.197*** (3.68)	-0.470 (-0.80)	-0.135 (-1.48)
ForExTcr	0.533* (2.33)	0.515* (2.38)	0.263 (1.43)
ForEx	0.522** (2.85)	0.610*** (3.72)	0.129** (3.26)
ExLevTcr	-0.108 (1.09)	-0.857* (2.11)	-0.0041 (1.61)
ExTcr	1.101 (1.57)	-0.128 (0.11)	-0.0335 (1.87)
ExLev	0.314* (2.09)	-0.158 (0.39)	-0.0062 (1.77)
LevTcr	-0.0713 (1.04)	-0.104** (2.89)	-0.0107 (1.77)
ForTcr	0.355** (2.38)	0.011* (1.96)	0.0818* (1.97)
ForLevTcr	0.104 (0.55)	-0.801* (2.54)	-0.00899 (1.48)
ForLev	0.0816 (1.10)	0.533** (2.80)	0.0091*** (3.37)

ForExLev	0.223 (1.69)	0.179* (2.41)	0.0314** (2.94)
foreign	0.217*** (3.82)	0.095*** (3.89)	0.0606*** (3.66)
Tcr	-0.131 (0.22)	-0.599 (0.89)	-0.0306 (1.74)
lev	- 0.0130** (3.23)	- -0.102*** (3.32)	- 0.00126* (2.65)
exportj	0.477 (1.10)	0.674 (1.64)	0.0240* (2.26)
size	0.331** (2.60)	0.490* (2.44)	0.0236** (2.76)
age	0.086** (2.45)	0.0228 (0.58)	0.00270 (0.28)
N firms	120	120	120

Notes: t statistics in parentheses; Fixed Effects panel model; year * sector fixed effects

* p<0.05; ** p<0.01; *** p<0.001;

Conclusions

The financial crisis of the early 1930s in the peripheral economies of Europe was a large and long term one. It affected industry in a severe manner, by restricting access to funds and causing a drop in production and investment. The booming banking sectors of Bulgaria and Yugoslavia in the 1920s saw their assets and lending capabilities severely restricted by the deflation of the late 1920s and a crisis that

transferred from the real sector to the banks' balance sheets and then back via the lending channel.

Using a firm and bank level dataset this chapter provides evidence for the theory of debt deflation as a main cause behind banking sector distress. Long-term insolvency, rather than illiquidity and bank runs, created a failed banking sector that forced extra costs on industry in terms of restricted credit that resulted in fall in firm output. The measure used to approximate insolvency and control for the debt deflation mechanism is firm equity held on bank balance sheets, while illiquidity is measure by bank-to-bank deposits. Alternative measures of firm liquidity – foreign funds and capital gained from exports appear to have played the role of substitutes for domestic bank lending, but evidently did not prove significant enough to stem the tide of falling output.

An important finding is that the phenomenon of interlocking directorates is strongly correlated to firm debt. This is interpreted as evidence that interlocked networks were a method of ensuring access to finance on the part of the firms, and a low cost method of monitoring on the part of the banks. It is likely that this symbiotic relationship ensured bank participation in firm capital structures by purchasing equity. Following the earlier argument, then, interlocking was one of the underlying reasons for bank and industry distress during the Depression.

This chapter provides evidence that the finance channel of crisis deepening, suggested among others by Bernanke and James in their 1991 paper, is important, especially in an economic environment where sources of funding are limited. It goes one step forward to argue that bank panics and bank runs were not necessary to act as amplifiers for the crisis. Slow and steady bank asset erosion and an increasingly greater number of bank failures over the years of the Depression accounted for the role of financial distress in the South East European Economies.

This chapter also supports the claim that banks stability is crucial for firm liquidity during a crisis. Evidently, too close an association of banks with industry was detrimental to both banks and firms. If the crisis is global, as the Great Depression was, even foreign ownership as a source of funds is not a panacea. Government intervention can then alter the consequences of such crises.

CHAPTER 4

Political Economy of State Finance and the Great Depression bailouts in Bulgaria and Yugoslavia, 1919-1941

Chapter Summary:

It seems that economic history narratives of the 1930s economic crisis in South East Europe present government interventions in those economies and the increased role of the state thereafter merely as stylised fact. This chapter aims to describe and explain the role of the state during the crisis and rationalise the interventionist policies. In particular, I ask what kind of policies governments enacted in response to the global economic crisis and who were the economic winners and losers of these policies. I provide quantitative and descriptive evidence from the kingdoms of Bulgaria and Yugoslavia, which demonstrates that government interventions amounted to bailout staking the form of direct resource transfers, legislative amendments, and the creation of new institutions to combat the crisis and its aftermath. The evidence suggests that state intervention happened in a piecemeal fashion, driven by the steep learning curve of economic policies in times of severe downturn as well as the governments' links to cronies, which expected and demanded bailouts of their losses. As is typical of emerging economies, the governments of Bulgaria and Yugoslavia bailed out their cronies precisely because the cost of expected political instability was smaller than the loss of links to cronies and a possible financial and real sector meltdown. Those who gained nothing from the financial transfers and policy changes were the urbanised and semi-skilled labour - the effective taxpayers. To mitigate any political opposition to the *status quo* and insure themselves from serious political instability, the ruling elites enacted political and economic repression.

Introduction:

The Interwar Period witnessed a departure from the pre-1914 laissez-faire economic policies and global trade openness. In particular, the years following 1929 were characterised in most parts of the world by a notable extension of the role of the state in the general economy, but especially in the field of banking. This extension took several forms: direct financial assistance granted by governments to banks to enable them to write off losses and improve liquidity; the establishment of legislation to set aside or change pre-existing contracts, as well as the enactment of legislation to directly control the activities of banks. Finally, (central banking) institutions were set up in several countries to enact these newly-created banking measures (League of Nations, 1934). Feinstein, Toniolo, and Temin (2010) also concluded that state intervention was crucial to the experience of the crisis and to the recovery of each country. They argue that in addition to exogenous factors like the severity of the economic environment at the start of the 1929 recession, there were two other factors crucial to poor country performance during the Depression: the specifics of the domestic banking sector and the role of the state institutions, in particular the central banks, as regulators and lenders of last resort.

This was especially true for the South East European economies, which were at an early stage of development, itself characterised by a more significant role of the state. Acemoglu and Robinson's (2008) contribution to the *Oxford Handbook of Political Economy* describes a theory of development based on the interaction of political interest groups that form political institutions and hold *de jure* political power¹⁴⁶. These eventually form economic institutions that play a central role in the development of a country. Importantly, interest groups that formed political institutions via the complexities of a collective action problem are also involved in struggles to distribute resources, thus holding *de facto* political power. To hold and administer *de facto* political power, political groups do not need to have formed formal institutions. Acemoglu and Robinson (2008, p. 675) liken this to the mediaeval peasantry, who were excluded from formal political life, but occasionally, via violent uprisings, could alter the distribution of resources. In a more moderate form, then, we might relate this to groups such as bankers or industrialists who are able to influence formal political processes by virtue of their control over significant economic resources. These groups differ greatly from the working classes, who might not hold formal political power but who have the right to vote for representative political

¹⁴⁶ Acemoglu and Robinson in Weingast and Wittman (2008), p. 671.

institutions in the form of political parties and parliamentary procedure to defend class interests. They are important because the political elite, the group that actively exercises political power, will have to distribute resources in a certain way to ensure voters' continued support. When viewed in this way, it is clear that enfranchisements act as an endogenous constraint.

Indeed, political economy plays an important part in explaining distribution of income and growth possibilities in underdeveloped countries. Benhabib and Rusticini (1996) follow a trend of papers that look at the relationships of levels of wealth, social and political conflict, and growth¹⁴⁷. They present a game theoretical model whereby organised social and economic groups capture a larger share of the output either by means of direct appropriation, or by manipulating the political system to implement favourable transfers, regulations, and other redistributive practices. This results in a smaller level of accumulation and investment in benign economic times.

However, what is most pertinent to my discussion of South East Europe in the 1930s is the fact that economic and political crises *can* be interrelated. This notion has been illustrated by scholarship that connects political instability and cronyism, financial and economic crises, and bailouts. Naturally, while investors dislike political instability with its propensity to cause a capital outflow, costlier loans, and the destruction of economic information streams, potentially followed by a credit crunch and a financial/banking collapse, we must also be aware that an economic crisis puts pressure on growth and incomes, and necessitates government intervention. This can lead to tougher bargaining between interest groups, resulting in the formation of governmental policies which rarely maximize social welfare. As Mueller (2003) and Persson and Tabellini (1992) suggest, this is due to the political principal-agent problems that arise from the existence of political constraints in collective decision-making mechanisms, and the asymmetry of information between participants in the political process. Vaugirard (2006) among others, has argued that cronyism, where policy-makers favour particular groups of interest, is one channel via which government bailouts are allocated, and is a likely cause of political instability when an economic crisis occurs. Clientelism saddles some groups within the domestic economy with the costs of the bailouts, while it benefits other smaller, but better integrated and better connected groups.

Another way of thinking about the endogenous process of domestic power struggles for distribution of resources and formation of political institutions is suggested by Rogowski (1989). He presents a simple model of political economy responses to

¹⁴⁷ See also the seminal works of Persson and Tabellini (1992), Alesina and Rodrik (1994), Grossman and Helpman (2002), and Tornell and Velasco (1992).

exogenous economic shock. He looks at external changes in trade, based on the Stolper-Samuelson theorem. Bulgaria/Yugoslavia and the whole region of South-Eastern Europe are classified as labour rich, but poor in land and capital. The theorem predicts that labour will push for free trade and openness, while owners of land and capital will lose out from open policies and prefer protectionism. If trade is restricted due to exogenous reasons, then the owners of less abundant factors – namely land and capital – will strive to gain political advantage over labour, possibly embarking on a wholesale repression resulting in a class struggle. In a time of shrinking economic resources and falling international openness like the Great Depression, their distribution and the institutional arrangements established to deal with this bear the marks of such a struggle between the groups that own factors of production.

There are a number of constraints that may have acted to alter the actions of interest groups along the lines suggested above. As Tooze and Ivanov (2011) argue, one example of this can be seen in foreign lenders who push for restructuring and the formation of new institutional as a consequence of international indebtedness or adherence to the requirements of international bodies, like the League of Nations. A further example is the institution that Eichengreen (1997) placed at the heart of his explanation of the contagion and severity of the Depression: the Gold Standard and the tight monetary constraint imposed by this fixed exchange rate mechanism which was prevalent across the international economy in the 1920s.

The analysis of state intervention in the developing economies of South Eastern Europe in the 1930s can further elucidate what ultimately determined government actions. I combine the models of Vaugirard (2006) and Rogowski (1989) to argue that the government interventions that occurred in the 1930s in Bulgaria and Yugoslavia may well have been motivated by a desire to mitigate the effects of the global economic crisis, but they were ultimately determined by crony links between the policy-makers and their clients in industry and finance. In the period prior to 1931, we might argue that external pressures were also important, but with the collapse of global trade and finance in the midst of insurmountable debt problems for the Balkan states, the relationship with foreign lenders became less crucial. Foreign bondholders were no longer willing to lend fresh capital, and thus the cost of default in terms of foregone future ability to borrow was smaller.

It was the labouring classes who constituted the socio-economic group that was most disadvantaged by the resource transfers; in particular urban and semi-skilled workers and state employees. They had least political integration and influence, yet were easiest targets for tax authorities. The winners of the 1930s economic changes and political struggles were the financial, economic, and political elite, the latter of which succeeded in its policy of bailing out failing industry and banking, but also in its

policies of repression towards labour. Such was the grip that these elite groups had on policy in South East Europe that it entirely thwarted any reform in the political and economic *status quo*; indeed change only became possible in the post-World War II period.

Theoretical Framework:

Economic crises, especially those coupled with banking crises, cause direct loss of wealth to creditors, depositors, taxpayers, and often severe indirect loss to other sections of society via detrimental effects on growth. In times of crisis governments are under pressure to intervene and minimise such losses through various methods of intervention, the content, causes, and effects of which are frequently debated. If the Government decides to uphold market outcomes and leaves insolvent banks and firms to close, this forces shareholders, depositors, and bankers to take the losses directly. This is an approach suggested by neoclassical economic theory and provides longer-term disciplining incentives to risk-taking bankers and managers, resultant from minimised moral hazard risk. Such drastic non-interventionist measures, however, usually have very strong negative effects on savings, investment, and consumer spending, causing a sharp recession in the economy that may turn into a depression. Alternatively, interventionist policies can be enacted to bail out insolvent banks in order to protect depositors and liquidity in the economy, as well as firms, to minimise the effects on unemployment. Such actions should dampen the short-term slide of the economy into a recession, but they come at a great cost to tax-payers and provide the wrong risk-taking incentives to bankers and managers.

The Great Depression, often cited as the most significant economic crisis of the 20th century has been at the centre of a debate regarding prudent government policies in times of a severe financial and economic crisis. A large part of the literature on the crisis of the 1930s is focused on the actions of the state or state institutions, from the classic work of Friedman and Schwartz to more recent work on the banking crises of the 1930s in the US and Europe¹⁴⁸. Of course, just as large scholarship has focused on the banking crises the post-1945 era and the consequences of government actions, for

¹⁴⁸ Friedman and Schwartz (1963) famously blamed the Federal Reserve for failing to ensure enough liquidity for the banking sector with their tight monetary policy. Fisher (1911; 1933) has also described a mechanism where government inactivity, in the form of lending of last resort, results in damaging bank runs and ultimately the failure of the bank system. More recently, Calomiris and Mason (1994) have suggested that in the absence of centralised lender of last resort, solvent bank cooperation provided insulation from loss of liquidity during the Depression bank panics in the US. Mazower (1995) has provided an in-depth account of state support to Greek banking and industry during the Depression.

instance, Honohan and Klingebiel (2003) among others provided cross-country estimates of the fiscal costs to government intervention. Rosas (2006) developed a structured approach to estimating the propensity of governments to lend support to a banking sector or follow a Bagehot (leaving insolvent institutions to close) response in time of a crisis¹⁴⁹. He used a number of cross-sections of banking crises to build indicators of government response. The majority of indicators are generated by the data he uses – they are descriptive indicators of domestic political and economic institutions, bank ownership variables, as well as trade openness, international institutional support, and industrial concentration.

These indicators correlate to a range of possible government responses, from the complete non-interventionist response, through non-monetary interventions, through to changing regulation in favour of banks like dropping capital requirements, to outright bailout in terms of cash handouts. A stylised view of the two extreme policies – to bailout insolvent banks or to follow market forces in determining who fails and who survives the crisis – is presented in table 4.1, below:

Table 4.1: Choice of Policy in times of a financial crisis – the two extremes (Rosas, 2006; p. 176)

Bailout or following Market Incentives and outcomes: alternative responses to Banking Crises		
<i>Policy Issue Area</i>	<i>Market Mechanism</i>	<i>Bailout</i>
Last-resort lending	On good collateral, for a limited time	As requested by banks/for indeterminate time Bad loans transferred away from banks/
Non-performing loans	Banks forced to write these off their books	bank borrowers helped to avoid default
Bank Capitalisation	Private recapitalisation of banks	Public recapitalisation of banks/regulatory forbearance
Deposit insurance	Few depositors, if any, are protected	Protection for all depositors

¹⁴⁹Bagehot (1873) has been attributed the doctrine of systematisation of last resort lending – protecting a nation's money stock during a banking crisis by lending to illiquid institutions at a discount only on good collateral. Thus institutions that could not provide good collateral should be considered insolvent and left to fail.

Exit Policy	Banks closed immediately after detecting insolvency	Insolvent banks allowed to continue operations
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In column 2 the table defines the classical response to a banking crisis against a number of policy areas suggested in column 1. Following the market mechanism involves providing liquidity to solvent banks but forcing the closure of insolvent ones. This policy response diminishes moral hazard issues for future crises and provides the right incentives to minimise risk and ensure large capital reserves in the day-to-day running of financial institutions. It also minimises the cost of the crisis to the taxpayers by avoiding socialisation of risk and rooting out weaker and badly run banks. Of course, such a response rests on the assumption that governments possess perfect information about the financial situation of banking institutions. Diamond and Dybvig (1983) have showed that even with perfect information between government and banks, the asymmetries between depositors and banks can create runs on solvent, but illiquid, banks.

There are, however, important negative consequences from non-intervention in financial markets during a crisis. Failure of insolvent banks will penalise not only bank shareholders, but also depositors. It will also diminish the supply of credit and thus diminish investment and consumption. Bank crises are often characterised by rapid contagion, which exacerbate all the negative effects cited above.

A policy of intervention will entail the preservation of the life of insolvent banks via payments or regulatory changes that ease their debt burden or transfer of the losing assets. Like any government involvement it is distortionary, but most importantly it alters the distribution of resources between social and economic groups. An outright bailout will transfer the burden of losses onto taxpayers. It will also ignore the possible implications of moral hazard issues. On the positive side, bailouts attempt to avoid banking sector or general economic collapse, aim to keep liquidity within the economy and thus diminish the negative effects on investment and consumption¹⁵⁰.

Since government intervention in most cases represents a departure from neoclassical economic solutions, bailouts have often been ascribed to a form of market failure in a capitalist society called 'crony capitalism'¹⁵¹. The term 'crony capitalism' or 'clientelism' is used to describe political links between government and big business,

¹⁵⁰ See Cordella and Levy-Yeyati (1999) for an example of a theoretical microeconomic analysis of bailouts as an optimal policy response in light of negative externalities stemming from bank insolvency and collapse.

¹⁵¹ Rosas (2006), p. 177.

especially banks that ‘exceed the confines of petty bribery of low-level bureaucrats’¹⁵². Haber (2002) has postulated that crony capitalism is effectively only able to guarantee the property rights of some groups of asset holders and is thus a second-best solution to the government commitment problem. The government-business link means that politicians end up sharing the rents from running the state with a select group within the economy/society. Cronyism is likely to persist in underdeveloped economies with malfunctioning institutions, where the opportunities of rent seeking are ample. As a form of resource transfer and an arrangement for protection of social group interest, it may increase the likelihood of a crisis by providing incentives for excessive risk-taking in the safe knowledge of a bailout if things go wrong.

One problem with associating bailouts and cronyism, or interlocked politics and business, is the difficulty in properly defining crony relationships and measuring them. If we want to explain a certain government policy of intervention and direct resource transfer we need to identify precisely the links between the political and economic elite, the channels of rent seeking and rent transfer, and the incentives to keep the connections through a crisis period. Some of the literature has used common measures of corruption or transparency to identify such links¹⁵³. These, however, equate cronyism with corruption – two phenomena that could be very different in nature. While corruption is often associated with low-level bureaucracy and acts like an informal tax, cronyism, as mentioned above, is used to describe the high-level resource distribution between groups with similar interests. In fact, strong links between policy-makers and interest groups are formed better in an environment where the elite is concentrated. Femminis and Ruggerone (2004) conclude that concentrated elites benefit strongly from a heavily subsidising government policy, which in times of crises is meted out in a way of bailouts. They construct a model of government transfers to the financial sector, where the welfare function for the government is subject to cronyism and hence attributes a disproportionate weight to the welfare of the elite. Their findings imply that clientelism tends to induce over-investment, thus larger deficits and capital inflows, but also a larger propensity to rescue the banking system in the event of a crisis through bailouts.

Femminis and Ruggerone’s (2004) model rests on previous theoretical work that attempts to explain the Asian crises of the late 1990s. Krugman (1998) constructed a model where cronyism is reflected in the certainty of a government bailout, which in turn provides an incentive to over-invest in risky assets and create a bubble of over-priced assets. Irwin and Vince (2003) went one step further. In addition to explaining

¹⁵² *ibid.* p.177.

¹⁵³ Knack and Keefer (1997) and Wei (2001).

the severity of a crisis through government crony links and implicit obligations towards the financial sector, they point to the costs of the bailout obligations – both political and financial, resulting either from loss of tax revenue or the collapse of domestic banks.

A slightly different strand of the theoretical literature on bailouts, deals with the likelihood of a bailout dependent on information streams in the economy rather than assuming cronyism and implicit bailout obligations on the part of the government. Keefer (2001) used public choice theory to argue that governments are less likely to enact forbearance to insolvent banks or firms if voters are more informed about the process of policy making or elections are closer to the crisis date. Along similar lines, the existence of balances and checks to the governing institutions such as a large number of political veto-players, as opposed to entrenched elites, can influence the ability of governments to channel resources to cronies as bailouts. Keefer (2006) also observed that governments susceptible to special interest influence are likely to have lower prudential regulatory requirements.

In the context of South Eastern Europe, the theories of political veto-players and institutional checks and balances are less important. The political elites in both Bulgaria and Yugoslavia, similarly in the other Balkan countries, were well entrenched and, as I argue below, only faced the costs of possible political instability and resistance from the voters/tax payers. Information asymmetry, on the other hand, was a much more important determinant of policy of bailouts. As the seminal work of Grossman and Helpman (1996) showed, incomplete information on the part of voters encourages government decision makers to support special interest groups at the expense of the general voter. Given the prevailing information problems in the underdeveloped Balkan economies, a recurring theme throughout this thesis, the political elites were prone to channel resources to their cronies in industry.

Rosas (2006) warned that the cronyism explanation of economic bailouts rests on the strong assumption that political elites will always act to protect the property of their groups of cronies. It is useful to question this assumption and attempt to explain government intervention as a result of mixed incentives. These may shift as the economic payoffs change, as a result of a crisis or a change in the economic environment. Every bailout has some cost – ostensibly a direct one to the taxpayers, but also an indirect one to the political elites, who have to justify their actions to their electorate. If the insiders, used to mean cronies here, generate profits then the government has no disincentive to renege on their promise to protect their property rights. In times of crisis, however, politicians may decide it is more profitable to leave insolvent insiders to fail and save themselves the cost of bailouts. Only a long-term commitment that is not altered by a crisis may keep the relationship going. A crisis as

severe as the Great Depression therefore had the potential to alter profit and rent streams and throw economic strength into different economic and social groups.

A comprehensive explanation of the costs of bailouts is presented in Vaugirard (2006). He studies the interaction between financial crises, banking bailouts, and political disturbance and instability. In his model, political crises arise as a result of political distortions, which in turn are a result of financial instability. The political and financial crises stem from foreign lenders' loss of confidence in the domestic political stability and a capital outflow. Crucially, a credit crunch as a result of drying of foreign lending and capital outflow is only one of the triggers that can start a crisis sequence. The exogenous shock that caused the crisis of the early 1930s in the Balkans was a complex one, including a credit crunch, loss of trade income, terms of trade loss, foreign capital outflow, and a lengthy deflationary trend. Vaugirard (2006) answers the fundamental question why financial crises are associated with political instability in terms of an agency problem between government, or the ruling elite, and citizens, voters and taxpayers. The former have an information advantage over the latter as regards the costs of the crisis and the costs of possible bailouts. The latter, the citizenry, has suspicions of collusion of policy makers and favoured groups, and can protest or attempt to alter the political *status quo*.

The decision to bailout is then determined by a number of cost comparisons. An unconnected government will compare the tax cost T and the possibility of being forced out of power P (political instability), versus the cost of financial meltdown F . A government connected to cronies will also face the cost of losing crony links C , and personal losses from banking and financial meltdown F_p ; The threat of political instability, P , is determined by the strength of the class system and the information asymmetry between the ruling elite and the citizens (the tax payers). Thus the decision of an unconnected government whether to bail the financial sector out in this simple set up is a comparison along the following lines: $F > T + P$. A government linked to cronies, however, faces a different comparison: $C + (F + F_p) > T + P$. Arguably, a concentrated political elite linked to cronies will face a higher chance of political instability, i.e. $P_c > P$, were P_c is the chance of political instability for a political system with clientelism. Such a regime, however, faces a much greater cost, including the personal cost of financial loss, if no bailouts occur. My hypothesis here, then, is that in a world of information asymmetry such as the Balkans during the interwar period, where political elites are inextricable from their cronies in the financial and industrial sectors, government intervention will include direct resource transfers in the form of bailouts in addition to any other measures that strengthen the economic position of finance/industry and the political position of the regime.

However, what my hypothesis above does not yet account for is which social or economic group(s) stood to gain, and lose, the most from the redistribution of resources during and after the crisis of the 1930s, aside from the broadly drawn categories of the ruling elite and the citizenry.

A well-established literature that examines the distribution of income following an exogenous shock in trade can enlighten this question¹⁵⁴. These works use the underlying premise that political decision-making in general and, in particular following a crisis, is a reflection on the economic interests of citizens, interest groups, and policy makers. To separate the groups of likely winners and losers from exogenous shocks, political economists have focused on the owners of factors of production¹⁵⁵. Models are then constructed along the lines of the famous trade theorem developed by Stolper and Samuelson (1941) as part of the broader models that build the Heckscher–Ohlin international trade theory¹⁵⁶. Stolper and Samuelson (1941) describe the gains and losses from trade restrictions and trade openness. Unless a society specialises fully in the production of goods in which they have a comparative advantage, in simple terms, the Stolper-Samuelson theorem posits that protection benefits owners of factors in which, relative to the rest of the world, that society is poorly endowed. Inversely, trade openness benefits the owners of factors that are abundant in such society. Importantly, the owners of the scarce factors will be harmed and see the price of their factors and the goods they produce fall as would their incomes.

Both Baldwin (1976) and Mayer (1984) developed theories that suggest particular determinants of policy outcomes, in their case tariff levels, such as the initial endowment of factors of production, the existence of voting rights and costs, and the specific nature of the underlying economic and political system. Conclusions emerging from their works show that a small, well-entrenched industry/elite/economic group can succeed in gaining advantage in bargaining over policy decision-making over the majority of other groups even if the latter are harmed by the adopted policies. In particular, Mayer (1984) emphasised the economic link of policy decision-making, where the economic interests of groups are connected to the factor ownership distribution.

¹⁵⁴ There are a large number of works that explain tariff formation and resource redistribution following a trade shock using political economy approach. I focus mainly on four key works to construct my argument, chosen for their comprehensiveness, simplicity, and the broad applications of the theoretical models. See Mayer (1984), Rogowski (1989), Persson and Tabellini (1992), and Dutt and Mitra (2006).

¹⁵⁵ Baldwin (1976), p.143, and Mayer (1984), p.1.

¹⁵⁶ Stolper and Samuelson (1941).

To explain the inter-relationship of factor ownership and distributional outcomes after an economic shock, I use Rogowski’s (1989) simple, but very intuitive structure of two types of economies that contain three factors of production, based on the Heckschler–Ohlin model. He suggests that a backward economy (assumed capital scarcity) can have either a high land-labour ratio, thus labour (and capital) will be scarce, or a low land-labour ration, where land (and capital) will be scarce. An advanced economy (assumed capital abundance) also has low and high land-labour ratios with the same outcomes as above. There are, therefore, four different possibilities – (1) a capital rich economy, where land is abundant; (2) a capital rich economy, where labour is abundant; (3) backward, or capital poor economy, where land is abundant; (4) and finally a backward economy, where labour is abundant.

When the Stolper-Samuelson theorem is applied to the simple framework presented above, we can trace the domestic changes and conflicts that will result from an alteration of the exogenous economic environment. Rogowski (1989), Dutt and Mitra (2006), and others have used this framework to establish the link between domestic political economy conflict and trade policy outcomes, as well as the reverse scenario – exogenous changes in trade and the redistributinal effects within the domestic economy. I use this theoretical scenario as a guide to the possible winners and losers from bailouts, based on the owners of factors of production as economic groups and their economic interests as the incentives for a political economy bargain.

The analysis that Rogowski (1989) presented for declining exposure to trade openness, as a result of exogenous shock, is presented in table 4.2, below. The owners of scarce factors (capital and land are scarce in a backward economy with a low land-labour ratio) will be on the ascendancy, their incomes on the rise. Politically, the abundant factors (capital and land are abundant in an advanced economy with high land/labour ration) will be on the defensive and a conflict with the owners of scarce factors will develop, over the control of political institutions.

Table 4.2: Predicted Effects of declining exposure to trade (Rogowski, 1989, p. 12)

Predicted Effects of Declining Exposure to Trade		
	Land-Labour Ratio	
	High	Low
Advanced Economy	Class Cleavage: Labour is assertive; Land and Capital are defensive; Outcome: US New Deal	Urban-Rural Cleavage: Land is assertive; Labour and Capital defensive; Outcome: W. European Fascism

Backward Economy	Urban-Rural Cleavage: Labour and Capital are assertive; Land is defensive; Outcome: South American Populism	Class Cleavage: Land and Capital assertive; Labour is defensive; Outcome: Asian and East European Fascism
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This set up has clear predictive powers for the gains and losses of domestic economic and political actors, as well as of the possible conflicts that would emerge, given a change in the economic environment of international trade. The change in trade openness is exogenous and the focus of the analysis is the domestic infighting. There is an assumption that domestic interest groups will be involved in a struggle for political power and ultimately resource allocation, rather than achieve an equilibrium of specialisation according to comparative advantage and an immediate compensation of the losers from trade: the Pareto optimal outcome according to Stolper-Samuelson. This assumption comes from the expectation that certain stickiness exists in the redistributive process, which happens as a result of a political economy struggle, rather than as a simple compensatory mechanism. The groups that acquire more resources and effectively gain from the changes in the international economy will be the ones that have, or emerge into, a strong political position, and can influence the central redistributive agent in the domestic economy – the government.

In a much more recent empirical, as well as theoretical analysis, Dutt and Mitra (2006) have confirmed the dependency of income redistribution on a country's factor endowment and their initial distribution. Similar to Rogowski (1989), they focus on the determinants of trade policy, but also provide a very insightful analysis of the incumbent government's desire to distribute resources in a bailout fashion. The nature of the governing elite, i.e. pro-labour, pro-capital, or pro-land, and the overall endowment of the country – abundance in one of the three factors – determines the outcome of redistributive policies.

Although not directly linked to bank or industry bailouts, these analyses can enlighten an inquiry into the distribution of resources via bailouts. The intuition is similar to the one described above. Initial endowments of factors of production determine the relative strengths of the economic groups within a country and their bargaining positions. The nature of the government regime in that country will set the rules of bargaining or alternatively, of political strife. The type of crisis and its severity will determine, which social or economic group will be affected most harshly, thus setting the incentives to bargain for compensation. As I go on to discuss, countries that were abundant in labour but scarce in land and capital, which also had a small, well-entrenched political and economic elite that originated from the owners of the scarce factors as was the case in Bulgaria and Yugoslavia during the interwar years,

would be politically stable as long as the economic *status quo* included some form of compensation for labour. The 1920s were the period when a *status quo* existed between the economic groups in Bulgaria and Yugoslavia because of a credit boom and industrial development that provided income to all groups. The severe shock of the financial and economic crisis of the early 1930s shook this *status quo*. Labour's income streams were destroyed with the deterioration of domestic industrial production, as well as the collapse of export markets. Similarly, the wealth of the financial, industrial, and landed elites was lost in the banking crises of 1931 and subsequent economic decline of the real sectors.

Then the situation described by Vaugirard (2006) and others will occur. The political decision makers will face pressure to transfer resources to cover the wealth loss of the elite, effectively bailing out itself and its cronies, while the level of information asymmetry about the costs of the bailouts will cause labour to oppose such transfers. According to a Heckschler–Ohlin type set up, as presented by Rogowski, the cost differences that determine the incidence of bailout, as Vaugirard (2006) would suggest, may result in repression from the political elite that resists changes in the financial and economic system, since they benefit from being incumbent. The monetary costs of the bailouts will have to be faced by the labouring classes, given that it is the largest economic group and therefore the largest tax-paying group.

The post-crisis political economy struggle was largely a domestic political strife. A possible resource pull from foreign lenders (to banks or foreign bondholders), as Tooze and Ivanov (2011) would suggest, was less important because capital flows ceased and trade/international lending was restricted. A default on foreign debts, outright or unsystematic, would have been costly in a world where de-globalisation did not happen, but in the 1930s protectionism was on the rise and financial flows reversed or ceased, thus there was no benefit to be gained from keeping up payments or acting as a good debtor.

Persson and Tabellini (2002) and others working on endogenous policy determination have a number of additional far-reaching theoretical conclusions and policy recommendations. This literature often marries endogenous policy decisions with endogenous growth theory, seeking to explain the growth or stagnation of income on a national level. In particular, it focuses on income distribution outcomes along the lines of factor ownership to describe and even predict the future growth path of a country. Such conclusions are beyond the scope of this chapter or thesis, which only aims to describe the process of redistribution and to identify the winners and losers of the final distributional outcome. Yet, given the early stage of research on South East European development, this may be a fruitful agenda for future research.

I would therefore contend with my hypothesis that bailouts occurred because governments in Bulgaria and Yugoslavia were linked to cronies (as is typical for emerging economies) and the cost of expected political instability and taxes was smaller than the possible losses from a financial meltdown and loss of links to cronies. The response of the losers from the bailouts, labourers, was political instability and repression enacted by the political elite to check possible political changes.

To assess the validity of this hypothesis, I describe the macroeconomic structures of Bulgaria and Yugoslavia and the sizes of the initial factor endowments. I then go on to then provide an analytical narrative of their governments' reaction to the crisis, putting forward some available quantitative evidence of the bailouts, and testing the hypothesis that bailouts only benefited politically connected parties/cronies.

The next section attempts to fit the South East European economies into the above theoretical model, using extensive quantitative data from Bulgaria and Yugoslavia. It explores the nature of these two economies in terms of factor abundance, but also their position in the international financial system.

The South East European Economies Through the Lenses of Stolper-Samuelson:

If we are to use Stolper-Samuelson's predictions of winners and losers of the rise of protectionism and the consequences of the Great Depression in South Eastern Europe, we need to classify the region according to factor endowments and place it in one of the squares of table 4.1. Rogowski (1989) places the region, together with all of the less developed European countries, in the bottom-right square with abundance of only labour and scarcity in both capital and land¹⁵⁷. He then proceeds to anticipate that declining openness to trade would augment the power of capitalists and landowners and encourage them to attempt wholesale repression of labour (including landless and marginal peasants). This would have happened through a process of intense class conflict, where workers would have lost ground more often than not, due to their initial position of relative political weakness.

Table 4.3: Population density relative to agricultural land (own calculations, based on population and agricultural land figures from League of Nations; Statistical Yearbook, various editions)

¹⁵⁷ Rogowski (1989), p. 70.

Population per square km of Agricultural Land* in North America and Europe in the late 1930s	
Belgium-Luxembourg	435.00
Netherlands	380.30
Germany	294.70
Norway	264.70
UK	244.30
Italy	209.80
Switzerland	192.80
Portugal	158.10
Austria	155.30
Sweden	131.50
Finland	127.50
Denmark	116.70
France	102.40
Spain	88.80
Ireland	53.20
USA	22.10
Canada	8.90
<i>Bulgaria</i>	158.58
<i>Yugoslavia</i>	166.34
Greece	85.90
Romania	117.15

*Agricultural Land: includes arable (whether occupied or not), meadows and pastures, and rough grazing land; excludes forests and woodlands.

One way to classify regions and countries according to their factor endowments is to compare the relative abundance of the three factors – land, labour, and capital. *The League of Nations' Statistical Yearbook* has enough aggregated data to allow a basic comparison. Table 4.3 (above) provides a useful contrast across a number of European and North American countries in terms of relative land-to-labour abundance. The small number of people per square kilometre reflects the large territories of the USA and Canada, until the beginning of the 20th century thought of as the frontiers of European settlement. At the other extreme are the industrialised economies of North-West Europe, with the exception of Italy. Bulgaria and Yugoslavia are both towards the upper end of this table (ranked 8th and 9th out of 21 ranked countries) with similar

figures to the other economies of the European periphery – Portugal, Austria, etcetera. In terms of land abundance, the smaller countries of the European periphery could not compete with the new states of the USA, Canada, Australia, as well as the Soviet Union (even if no data is available), further away from the European core of industrialised countries.

Ideally, I would like to compare the return to labour (wages), relative to return to land (rents). My research indicates that no consistent data on rents is available, so here I am forced to rely on more anecdotal evidence.

The agricultural system of the Balkan counties was characterised by free, peasant smallholdings¹⁵⁸. These were more or less fixed geographically; their size and method of work had not changed much since the previous century and previous Ottoman owners. The historical literature is adamant that one problem was the small size of holdings and the desire of peasants for land redistribution, especially when the Ottoman Empire was in decline, leaving its Balkan lands to the successor states. Certainly, we cannot describe the Balkan countries as land rich.

Capital-rich and capital-poor countries are very different from each other. Thus far, have been labouring under the assumption that the South East European economies were peripheral to the industrialised European core countries, at an early stage of development. Tables 4.4 to 4.7 provide quantitative evidence that will allow us to compare the region to the rest of the European countries.

Table 4.4 provides a ranking of European countries according to share of the workforce employed in agriculture. All four of the Balkan countries are shown at the bottom of the table. Bulgaria has the highest percentage, almost 80%, of workforce employed in agriculture. Yugoslavia, with 54%, is closest to the other economies of the European periphery. These are clearly societies that are still not fully urbanised and far from industrialised.

The rest of the tables confirm this conclusion. Table 4.5 uses Bairoch's index of industrialisation to compare countries to the level of industrialisation of Britain in 1900. Again, the Balkan countries are at the bottom of the ranking. Table 4.6 provides further details into the level of development of industry and services in those countries. Bulgaria emerges as the least industrialised country, with lowest share of population employed in industry and services.

¹⁵⁸ Lampe and Jackson (1982), pp. 329-331

Table 4.4: Workforce employed in agriculture, (Woytinsky and Woytinsky, 1953, p. 363)

Percentage of Work Force Employed in Agriculture: European States, c. 1935		
<i>Bulgaria</i>	<i>1934</i>	<i>79.84</i>
Greece	1931	78.11
Romania	1930	77.23
<i>Yugoslavia</i>	<i>1928</i>	<i>53.73</i>
Portugal	1940	49.50
Poland	1931	49.00
Hungary	1941	40.10
Finland	1940	39.50
Ireland	1936	37.50
Italy	1936	37.10
France	1946	34.70
Norway	1930	30.60
Denmark	1940	25.60
Austria	1939	23.70
Czechoslovakia	1947	23.30
Sweden	1945	21.40
West Germany	1946	18.30
Switzerland	1941	16.40
Netherlands	1947	14.60
Belgium	1930	13.90
UK	1931	5.90

Table 4.5: Country ranking by industrialisation, 1928 (Bairoch and Levy-Leboyer, 1981, pp. 282 and 330)

Bairoch Index* of Per Capital Industrialisation, 1928	
USA	192
UK	122
Belgium	116
Germany	101
Switzerland	90
Sweden	84
Canada	82
France	78
Czechoslovakia	66

Netherlands	61
Denmark	58
Australia	58
Austria	56
Norway	48
Finland	43
Italy	39
New Zealand	37
Hungary	30
Japan	30
Spain	28
Ireland	23
Poland	22
<i>Yugoslavia</i>	<i>21</i>
USSR	20
<i>Bulgaria</i>	<i>19</i>
Romania	18
Greece	17

** 100=level of UK in 1900*

The data supports the suggestion that the South East European region, and in particular Bulgaria and Yugoslavia, were relatively abundant in labour – we can assume unskilled or semi-skilled labour, given the employment sectors for the majority of the work force – and relatively scarce in capital and land.

According to the matrix presented in table 4.1 (further above), the result of changes in the international economy that affect trade and financial openness will be an acute class conflict. In a time of restricted trade and finance, as in the 1930s, the losing group will be labour, whether land-owning, waged, or marginal peasants. Labour will lose not only income but also political influence and will ultimately be repressed by the owners of capital and land, who on the other hand will see their income rise and will strive for increased political dominance.

In a more complex analysis, the groups in power may use a stick-and-carrot approach. They will attempt repression, but also provide the carrot, some social/economic reforms that will undermine the support of labour to its own political institutions. This is one way to explain the social and economic support programmes that spring forth in times of economic or political turmoil, like the Bismarkian social welfare reforms in the 1890s, the gains of the right and of the agricultural class in the 1920s, and the rise of the Nazis in the 1930s¹⁵⁹. Germany, as an example of a capital and

¹⁵⁹ Carr, W., (1991), pp.134-138.

labour rich country in the Interwar period underwent a definite period of labour repression during the Interwar Period. The SPD, the labour party with large public support, was in no governing coalition at the national level between 1923 and 1928. At the same time, substantial concessions were made to agriculture, including direct representation of their main pressure group in the cabinet and the reintroduction of tariffs on foodstuffs¹⁶⁰. Post-1933, the National Socialists continued their support for agriculture and large businesses, imposed a political dictatorship and outlawed labour organisations and labour parties. They also, however, attempted to woo workers to their side with social programmes and employment protection¹⁶¹.

During the financial crisis of 1931 and the following government intervention in Germany, economic worries led the first reaction, but soon after emphasis was shifted to protecting political power at home. Germany's reaction to the exchange and banking crisis of 1931 was a complex system of blocked currencies and bilateral clearings¹⁶². Many other countries in Central and Southern Europe followed suit, causing the return of virtual barter conditions in many goods markets, and stifling foreign investment¹⁶³. This situation persisted until World War II, yet beyond a point in the late 1930s it made little economic sense. Obstfeld and Taylor (2004) claim that for Germany, it became a 'tool of national and international political power via favourable allocation of trading activity to domestic agents and foreign trading partners'¹⁶⁴. In contrast, the countries in South East Europe, especially Bulgaria and Yugoslavia, attempted to introduce measures to ease exchange controls and bilateral constraints. These had little effect, however, as by the late 1930s international trade along the lines of comparative advantage was obstructed beyond full repair by unilateral protectionist policies that caused beggar-thy-neighbour responses, and long-term bilateral trading contracts on state level were the one much-needed export outlet for embattled domestic producers. Both Nurske (1944) and a League of Nations' report from 1938, however, express doubts whether international constraints were the dominant pull factor in government protection schemes and entry into bilateral trade relations¹⁶⁵. Both conclude that the bilateral exchange clearings and protectionism were the end, rather than the means in the government interventions of the 1930s in

¹⁶⁰ Rogowski, (1989), p.79.

¹⁶¹ Carr, (1991), p.137.

¹⁶² League of Nations (1938a) p.16.

¹⁶³ Obstfeld and Taylor (2004) p.138.

¹⁶⁴ *ibid*, p.138.

¹⁶⁵ Nurske (1944), p. 170; League of Nations (1938), pp.15-17.

the small, previously open, economies of South East Europe. Certain groups within these economies clearly benefitted from such policies. The economic policies of intervention in the Balkans in the 1930s were a result of political struggles, simply described by Rogowski (1989) as waves of authoritarian regimes embodying alliances of landowners and capitalists with intent to suppress labour¹⁶⁶.

The next section looks in detail at the government interventions in Bulgaria and Yugoslavia. It compares the interventions in the banking sectors as well as the real sectors of the economies in the two countries. It also looks at the policies of foreign debt repayments, as well as the imposition of trade restrictions and exchange controls. The aim is to make sense of these in light of the political developments and the models described in the first part of the chapter.

The Great Depression in Agriculture, Banking, and Industry:

The Great Depression was a severe, worldwide economic downturn, but it was a particularly difficult crisis for the peripheral economies of South East Europe, which tended to fall into the categories of small open economies. Their prosperity in the 1920s depended on financial stabilisation, which more often than not came after foreign loans or investments, as well as on the state of domestic agriculture and the exports of its products. Cereal and cereal products constituted the largest element in the export product portfolio, even though throughout the 1920s efforts were made to diminish the dependence on such items. The Balkan countries had developed alternative specialisation in dairy products, fruit and vegetables, poultry and livestock, tobacco (mostly Bulgaria and Greece), sugar beet and refined sugar (Bulgaria and Yugoslavia) and forestry products¹⁶⁷.

The heavy dependence on commodity exports left the peripheral countries very exposed to the volatility of the international market in primary products. Not only did world supply outmatch world demand, thanks to bumper crops in Canada, Soviet Russia and Europe in wheat and other cereals, but global demand for these also decreased due to changes in diets¹⁶⁸. The international markets for other primary products were more favourable – fruits, vegetables, and animal products kept their

¹⁶⁶ Rogowski (1989), p.84.

¹⁶⁷ Lampe and Jackson (1982), p.368-69.

¹⁶⁸ Aldcroft, (2006), p.51.

demand, while demand for iron ores (an important Yugoslav export) and oil (the main Romanian export, but also deemed important for Yugoslavia and Bulgaria) was strong. Apart from slack demand for the main exports, the Balkan countries also suffered from deteriorating terms of trade. After 1923, due to demand and supply mismatch, world food prices fell almost continuously, with the exception of 1927, while raw material prices peaked in 1925 and then began a long-term decline. From 1926, tobacco prices also dipped sharply, which was particularly problematic for Bulgaria, since a third of its exports were derived from it¹⁶⁹.

The following few paragraphs look in detail at the impact of the Depression on a number of sectors in Bulgaria and Yugoslavia. The purpose is to identify where the crisis hit hardest and where it made sense for the governments of these countries to intervene.

Agricultural production, as mentioned above, took a real hit from the closing of world markets and the steady decline in prices. Figures 4.1 and 4.2 show the production of various agricultural items through the 1920s and 1930s. In both Bulgaria and Yugoslavia, production in most of the items peaked in the mid and late 1920s, but quickly dipped in the early 1930s and in some instances failed to recover to pre-1929 levels. Particularly painful for the Bulgarian economy was the loss of tobacco and sugar beet production – both achieved a peak in 1924/25, but never reached those levels again in the 1930s. In all the cereals, in particular wheat, production did increase in 1930s, but there was a defined dip and plateau between 1929-1935/36.

¹⁶⁹ *ibid.*, p.52, also Crampton (1987) p.104

Figure 4.1: Agricultural Production in Bulgaria, (index 1919=100)

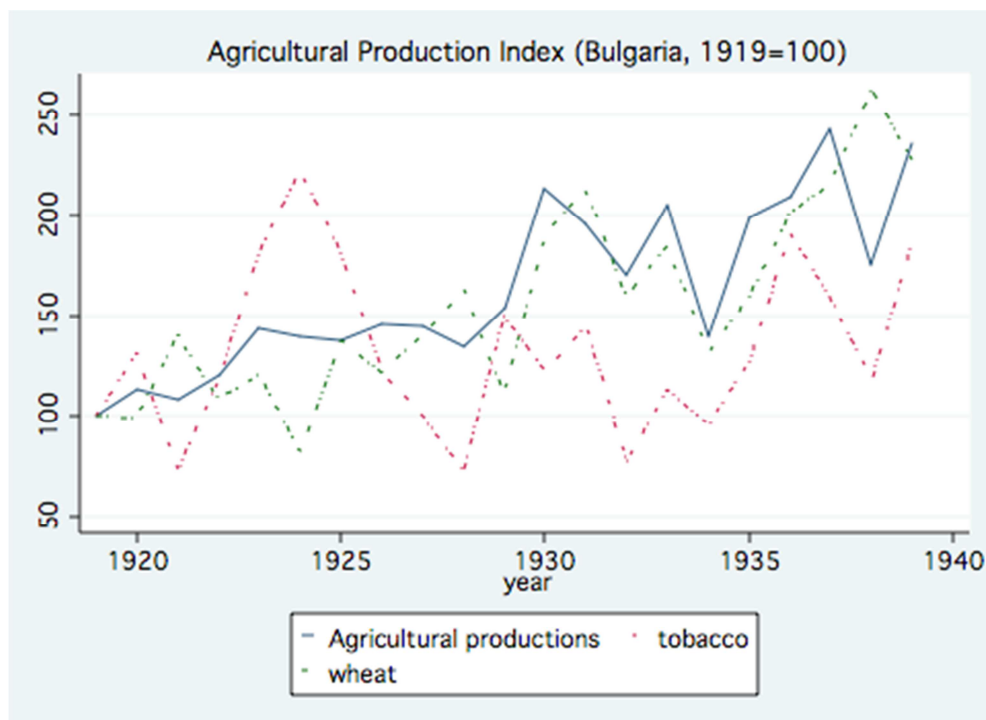
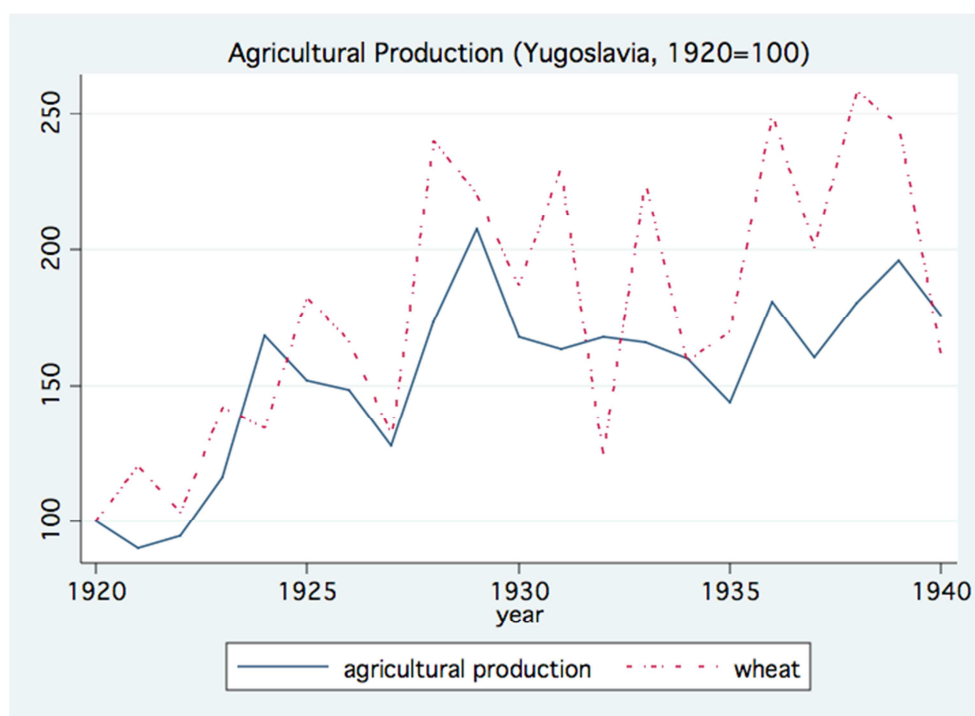


Figure 4.2: Agricultural Production in Yugoslavia, (index 1920=100)



Industrial production developed differently over the crisis period. The economic factors behind the trend of manufacturing and extraction output of course included the international price and the supply/demand curves of the world market, as well as

the flow of trade and protectionist barriers introduced post 1929. Firstly, such products were not amongst the largest exports of both Bulgaria and Yugoslavia. Secondly, the Balkan countries could aim for import substitution and attempt to place production in the domestic markets – a small but important compensation for lost markets abroad. In fact the protectionist barriers worked well in support of the import substitution strategy¹⁷⁰.

Tables 4.6 and 4.7 (as well as figures 4.3 and 4.4) illustrate the variation of selected industrial products in Bulgaria and Yugoslavia and the output variations of manufacturing and extraction industries in the four Balkan countries. Bulgarian extraction took a small dip in the very first year of the crisis, but was largely stagnant during the period. Yugoslavian extraction rose continuously during the period. It more than doubled by 1934 and almost tripled by 1939. Relative to the other Balkan economies, Yugoslavia was the clear leader, while Bulgaria's progress was average and sluggish. The Yugoslavian experience may have been due to the large influx of foreign capital in the 1920s, which owned almost all of the mining industry and ensured credits to the sector during the financial crisis amongst domestic banks, while bilateral trading agreements with Germany from the mid-1930s maintained an open export channel.

The manufacturing experience during the crisis was more illustrative of the crisis experience. The industrial crisis in Bulgaria started in 1931 and output continued in a downward trend until 1935. Import substitution policies, which I shall go on to discuss, and trade barriers did not rekindle the economy until the late 1930s and government subsidies could not compensate for the loss of credit, caused by the failure of the domestic banking system in 1931. Yugoslavia, on the other hand, had an even tougher industrial experience. Decline in output began in earnest in 1930 and production did not reach the 1930 level again until 1937. Manufacturing was clearly one of the main economic areas in Yugoslavia affected by the global crisis.

Table 4.6: Raw Materials and Industrial Production in Bulgaria and Yugoslavia, 1919-1939; Source: League of Nations Statistical Yearbook, various years

Industrial Production (in metric tons)				
Bulgaria		Yugoslavia		
Year	Coal	Coa		
		l	Pig iron	Crude steel
1919	0.6	-	-	-
1920	0.7	-	-	-
1921	0.9	2.9	6.0	23.0

¹⁷⁰ Aldcroft (2006) p.73.

1922	1	3.1	12.0	27.0
1923	1.1	3.7	16.0	44.0
1924	1.3	4.1	24.0	51.0
1925	1.3	4.1	15.0	41.0
1926	1.2	4.2	3.0	53.0
1927	1.3	4.2	19.0	64.0
1928	1.5	4.8	23.0	73.0
1929	1.7	5.1	29.0	83.0
1930	1.6	5.6	31.0	98.0
1931	1.5	5.3	35.0	86.0
1932	1.8	4.8	38.0	92.0
1933	1.6	4.5	10.0	71.0
1934	1.7	4.2	31.0	90.0
1935	1.7	4.3	33.0	90.0
1936	1.7	4.4	21.0	100.0
1937	1.8	4.4	44.0	125.0
1938	2	5.0	50.0	169.0
1939	2.2	5.7	116.0	227.0
1940	2.8	6.0	113.0	235.0
1941	3	7.3	-	258.0

Figure 4.3: Extraction Output Indices (1929=100); Source: League of Nations Statistical Yearbook, various years)

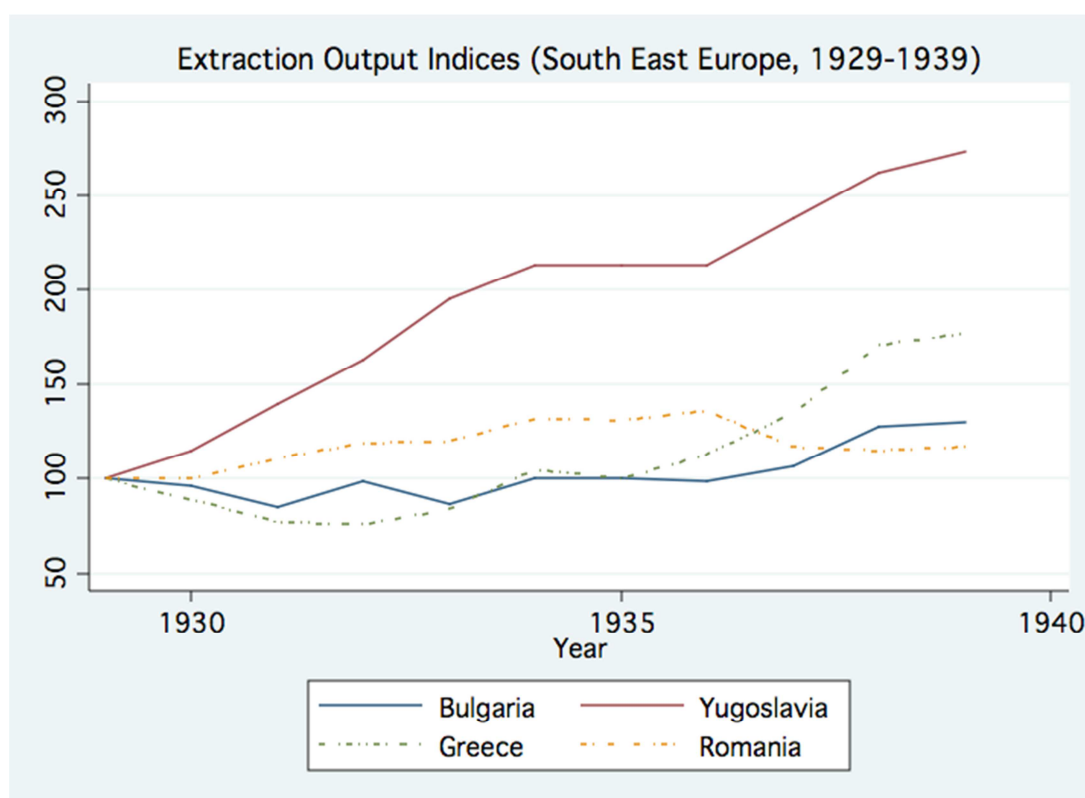


Figure 4.4: Manufacturing Output Indices (1929=100); Source: League of Nations Statistical Yearbook, various years)

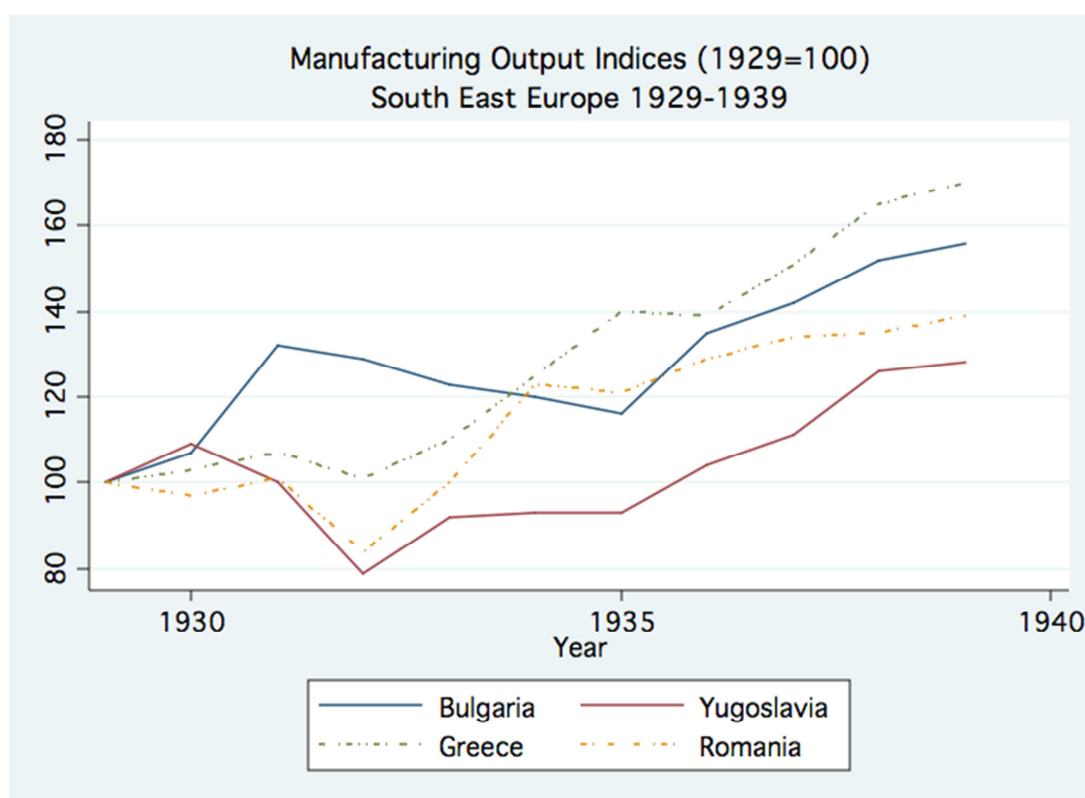


Table 4.7: Industrial Production and Extraction in the Balkans, (indices 1929=100; Source: League of Nations Statistical Yearbook, various years)

Industry and Extraction in the Balkans, 1929-1939				
Country	Extraction Only			
	Bulgaria	Greece	Romania	Yugoslavia
1929	100	100	100	100
1930	96	89	100	115
1931	85	77	111	140
1932	99	76	119	163
1933	87	84	120	195
1934	100	105	132	213
1935	100	100	131	213
1936	99	113	136	213
1937	107	135	117	238
1938	128	171	115	262
1939	130	177	117	273
Country	Manufacturing Only			
	Bulgaria	Greece	Romania	Yugoslavia
1929	100	100	100	100
1930	107	103	97	109
1931	132	107	101	100

1932	129	101	84	79
1933	123	110	100	92
1934	120	125	123	93
1935	116	140	121	93
1936	135	139	129	104
1937	142	151	134	111
1938	152	165	135	126
1939	156	170	139	128

The plight of the banking sectors in both Bulgaria and Yugoslavia is the theme of the previous chapter, so here I only present figures 4.5 and 4.6 to underline the volatility of the experience. These are taken from the *League of Nations' Memorandum on Commercial Banks*, published in 1933/34, compares the growth and post-1929 decline in deposits across a number of countries. Bulgarian banks experienced greater volatility. They were part of the group of countries where commercial banks went through a boom, in Bulgaria fuelled by foreign capital investment, and a sharp contraction in 1931. Yugoslavia had an already established banking sector in the old Austria-Hungary lands, mostly concentrated in Croatia and Slovenia. Thus the boom was smaller and the contraction was less sharp too. As concluded in chapter 3, the banks of both countries suffered through a severe crisis with high failure rates. Their experience in the end depended a lot on government intervention, discussed below. Survival in some cases was only possible thanks to emergency legislation introduced during the height of the banking panics in 1931-1932, and direct bailouts.

Figure 4.5: Commercial Banks Deposits Movements in the 1920s; Source: League of Nations, Memorandum on Commercial Banks, 1933/34

Table I.

MOVEMENT OF COMMERCIAL BANK DEPOSITS, 1925-1929.
(In terms of national currency.)

Increase of 100 per cent or more	Increase of 100-50 per cent	Increase of 50-25 per cent	Increase of 25-1 per cent	No increase or decline
Poland	Germany	Mexico	Yugoslavia	Sweden
Hungary	Belgium	Portugal	Czechoslovakia	India
Latvia	Roumania	Switzerland	Canada	Denmark
Estonia	Lithuania	Venezuela	Argentina	Bolivia
Colombia	Bulgaria	Finland	U.S.A.	Norway
	France	Austria	Japan	
	Brazil		Italy	
	Uruguay		New Zealand	
	Spain		England and Wales	
			Netherlands	
			Peru	
			Australia	
			South Africa	
			Chile	

Figure 4.6: Commercial Banks Deposits Movements in the 1930s; Source: League of Nations, Memorandum on Commercial Banks, 1933/34

Table II.
PERCENTAGE DECLINE IN TOTAL COMMERCIAL BANK DEPOSITS
IN VARIOUS COUNTRIES, 1929-1932.
(In terms of national currency.)

Decline of 60-40 per cent	Decline of 30-20 per cent	Decline of 20-10 per cent	Decline of 10-0 per cent	Increase
Latvia	Venezuela	Estonia	Argentine Repub- lic	Lithuania
Poland	U.S.A.	Netherlands	South Africa	Sweden
Austria	Mexico	Chile	New Zealand	Switzerland
Bulgaria	Colombia	Canada	Italy	England and Wales
Germany	Portugal (1931)	Norway	Czechoslovakia (1931)	Brazil
Roumania (1931)	Belgium	Ecuador	Australia	Bolivia
		Yugoslavia (1931)	Denmark	Peru
			Uruguay	
			Hungary	
			Finland	
			India (1931)	
			Japan	
			France	

Trade statistics also illustrate the depth of the Depression. As shown on figure 4.7, Yugoslavia never recovered its trading volumes to their high point in the mid 1920s. Its exports fell almost three times between 1929 and the trough year of 1932. Bulgaria experienced just as sharp a fall in exports between 1931 and 1934, but then managed to recover and increase its exports beyond the peak in 1927 by the early 1940s (see figure 4.8, below).

Figure 4.7: Yugoslavian Import and Export Data; Source: League of Nations Statistical Yearbook, various years

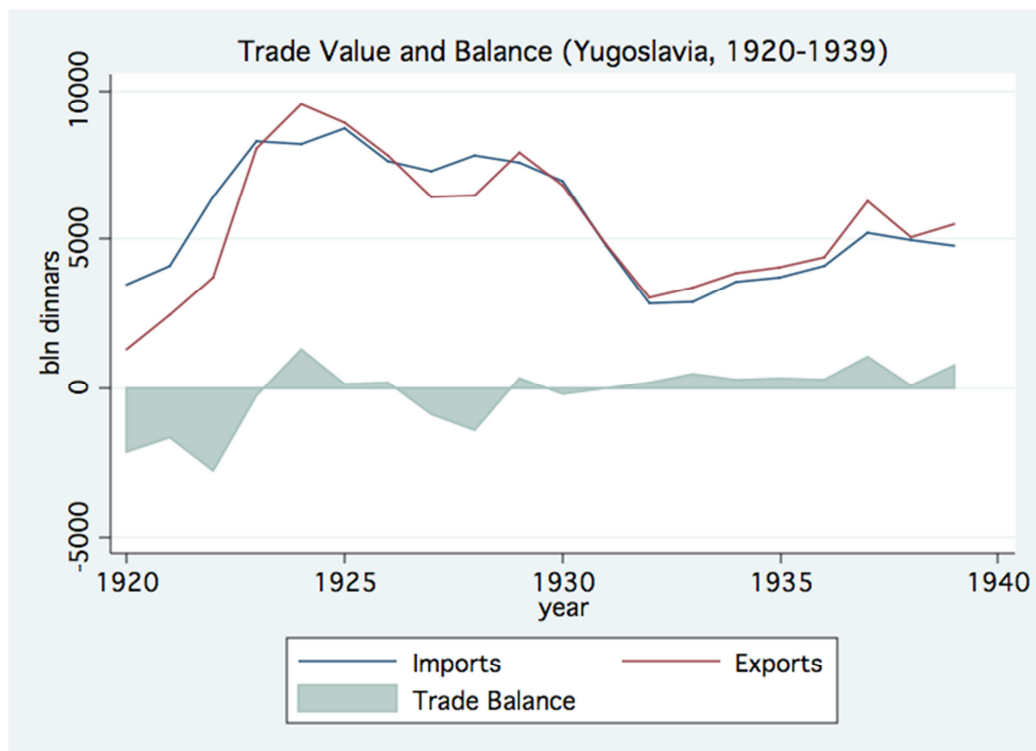
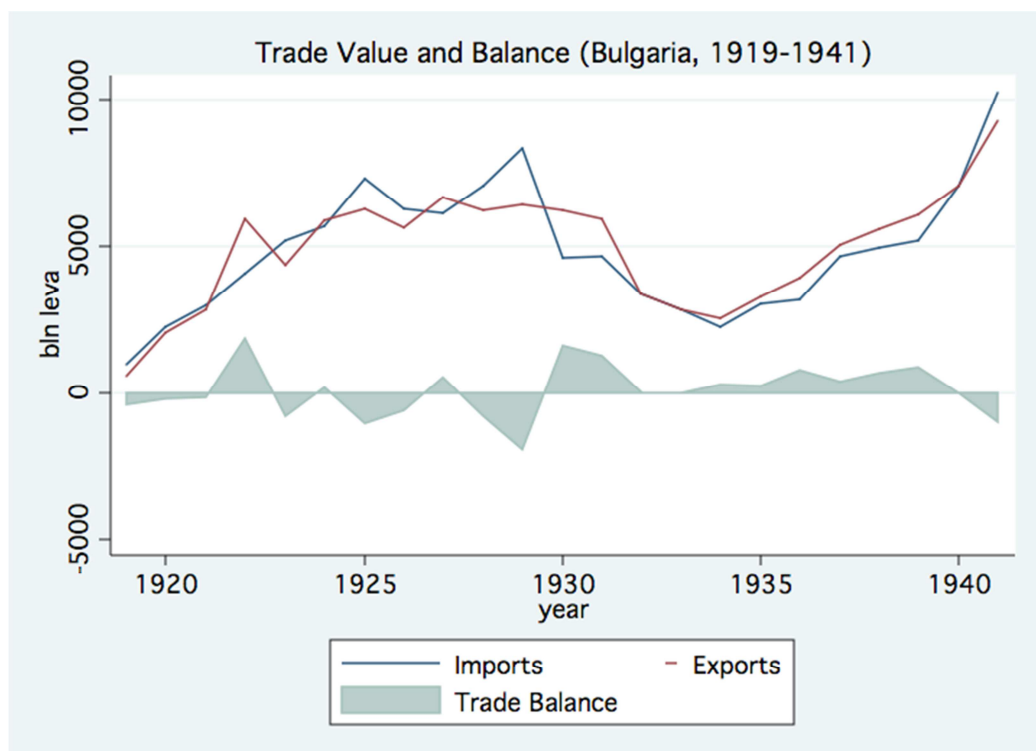
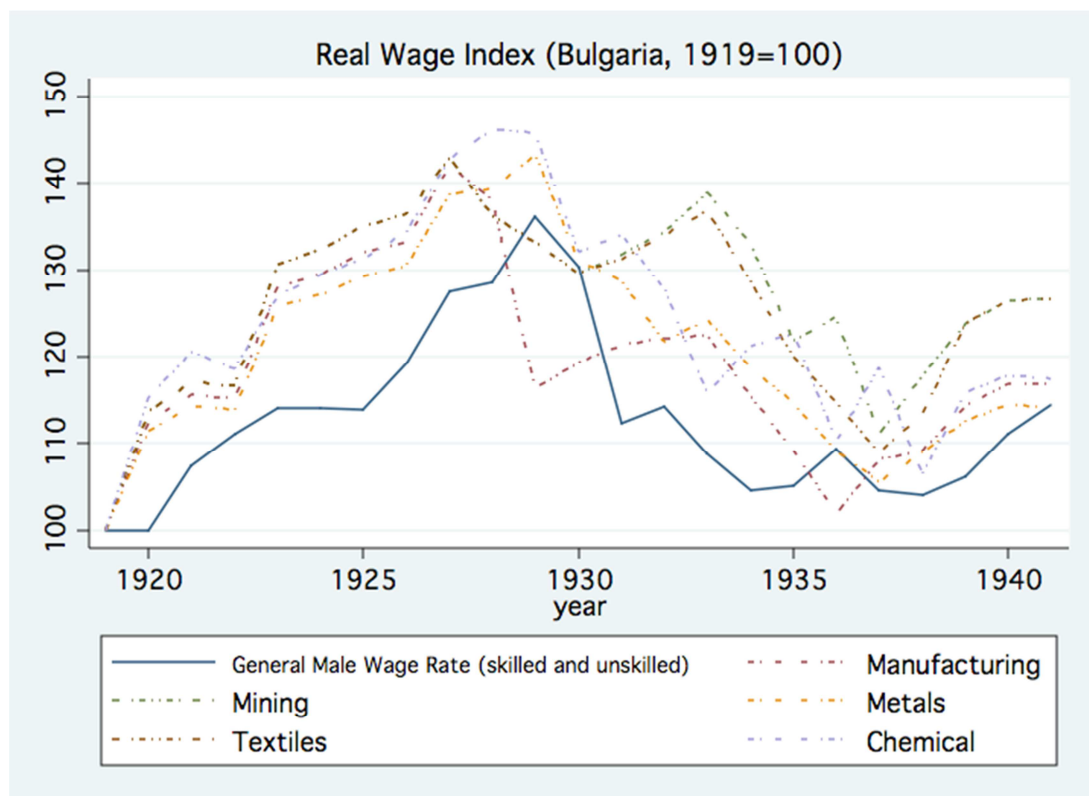


Figure 4.8: Bulgarian Import and Export Data; Source: League of Nations Statistical Yearbook, various years



Perhaps the most telling piece of data on the Depression experience is presented in figures 4.9 and 4.10 (see below). The real wages of workers in the industrial sector, extraction, and financial/insurance services declined consistently throughout the 1930s in both Bulgaria and Yugoslavia¹⁷¹. Real wages of Bulgarian workers fell sharply as early as 1927/28 in manufacturing, textiles, and mining. Following this wages also collapsed in newer sectors of chemicals and metal production. The general wage rate appears to have bounced back up as early as 1934/35, but across the individual industrial sectors it remained depressed into the 1940s. This is explained by the lack of detailed data on wages in the services – finance, insurance, transport – where wages must have recovered to 1927-29 levels by the late 1930s. Blue collar labour, however, never achieved the highs of the boom years of the first decade.

Figure 4.9: Bulgarian Real Wages 1919-1941; Source: International Labour Organisation (League of Nations Publication, various years)

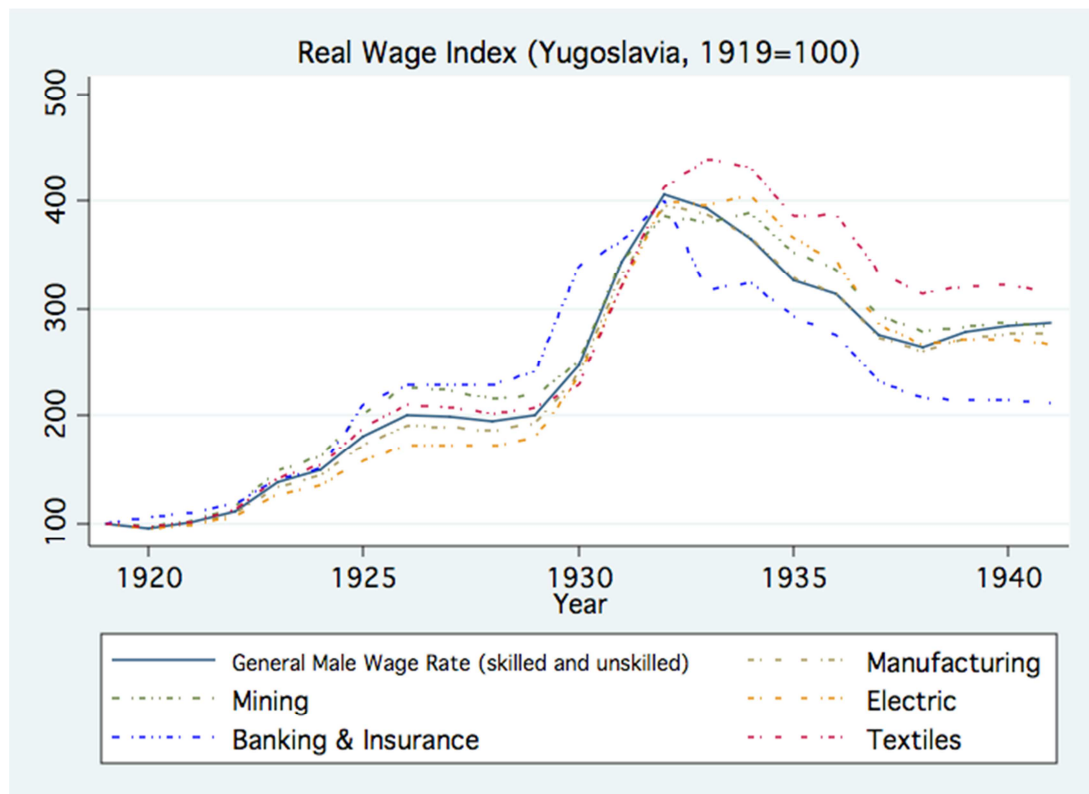


This depression of real wages in the 1930s is even more evident from the Yugoslavian data in figure 4.10 (below). After a slow, but gradual increase in the 1920s, a collapse and stagnation is visible from 1932/33 onwards. Here, we have detailed data on the financial services sector, and together with the new industry of electricity generation

¹⁷¹ Nominal wage data is taken from the International Labour Organisation, various editions; this is then deflated with price series from the League of Nations Statistical Yearbook, various years.

and distribution; these sectors boast the fastest growth and highest overall real wage level in the economy – twice or more than the general wage level.

Figure 4.10: Yugoslavian Real Wages 1919-1941; Source: International Labour Organisation (League of Nations Publication, various years)



Since this was a period of deflation, nominal wages fell even faster than the price level. The reasons for this can be complex. In the first instance, the rise in unemployment may have driven and kept nominal wages down. Unfortunately there are no trustworthy unemployment figures to confirm this statement. However, given that output in industry did recover and even grew above 1928/29 levels (see figures 4.3 and 4.4 above) it is unlikely that unemployment accounted for the low and stagnant wages in industry.

It may be that political economy forces were at work. The crisis provided an initial impetus to squeeze the wages of labour and undermine its political organisations. Worker unions and other pressure groups will be weakened in a crisis period, characterised by rising unemployment and falling wages, thus worker contributions and membership. This in turn will undermine the bargaining position of labour on factory level, but also on macro level. This is a speculative suggestion at this stage. It appears, however, that labour did lose out during the Depression disproportionately more than other factors. We have seen that agricultural production in both Bulgaria and Yugoslavia was either stagnant, or recovered following an initial dip. Having

shown that world prices and global demand fell from the late 1920s, it is surprising that the sectors that depended on outside markets kept up their output figures. In the next section I will show that a concerted effort was made by the government to bail out indebted agricultural producers and to establish internal and subsidised markets for the extra production. Owners of capital lost out in the financial crisis of 1931 and in the manufacturing decline – these were recovered by the end of the decade.

I now turn to the government sector during the crisis and the intervention policies implemented, their aims and reach.

Government Intervention during the crisis:

"The years up to the great depression still belonged in certain respects to the prewar period...The (state) involvement (in the Balkans) was motivated more by political nationalism than by any specific economic theory'¹⁷². Despite this claim by Ranki and Tomaszewski, the role of the state did change following World War I. A number of measures that were introduced during the war persisted in the period post-1919. More important were measures introduced to deal with the post-war financial and economic turmoil. Experiments with trading and currency exchange restrictions started as early as 1919. The Bulgarian government introduced legislature to regulate trade in foreign currencies aimed at protecting the value of the lev, the local currency in December 1919. A Central Exchange Office, attached to the Bulgarian National Bank, was established and given exclusive control over trade with foreign currency. Even after the financial crisis of 1919-1920 passed, the state kept its interventionist approach to the foreign currency market. Another law was passed in 1924, which gave a monopoly to the National Bank in foreign exchange dealings¹⁷³. Similarly, in Yugoslavia in 1918 almost all commodities were made subject to export and import controls. The Central Bureau of Foreign Trade was created to deal with this task.

Both countries had a history of direct intervention in industry even before 1914. Since 1893 certain sectors in the Bulgarian economy received 'specially favoured status' that was ensured by law. It was in 1925, however, when proper legal codification ensured that domestic industry was accorded a fifteen year period of tax exemptions and reductions, certain rights of duty-free imports of equipment, energy and raw

¹⁷² Ranki and Tomaszewski in Kaser and Radice (1986), p.5.

¹⁷³ *ibid*, pp. 14-15.

materials¹⁷⁴. In Yugoslavia the state took initiative in founding a number of industrial enterprises. The state also owned all the mineral rights. The 1920s were used to ensure these rights were legalised across all the newly acquired territories. It was in 1931 that subsidies, grants, widespread tax exemptions, and freight reductions were granted. The same piece of legislature also obliged all public authorities to make all their purchases from domestic sources even with domestic prices ten to fifteen percent higher.

These actions were the first steps along a learning curve of how to operate the economy during an economic crisis in international isolation. Usually, the resources of peripheral countries were, and still are, limited. The Balkan countries in the Interwar Period had recurrent inability to efficiently and consistently collect taxes, constant mismatch in the trading balance and problems acquiring foreign currency from their limited export potential. Very often they relied on external loans to patch up their budget balances, which in the long run saddled them with debt in a foreign currency with high interest repayments, often linked to regular tax income¹⁷⁵. The conditions of these loans usually required subscribing to a reform agenda, set by the creditors or the League of Nations as the intermediary in the lending process. To pass these through parliament usually severely strained the political muscle of the ruling elites¹⁷⁶. To even attract creditors, peripheral countries had to exhibit credible commitment to a stable fiscal policy and an active participation in the international economic community¹⁷⁷.

To face the crisis then, the Bulgarian and Yugoslavian states had a limited fiscal capacity, a number of institutional and external financial constraints to account for, as well as the shock of decoupling from international creditors and foreign investors. In table 4.8 and figure 4.11 I have provided a brief overview of the revenues that governments in Bulgaria and Yugoslavia could accumulate over the Interwar Period. Figure 4.11 illustrates the pattern that tax revenues followed, which is very similar to the path of development of both economies as well as the pattern of exports of

¹⁷⁴ *ibid*, p. 19.

¹⁷⁵ Pasvolski (1931, pp. 105-115) describes extensively the need to attract foreign loans in 1920s Bulgaria and the positive effects the two League of Nations intermediated loans had on financial stabilisation of the Bulgarian state and the domestic banking sector.

¹⁷⁶ Bochev (1935) commented that the debates over the terms of the Stabilisation Loan offered to Bulgaria in 1928 caused a political crisis that threatened the deposition of the government and the eventual acceptance involved all the political agents in the country – the monarch, parliament, the army, and banking lobby groups.

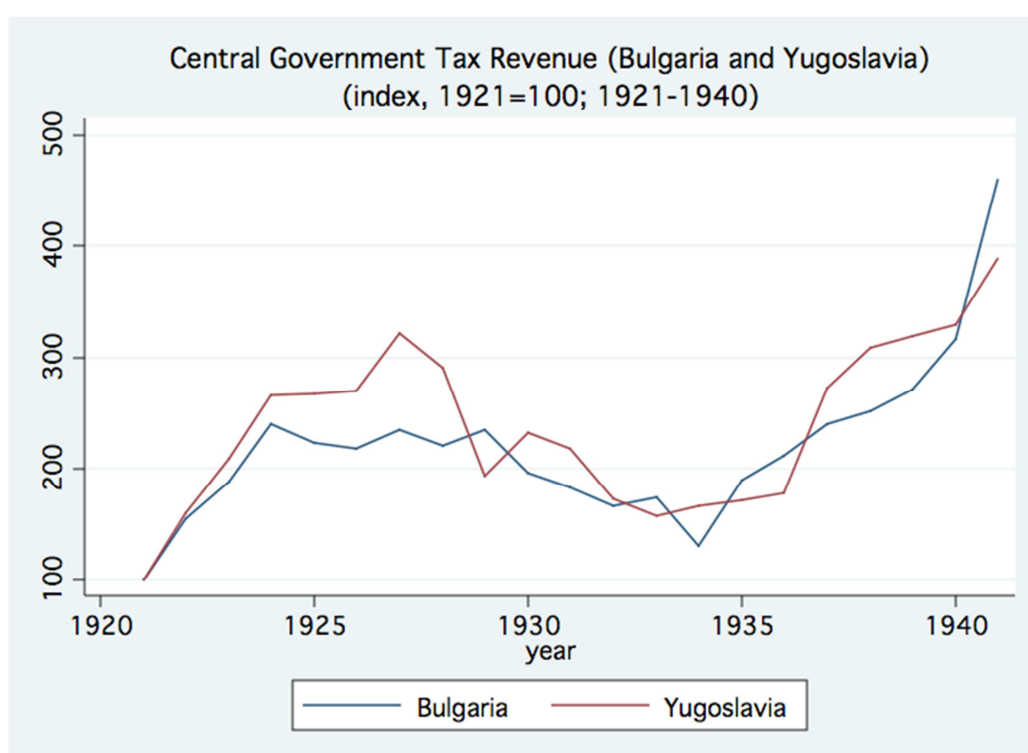
¹⁷⁷ Bordo and Rockoff (1996) argue that being a member of the ‘golden club’ of countries that participated in the fixed exchange rate mechanism of the Gold Standard exhibited such credible commitment and were generally trusted by the international community of bondholders.

Bulgaria (see figure 4.8). As excise revenue diminished along with import and export volumes, the domestic taxation was not able to make up the fall. Table 4.8 illustrates just how dependent a developing economy like Bulgaria was on its main export – tobacco. Not only did income from excise duties fall, but so did most of the income from direct taxes on domestic production. The only significant increase in taxation in Bulgaria came from land tax, but this was also relaxed after the parliamentary election in 1931.

*Table 4.8: Tax Revenues in Bulgaria, selected years from the Depression period;
Source: League of Nations Statistical Yearbook, 1933/34*

Selected Tax Revenues in Bulgaria, 1929/30-1933/34					
Mln leva	<i>1929/30</i>	<i>1930/31</i>	<i>1931/32</i>	<i>1932/33</i>	<i>1933/34</i>
Direct Taxes					
Land Tax	39.9	150	100.9	28.6	37.6
Professional Tax	276.6	230.9	187.9	179.7	223.7
Supplementary Tax					
on income	28.4	26.3	20.1	17.5	20.2
Corporate Tax	33.4	29.7	25.1	27.5	26.4
Tax on livestock	65.1	52.9	56.7	55.4	57
Indirect Taxes					
excise duties					
tobacco	745.1	689.5	675.9	635.7	607.7
brandy	29.2	30.2	15.2	15.7	16.8
wine	41.2	38.8	21	25.2	25.1
Total	1258.9	1248.3	1102.8	985.3	1014.5
Shares					
direct	35.2%	39.2%	35.4%	31.3%	36.0%
indirect	64.8%	60.8%	64.6%	68.7%	64.0%

Figure 4.11: Total tax revenue in Bulgaria and Yugoslavia, (1921=100); Source: League of Nations Statistical Yearbook, various years;



There is no detailed breakdown of Yugoslavian tax income (see table 4.10, below, for the aggregate figures). This follows the pattern of changes observed during the Depression – the main revenues of a peripheral economy are from excise taxes, because they are fairly cheap and easy to collect. Direct taxes, on the other hand, involve a lot more institutional sophistication for efficient collection and disturb domestic interest groups to a greater extent. This is why in normal times developing countries' tax systems are heavily dependent on income from indirect taxes. The severity and length of the Great Depression forced Balkan governments to alter their source of tax revenue and imposed on them the political cost of domestic disturbance.

Table 4.9: Yugoslavian Tax Structure; Source: League of Nations Statistical Yearbook, 1933/34

Yugoslavia: Tax Structure		
percentages of total		
	<i>Direct Taxes</i>	<i>Indirect Taxes</i>
1924/25	27.9%	72.08%
1929/30	39.3%	60.7%
1933/34	47.8%	52.2%
1937/38	46.1%	53.9%

To support the argument that the urban workers, waged labourers, blue collared workers, as well as public sector employees paid a disproportionate share of the price of the depression, given their small numbers as a fraction of the total economy, we need to look at the shift in taxation shown in tables 4.8 and 4.9. In Yugoslavia (table 4.9) the ration of direct versus indirect taxes changed from 25% to 75% in the early 1920s, respectively, to 46% and 54% by the late 1930s. Over a ten-year period a fiscal apparatus that received the majority of its income from excise taxes had switched the burden to almost equal shares of domestic direct taxation and excise taxes.

The shares of direct versus indirect taxation in Bulgaria remained broadly constant, as table 4.8 shows. There were structural changes within the segments, which show important shifts in the tax burden. During the years immediately after the banking runs and the collapse of world trade, land taxes increased 3 to 4 fold, but by the mid 1930s fell below their 1938 volume. Other taxes shrank, as the public sector struggled to find sources of income. Thus the relative burden on agriculture was negotiated down by agricultural producers, who were the majority of voters in the country. Most of the income remained from excise taxes, however, as is shown below, it was spent on covering the losses of financial and agricultural debtors, rather than in productivity enhancing investments like improving infrastructure.

The argument that follows suggests that public funds were syphoned off to cover the losses of the ruling elite and the economic agents in Balkan society who were linked to it. While finance was bailed out, agricultural debts written off, the waged and blue collar workers fell to the bottom of the fiscal 'ladder'.

Despite the budget problems and diminishing tax revenues, the Bulgarian and Yugoslavian states intervened in the domestic markets with the coming of the Depression. It is very difficult to find a detailed breakdown of money spent in different areas of the economy, for social programmes, or in support of particular sectors or enterprises. The League of Nations reported some figures provided from the National Statistical Yearbooks of both countries on budget expenditures during the Depression years. Table 4.11 presents a comparison across a number of areas of expenditure for four years out of the period. The crucial change to note is the vast increase in spending on servicing the public debt. For Bulgaria, the sum was more than three times higher in 1933/34 over the pre-crisis year of 1928/29. In the Yugoslavian accounts this increase is recorded for the late 1930s. All other areas, with the exception of education for both countries, recorded a fall in expenditure. This data suggests that no significant amount of public money was paid for social relief. Rather, as the historical literature suggests governments intervened in agriculture and

industry, in an attempt to keep production going, or protect the incomes of the population.

Such a conclusion is not necessarily meted out by the data in table 4.11. There seems to be a small increase in expenditure on welfare, agriculture, and industry during the first two years of the crisis. Then expenditure returned to the pre-1928 levels, likely squeezed by the diminishing budget revenues. It is impossible to single out how the money was spent precisely.

Table 4.10: Expenditures of Bulgarian and Yugoslavian States during the Depression years; Source: League of Nations Statistical Yearbook, 1938/39

Breakdown of Budget Expenditures				
Bulgaria: budget expenditure, 1924-38				
<i>percentage of ordinary expenditure</i>				
	<i>1924/25</i>	<i>1928/29</i>	<i>1933/34</i>	<i>1938/39</i>
Defense	19.19	18.61	15.26	25.97
Public Health	2.68	2.53	2.48	2.58
Education	11.75	14.74	16.21	12.4
Economic Administration	29.38	20.95	15.94	18.16
Public Debt	17.51	11.58	34.18	25.97
Other	19.49	31.59	15.93	14.92
total	100	100	100	100
Yugoslavia: budget expenditure, 1924-38				
<i>percentage of ordinary expenditure</i>				
	<i>1924/25</i>	<i>1928/29</i>	<i>1933/34</i>	<i>1938/39</i>
Defense	28.7	33.2	27.1	23.4
Public Health	4.8	2.8	3.2	2.2
Education	10.8	10.3	11.8	8.3
Economic Administration	12.5	6.5	5.7	4.3
Public Debt	3.8	11.8	12.8	28.3
Other	39.4	35.4	39.4	33.5
total	100	100	100	100

Table 4.11: Yugoslavian counter-cyclical expenditure; Source: League of Nations Statistical Yearbook, 1933/34

Yugoslavia: counter-cyclical budget expenditures 1929/30-1933/34					
mln dinars					
	<i>1929/30</i>	<i>1930/31</i>	<i>1931/32</i>	<i>1932/33</i>	<i>1933/34</i>
Welfare and Public					
Health	193.1	225.6	177.7	186	148.5
Agriculture	78.5	88.6	56.4	44.7	44.5
Commerce and					
Industry	47.1	59	55	45.7	44.6
Public Works					
general expenditure	167.5	219.9	165	-	-
new construction	25.9	24.6	40.3	-	-
roads, bridges	46.4	70.8	18.7	-	-
railways	-	52.2	-	-	-
Communication	85.5	73.8	85.3	-	-
<i>- no data available</i>					

The historical literature argues that the most immediate and concerted reaction of the Balkan states during the beginning of the Depression was to intervene and protect agricultural prices and agricultural incomes¹⁷⁸. The Bulgarian government created, as early as December 1930, a Directorate of Grain Export, effectively an export monopoly named Hranoiznos (in 1934, when it was given full monopsony rights too), with an aim to buy cereals from farmers at a favourable price, certainly higher than the world price. It was empowered to purchase an unlimited quantity of cereals, and to try and to increase exports to foreign markets. To mitigate the difference between an outright subsidy to farmers (and a loss for the state, since even if the cereals were exported the income from this was smaller than the original sum paid) and the diminishing state budget, payment was made in the form of 50% cash and 50% in treasury bonds. This of course reflected on the increasing indebtedness of the country, both domestic and external. In Yugoslavia the Prizrad Corporation was also set up in 1930 to buy up the farmers produce and export or resell on the domestic market at higher prices. It had a direct monopsony over rye, maize, and barley from 1931 to 1933¹⁷⁹.

In the first instance, these appear to have been the usual responses to combat impoverishment of the populations of countries that constituted just under 80% peasants. The French commentator Koszul compared these institutions to the US Farm Board and concluded that state intervention in the market for cereals was essential if

¹⁷⁸ Lampe and Jackson (1982), pp.434-456; Ranki and Tomaszewski in Kaser and Radice (1986), pp.22-28; Avramov (2007) vol. 1; p.176.

¹⁷⁹ See table 4.13 for a comparison of the institutional set up to deal with the Depression in Bulgaria and Yugoslavia.

farmers were to be saved from bankruptcy and social unrest was to be avoided¹⁸⁰. Avramov (2007), in his monumental account of the pre-1945 economy of Bulgaria, gives a damning verdict on these institutions as well as the whole response to the crisis. His conclusion is that the origins of *Hranoiznos*, and the same can be said of *Prizrad*, lay in the political pressure to respond to the rapidly deteriorating incomes of the landed class and the landed peasants¹⁸¹. The state bureaucracy recognised the financial burden the treasury was taking with the design of *Hranoiznos*, but populist pressure 'to save the nation' from ruin was too strong¹⁸². During the first two years of operations, the Directorate for Grain Export accumulated losses estimated between 0.5 to 1 bln leva, by 1934 these had increased by one-third¹⁸³. These were financed in a piecemeal fashion. The initial idea of minimising some of the losses was to pay domestic producers in cash for only part of the purchases. The rest was going to be paid in treasury bonds and special bonds with purchasing rights. The latter was an idea introduced by the then Minister of Finance that did not gain ground due to opposition from the Bulgarian Central Bank. The bank pointed out that creating special bonds for purchasing cereals to be used in repayment of taxes to the state was in effect creating 'artificial' currency¹⁸⁴. In fact, soon after the setting up of the Directorate the idea of offering any kind of bonds as payments was dropped largely because of opposition from farmers, who threatened that unless they were paid in cash for their production they will not be paying taxes.

Thus the burden of losses from the policy of subsidising agricultural production was born by the urban or waged labour, the tiny professional middle class, and the state employees. They were the ones who faced the inflated domestic food prices in urban areas (especially after 1934, when *Hranoiznos* acquired domestic monopoly of resale of cereals) and could not use their own production for subsistence – something typical in times of crisis, and not only in the rural areas. They were also the group that faced the newly-introduced tax on flour, bread, and other cereal products. This tax was specifically designed and introduced in 1932 to help with paying for the losses accumulated by *Hranoiznos*. Waged labourers as well as state employees were also the group most easily reached by the tax system, while farmers could often hide income and avoid paying taxes altogether. Avramov's conclusion indicates, in Rogowski

¹⁸⁰ Koszul (1932), p 332.

¹⁸¹ Avramov (2007), pp.176-180.

¹⁸² *ibid.*, p.176.

¹⁸³ *ibid.*, p.177.

¹⁸⁴ *ibid.*, p.177.

terms, a financial transfer within the Bulgarian economy during the crisis of 1931-1935. The initial financial hit was seemingly taken by the political class, fearful for political and social stability. It, however, quickly identified the group within Bulgarian society that was made most vulnerable by the crisis and passed on the losses.

Table 4.12: The crisis institutions of the state: Bulgaria and Yugoslavia in the Interwar Period

Institutions Created to Mitigate the Crisis		
	<i>Bulgaria</i>	<i>Yugoslavia</i>
<i>Agricultural</i>	<i>Hranoiznos</i> : set up in 1934, a monopsony for buying cereal production from farmers; Purchases had to be made in excess of world price (20-30%) and then sold as exports; payments to farmers were made 50% cash, 50% in treasury bonds	<i>Prizad Corporation (Privilegovano Aksionarsko Drustvo za Silove)</i> : set up in 1930 for buying up and export of grain, rye, maize, and barley. It had monopsony from 1931 to 1933;
<i>Financial</i>	<i>Banka Bulgarski Kredit (Bulgarian Credit Bank)</i> : set up in 1934; Took on the assets of failing (in some cases already insolvent) banks; De jure funded by private capital, but de facto funded by the state/taxpayers; <i>Pogasitelna Kasa (Repayment Fund)</i> : in 1934, with the extension of the General Law for the Protection of Debtors and Creditors, a Repayment fund was set up to deal with the bad debts of the banking sector (see text for further explanation)	<i>Agricultural Bank</i> : set up in 1919, state funded; took over all remaining peasant debt on its balance sheets from 1936;
<i>Trading</i>	Cereal Exporting State Monopoly (Direkcija za Izkupuvane i Iznos na Zurneni Hrani), created in 1930;	Prizrad as well as the Institute for the Promotion of Foreign Trade: managed more than 40% of export earnings; A large part of the rest accrued to mining, with sizeable ownership by the state;

Industry in Bulgaria and Yugoslavia did not receive the outright subsidies that landowners and agricultural producers did. State intervention in this sector was characterised by indirect methods – protection from foreign competition thus providing incentives for import substitution, price fixing, and debt relief. Table 4.17

(further below) shows the rapid descent into protectionism for Bulgaria and the much more gradual, but still significant process in Yugoslavia. Main benefactors of these protectionism measures in Bulgaria were the textile industry, sugar refining, and the machine tools industry. In 1933, a piece of legislation was passed allowing the Ministry of Trade and Industry of the country to fix all domestic or imported prices of raw materials, in another attempt to boost domestic industrial production. The tax of price fixing was made simple by the fact that a number of resource extraction enterprises were state owned or had large state participation, like coal in both Bulgaria and Yugoslavia. As opposed to Bulgaria, in Yugoslavia the state not only protected industry, but also actively acquired new enterprises of strategic importance. By 1938 state enterprises represented 15% of the country's industrial capital, up from 6% in the late 1920s¹⁸⁵.

The Yugoslavian state also used tax incentives to boost industrial productivity. Metallurgy, chemical, and food production received tax breaks. Increasing the tax burden on sugar, beer, and flour production compensated these. The transfer of resources across sectors and industries was further complicated by the specifics of Yugoslav politics. It was a young country unifying Croatian, Slovenian, Bosnian, Macedonian, and Serbian territories. The economic centre was clearly defined in Zagreb and the north-western lands, where the former Austrian-Hungarian financial centre was. The political elite and the centre of government were in Belgrade. Hence the tax burden of local taxes was set unevenly by the central government of Belgrade in an attempt to attract industry in the Serbian lands. The highest local tax rates, for instance, were set in Zagreb¹⁸⁶. Industrial policy during the Depression was thus a confused mixture of protectionist measures, attempts to keep the budget deficit under control, and Serbian nationalism.

The most pressing concern in the onset of the crisis was how to stem the rapidly spreading problems of the credit institutions and how to solve the issue of bad debts that seemed to be at the heart of the banking sector's failure. The late 1920s had seen a boom in credit allocation fuelled by the increase of money supply from the hyper-inflations of the early 1920s, the investments from abroad, and the League of Nations intermediated loans to both Bulgaria and Yugoslavia in 1927 and 1928. This of course created a financial bubble whose bursting, together with the fall in exports and the crisis in agricultural and manufacturing production, accounted for the sharp start of the Depression.

¹⁸⁵ Lampe and Jackson (1982), p. 500.

¹⁸⁶ *ibid.*, p 501.

The Bulgarian National Bank (BNB) noted in its 1929 end of year report that the international credit conditions had tightened, noticeable by the increasing discount rates across some of the core economies¹⁸⁷. The Bank followed suit in June 1929 by increasing its discount rate from 9% to 10%. The market discount rates increased to 1%-3% above that figure¹⁸⁸. This action was defended in the annual report by explaining the newly acquired status of lender of last resort¹⁸⁹. The role of providing liquidity to the financial system was understood very well. There was genuine fear that extra leveraging would put the commercial banks and their depositors' savings in such danger that the BNB's limited resources might not have been able to save them. One whole section of the report describes a possible future course of action in case of a liquidity crisis¹⁹⁰. It follows imprecisely the Bagehot suggestions for selectivity in providing liquidity support, and concludes that particularly 'weak', in other words overleveraged, institutions will have to be left to fail should they face a run on their deposits.

This initial discussion in preparation for a financial crisis was not a one-off. In November of the same year, the governing committee of BNB met again to discuss specifically a policy of stemming the credit boom and a policy of handling a possible bust¹⁹¹. Some of the crucial decisions were to stop accepting capital deposits from, and refinancing the establishment of, new credit institutions, restrictions on the credit facilities of existing banks, and a full blocking of the credit facilities of those banks deemed insolvent.

The Yugoslavian Central Bank was similarly concerned with overheating in the late 1920s. For a number of reasons financial stabilisation happened later in Yugoslavia than in the rest of the Balkans and until 1931 the government, together with the governing council of the Central Bank, were discussing ways of stabilising the exchange rate of the dinar and attaching the domestic currency to the Gold Standard¹⁹². The country was able to secure more external funding than Bulgaria and

¹⁸⁷ Annual Report of the Bulgarian National Bank for 1929; p. 264.

¹⁸⁸ Avramov (2007), vol. II; p. 628.

¹⁸⁹ This status was a condition of the Stabilisation Loan of 1928; see Pasvolski (1931).

¹⁹⁰ Annual Report of the BNB, pp. 264-266.

¹⁹¹ Avramov (2007), p. 628.

¹⁹² The transition from currency volatility and hyperinflations in the Balkans was a difficult and lengthy one. Bulgaria, following particularly violent exchange-rate fluctuations in the course of 1923, established de facto currency stability in 1924, while de jure stabilisation was achieved in 1928 by joining the Gold Standard with the assistance of the League of Nations. Yugoslavia experienced hyperinflation until 1924 and achieved de facto stabilisation in 1925. After a series international and domestic loans (a French loan of 300mln francs in 1924, 1928

focused on deflating its currency and building foreign reserves with an aim of joining the Gold Standard. This happened in June 1931, when foreign exchange controls were relaxed as part of the legal obligations of the League of Nations backed financial stabilisation scheme that helped Yugoslavia attach to gold. By this time, however, the financial crisis across Europe was in full swing, especially after the failure of Kreditanstalt of Vienna in May 1931. The gold attachment of the Yugoslavian dinar lasted only a few months. Foreign exchange controls were reintroduced in October 1931 and the country de facto stopped gold convertibility.

Despite the best intentions of the monetary authorities of the two countries, the banking sectors sustained serious losses during the crisis period of 1931-1935. In these four years the deposits in Yugoslav commercial banks dropped by a half (from 10.3 bln dinars to 5.4 bln) and more than half of the banks (representing forty-eight percent of the total of bank equity capital) went into bankruptcy¹⁹³. Bulgarian banks did not fare any better. The large Bank of Sofia failed in 1931, while a vast number of smaller provincial banks went into insolvency and either failed or merged into larger institutions¹⁹⁴.

There were only limited short-term bank runs in both countries, relative to the experience of the US or German banking systems. The problem was the medium to long-run erosion of asset value, which over the period from 1931 to 1935 forced a significant number of banks into insolvency. A combination of long-term illiquid industrial equity holdings and the low confidence in the economy resulted in a number of cases when the monetary authorities of Bulgaria and Yugoslavia had to intervene as lenders of last resort. At first glance they tended to apply the principles of Bagehot (see table 4.1 and column *Market Mechanism*) and intervene on individual basis to support banks that were assessed to have been illiquid rather than insolvent. On a closer look, provided by Avramov's (2007) analysis, the policy of intervention appears more like an unsystematic bailout, often dependent on the links of the private bank's governing council to the Sofia financial elite¹⁹⁵. He has provided evidence for the decision making on bailouts, taken from the discussion of the governing council of the BNB. During 1929 and 1930 the discussions appear to have been focused on

League of Nations facilitated Loan of 22mln dollars, the following year a 12mln dollar in gold bonds domestic loan from the Hipotikarna Banka of Yugoslavia) the government finances were backed by enough reserves for the country to join the Gold Standard in June 1931 (the same month Britain opted out of the fixed exchange rate system).

¹⁹³ Notel in Kaser and Radice (1986), p. 26.

¹⁹⁴ *ibid*, p. 26; see also chapter 3 on the Banking sectors and the Depression.

¹⁹⁵ Avramov (2007), vol. II; pp. 306-310.

containing a possible panic in the economy and the justification for intervening as a lender of last resort was mostly on these grounds, from 1931 onwards the state and the central bank effectively attempted to bail out the whole banking system – both creditors and debtors. In the words of Avramov, this was done in a piecemeal fashion, under severe political pressure from interested parties, and interventions were usually too late to make a difference in the downward spiral of the economy¹⁹⁶.

A report of the eminent Interwar Bulgarian economist, Asen Christophorov, provided us with a glimpse of the process of the socializing of bad debts of the Bulgarian banking sector¹⁹⁷. A central role was played by two of the institutions created a couple of years after the nadir of the crisis, 1931, to relieve banks of their bad loans and to deal with the problem of insolvent banks. *Pogasitelna Kasa* (thereafter the Repayment Fund; see description in table 4.13) was set up in 1934 as an independent legal entity attached to the Ministry of Finance's Commission for the National Debt, as part of the extension of debt relief legislation. By this time, the Bulgarian National Bank and the Ministry of Finance had understood that banks were central to the economic crisis and extending help to debtors would not be enough to deal with what was perceived to have been a problem with illiquidity in the industrial and agricultural sectors. The Repayment Fund's role was to be a mediator between debtors and creditors. Debtors would pass on their debts to banks to the Repayment Fund, which would in turn issue bonds bearing 3% interest to be paid regularly to the creditors, until the repayment of the original debt. Thus the Fund was effectively a creditor to debtors and a debtor to the banks. Wherever the Fund could not collect repayments from its debtors, these were paid with its own money coming from the state funded Bulgarian Agricultural and Cooperative Bank and the National Bank. The financial burden of bad debts was effectively passed on to the state and its taxpayers.

Interestingly, the Repayment Fund was aimed specifically at agricultural debtors; hence the state Agricultural bank provided a large share of its funds. By 1936 its activities were extended to all industrial debtors too. Interestingly, workers and state employees were not included in the group of debtors that could benefit from the Repayment Fund. Their debts were dealt with by a special law, which required them to negotiate repayments with creditors on their own. The state did pass some protective measures for this economic group, by extending the length of all their debts repayments to at least six years¹⁹⁸.

¹⁹⁶ *ibid.*, p. 629.

¹⁹⁷ Christophorov (2010), *Collected Essays and Documents*, Sofia; pp. 400-412.

¹⁹⁸ Christophorov (2010), p. 404.

Two additional institutions were created in 1934: *Banka Bulgarski Kredit* and *Bulgarska Centralna Kooperativna Banka*¹⁹⁹. *Banka Bulgarski Kredit* (Bank for Bulgarian Credit, thereafter BBK) was the centerpiece of the institutional set up to deal with the banking crisis in the country. It was created parallel with the Repayment Fund. Its role was to take on the balance sheets of troubled banks, in effect acting at a level above the Repayment Fund. It was a classic example of a ‘bad bank’ created to clear the rest of the banking system from all its insolvent or long-term illiquid institutions. In an ideal world, the state should have provided only forty percent of the capital and the rest would have been made up of money made good from the balance sheets of banks merged into BBK. From its creation, BBK’s main creditor became the National Bank. By the end of BBK’s first year of operations, the National Bank had provided an additional 100 mln for BBK’s operations, thus providing one-hundred and twenty percent of the set up capital. By 1938 at least thirty-nine banks had merged into *Banka Bulgarski Kredit*, with reports from the BNB suggesting all of them being insolvent and the losses covered by the National Bank’s credit²⁰⁰. In a very similar fashion, *Bulgarska Zemedelska i Kooperativna Banka* (Bulgarian Agricultural and Cooperative Bank, thereafter BACB) was created to take on the illiquid assets of the agricultural, cooperative and mortgage institutions (see table 4.14 for a walkthrough of some of BACB’s activities).

Table 4.13: Socialising of Bulgarian Bank Losses: 1929-1936

Socialising of Bulgarian Bank Losses: 1929-1936: Official Data (all numbers in mln leva)				
Date	Action	State funds	Conditions	Notes
1929-1931				Number of banks down from 131 to 119 Amongst other restrictions: Banks that exist have to have a minimum of 30 mln leva in the capital, 20 mln in the 3 large cities, and 10 mln in the rest of cities and towns.
1931	Law for the Protection of Credits and Deposits			

¹⁹⁹ The following discussion of the bailout process focuses mostly on Bulgaria largely due to the availability of sources. In the past decade the archives of the Bulgarian Central Bank have been published in a series of printed editions, which has eased the process of tracing the BNB interventions in the banking sector tremendously. No such collection is available for the Yugoslav National Bank, which would have entailed a lengthy process to compile similar data. Given more time and resources, this is a task for a future research project.

²⁰⁰ BNB Archive Documents (2004), vol. 4, p. 634, Document N: 348.

1934	Creation of <i>Banka Bulgarski Kredit</i>	50 mln leva official state participation; BNB takes control of the state package of shares;	1. BBK was allowed to extend its capital to 250 mln when by merging with other banks; 2. BNB was to provide 100 mln in credit line for the operations of the new bank; 3. BNB had representatives on the Board of the BBK	Full paid in capital of 125 mln.
6th Oct 1934	12 insolvent banks are merged into BBK with total assets of 105 mln leva			Majority were provincial banks with small assets;
December 1934	Further 7 insolvent banks were merged into BBK with 35 mln leva assets			
1934	Merging of <i>Bulgarska Zemedelska Banka</i> (BZB, Agricultural Bank) and <i>Bulgarska Centralna Kooperativna Banka</i> (BCKB, Central Cooperative Bank)	BZB and BCKB were state funded institutions in the first place. The assets of the new BACB were fully backed by the BNB and the state	The new Bulgarian Agricultural and Cooperative Bank (BACB) is formed;	Reason for the merger were the numerous bad agricultural loans on their balance sheets
1936	The privately owned, foreign co-funded, <i>Bulgarska Ipotekarska Banka</i> (BIB, Bulgarian Mortgage Bank (set up in 1927) is merged into BACB		BACB paid in full for the shares of BIB	Thus, all of the cooperative, agricultural, and mortgage loans were taken on by the state in the BCB
1938	Another 20 banks were merged into BBK		Of the 71 banks in existence in 1938, almost 30 were in liquidation and active only on paper;	From 119 banks listed in the shareholding company register in 1933, there were 77 in 1936, and 71 in 1938

source: Collection of BNB Archive Documents (Sofia, 2004); Christophorov (2010); pp: 407-412

The creation of these three institutions, the Repayment Fund, BBK, and BACB, was the culmination of a process of piecemeal bailing out of the credit industry in Bulgaria. Bank troubles began as early as 1929, when the global financial crisis spread across European banks. An important consequence of the crisis was the global reversal of capital flows. In particular there was a rapid outflow of foreign investment from the debtor countries and the Balkan states were no exception. By 1929 foreign money in the Bulgarian banking sector amounted to 2.5 bln leva. In the closing months of 1931 this amount was down to 812 million, a fall of about 70%. When compared to the fall in domestic capital in the banking sector of Bulgaria, however, foreign money still represented about 1/5 of the total assets of joint stock banks in the country. Outflows

of foreign money happened mostly in the period prior to 15th Oct 1931, when capital controls were enacted.

The figures, above, describing the fall in banking credit suggest a banking crisis in the making from as early as 1929. This is certainly evident from the committee meetings of the Governing Council of the Bulgarian National Bank regarding its role as a lender of last resort. Table 4.15, below, summarises selected decisions to finance directly troubled institutions. Its aim is to show how often the central bank had to intervene directly in the commercial banking sector during the early 1930s to prevent the failure of private credit institutions.

Evidently the BNB took its role of a central bank seriously and provided credit to a troubled joint stock bank as early as the very beginning of 1930. This instance is well recorded in the archives and shows the prudence of the governing council in its lending decision. The members of the council followed to the point the strategy prescribed by Walter Bagehot half a century earlier. Having looked at the balance sheets and the income statements of *Turgovsko-Industrialna Banka*, they provided a limited credit facility, to be used only to pay depositors in case of a run on the bank's cash reserves. They even required that collateral be provided in the form of processed tobacco, the bank had in its possession.

Very quickly the BNB Governing Council departed from this cautious procedure. Just two months later, in March 1930, it decided that *Industrialna Banka Bulgaria* could not be saved with extra liquidity and took on its assets in the local branch of the BNB. From then on there is no record of collateral being required for any credit provisions. The National Bank's money, however, was not for everyone. There are a number of instances (see the case of *Ipotekarska Banka* from Oct 1931, table 4.15, below) where banks that requested assistance were both refused credit and were not allowed to shut their operations and pass on their assets to the local branch of the National Bank. The records do not specify reasons for the rejected cases. They simply state that in this case the council found no need to support that bank and it ought to be able to use its assets to extricate itself from the difficult situation or its shareholders should meet the losses²⁰¹.

Table 4.14: Selected Lender of Last Resort activities and bailouts of the Bulgarian National Bank during the 1930s

Selected Activities of Bulgarian National Bank during the 1930s Banking Crisis

²⁰¹ See for instance: BNB Archive Documents, vol. 4, p. 620, Document N: 337.

Date	Action	Collateral	Notes
Jan 1930	2 mln to <i>Turgovsko-Industrialna Banka</i> (Commercial and Industrial Bank, Plovdiv)	tobacco	Lender of Last Resort (LLR) activity
March 1930	Taking over the assets of <i>Industrialna Banka Bulgaria</i> (Industrial Bank of Bulgaria, Sofia)		nationalisation of the banks' assets; bank deemed insolvent and no LLR proposed
April 1930	LLR credit line to Banka 'Nikola Ivanov' (Sofia)	no collateral mentioned	LLR
April 1930	Credit facility of 24 mln to <i>Banka Napreduk</i> (Advance Bank, Pleven)	no collateral mentioned	LLR; part of the credit facility can be transferred to machine tools factory 'Tsar Boris III', partially owned by the bank
Feb 1931	1 mln to <i>Industrialna Kooperativna Banka</i> (Industrial and Cooperative Bank, Sofia)	no collateral mentioned	LLR; the credit facility was provided only to repay deposits; BNB to take over the debts of firms 'close to the bank'
Feb 1931	1.5 mln to Borisovska Turgovska Banka (Commercial Bank Boris, Borisovgrad)	no collateral mentioned	LLR
Feb 1931	3 mln to <i>Aitoska Banka</i> (Baitos Bank, Aitos)	no collateral mentioned	LLR
June 1931	15 mln to <i>Industrialna Banka</i> (Industrial Bank, Sofia)	no collateral mentioned	LLR
15 July 1931	20 mln to <i>Kreditna Banka</i> (Credit Bank, Sofia)		LLR; in addition, BNB takes on 3 separate debts of 5 mln each owed to <i>Kreditna Banka</i> by Granitoid*; effectively taking on some of the bad debts of <i>Kreditna Banka</i> ;
21 - 22 July 1931	Credit facility to <i>Kreditna Banka</i> expanded to 75 mln;		Following the negotiations of the bank's director, Marco Ryaskov with the finance minister and the governor of the BNB;
Oct 1931	Refused credit facility to <i>Ipotekarska Banka</i> (Mortgage Bank, Sofia, with total assets 10 mln)		refused LLR
Nov 1931	General decision by the Governing Council of BNB to allow all joint stock banks with capital reserves at the BNB to use last resort credit facilities	no collateral mentioned	general LLR decision
March 1932	Extra credit facility of 5 mln to <i>Banka Zemedelec</i> (Agricultural Bank, Stara Zagora)	no collateral mentioned	Extension of the general allowance of Nov 1931
Sept 1932	Taking over the assets of <i>Sofiiska Banka</i> (Sofia Bank, total assets 10 mln)		Direct nationalisation of the insolvent institution
July 1933	Seasonal 3 mln credit facility to United Bulgarian Banks, Sofia, to finance exports of agricultural products;	Bank portfolio **	Part of the state subsidy to agricultural producers and exporters.

July 1933	Refused credit facility of 50 mln to <i>Provinzbank</i> (the Central Bank of the Bulgarian Provincial Banks, Sofia)	Notes that an earlier facility of 43 mln should have been enough to cover liquidity problems
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1934	BBK created	
Dec 1935	BNB requests the sale of fixed assets owned by <i>Lukovitska Banka</i> (Lukovit Ban, Lukovit), to cover the losses of its portfolio	The portfolio of <i>Lukovitska Banka</i> had been taken on as collateral, but had effectively lost its value

Sources: Bulgarian National Bank Archive Documents (2004), vol. 4, N: 350; 352

* *Granitoid* was the largest by assets joint-stock company in Bulgaria until 1947; Its activities were wide-ranging - cement production, construction, electricity generation, mining;

** Document N: 389, p. 680; Reports that the assets of private commercial banks given as collateral are often 'toxic' and have little or no value; this in effect amounted to a bailout, as the BNB took on the balance sheets of insolvent banks

A particularly interesting case from table 4.15 was the brief run on *Kreditna Banka* of 15th July 1931. The collapse of the Kreditanstalt in the summer of 1931 created panic that spread among depositors of banks holding Austrian and German capital all over Europe. The large *Bulgarska Kreditna Banka* (Credit Bank) was created by the Disconto-Gesellschaft in 1905 and in 1929 merged with the branch of the Deutsche Bank in Sofia to agglomerate all of the German capital in the Banking system of Bulgaria. It was one of the first casualties of the run on German and German-owned banks. The run was sustained enough to exhaust the reserves of *Kreditna Banka* and also its capital deposits in the National Bank. In desperation to remedy the situation the director of *Kreditna Banka*, Marco Ryaskov, went to visit the governing council of the BNB. Within days the negotiations reached the finance minister and even the prime minister of the country, Aleksander Malinov. A last resort lending facility was extended to *Kreditna Banka* by the BNB²⁰². In the details of the deal that Ryaskov revealed in his memoirs it appears that both the finance minister and the prime minister had substantial amounts of private savings deposited in *Kreditna Banka*. Ryaskov also tells us of the arguments he used to persuade the BNB to intervene. These include the 'too big to fail' suggestion, where he claimed that the fate of the whole financial system was at stake, should *Kreditna Banka* be allowed to go. Normally the procedure of BNB financing of a bank in difficulty involved detailed assessment of the bank accounts that would take a number of days. In this instance, however, Ryaskov used his political connections to push through the accounting assessment, done overnight before the BNB cheque arrived the next morning.

This example suggests that the central bank interventions were done in the spirit of column 2 of table 4.1 (Bailouts). This policy of public recapitalization of banks and

²⁰² For a full description of the incident, see Ryaskov (2006), as well as Avramov (2007).

outright protection of all depositors continued sporadically until in 1934 the BNB realised the crisis was deeper than initially assessed, and the resources of the central bank were not enough to provide funds to all of the surviving commercial banks. The solution applied then, was an institutional one as the creation of BBK, which I suggested previously. A similar solution to the problem of troubled cooperative credit institutions in Bulgaria was applied to the credit institutions in Yugoslavia. The Agricultural Bank in Yugoslavia took on the bad loans of the country's cooperatives in 1936, as well as the peasant debt owed to commercial banks²⁰³.

The monetary bailouts provided to the banking sectors were indeed piecemeal, and came as late as the mid-1930s, when the financial systems in both Bulgaria and Yugoslavia had experienced a series of failures. Both states, however, were much quicker to respond to the political pressures of debt relief. Tables 4.16 and 4.17 summarise the legislative changes that both countries enacted to deal with the crisis of indebtedness.

Table 4.15: Comparison of Debt-Relief Legislation in Bulgaria and Yugoslavia

Debt-Relief Legislation		
<i>timeline</i>	<i>Bulgaria</i>	<i>Yugoslavia</i>
1932	<i>March:</i> Law on Agreement with Creditors; Related to all small debtors: merchants, artisans, agricultural workers; Reduced or Cancelled interest payments; Postponed payment of premium;	<i>April:</i> Law establishing a moratorium on peasant debts;
1932	<i>April:</i> Law on Agricultural Debt; All debts of farmers with property under 25 hectares reduced by 50%; time of repayment of the premium extended to 10 years; maximum interest ceiling introduced at 7%.	
1934	Extension of General Law for Protection of Debtors and Creditors: Large debtors, owning in excess of 1mln leva had their repayment period extended and an interest payment ceiling imposed at 6%.	A number of promulgations and restrictions on the interest ceiling passed.
1936		September: all premium on peasant debt to commercial and savings banks was reduced by 50%, if they did not exceed 25,000 dinars. Larger Debts were reduced by 30-50%, dependent on the amount in relation to the peasant property; The payment period was extended over 12 years, an interest ceiling of 4.5% was set up; All these remaining debts were transferred over to the (state funded) Agricultural Bank, which became the only legal creditor to peasants.

²⁰³ Tasic (1992); pp. 184-185.

Table 4.16: Legislation prompted by the Depression: Bulgaria and Yugoslavia, 1931-1936

Anti-Competitive Legislation		
	<i>Bulgaria</i>	<i>Yugoslavia</i>
<i>Financial</i>	<i>Capital Controls:</i> introduced in 1931; By 1932, suspension of foreign debt servicing payments was enacted and reparation payments were suspended; Import restrictions were introduced: The National Bank was empowered to ration all imports to 50% of previous purchases; From January 1933, every single import required special permission; in 1934 a Private Compensation System was adopted: importers could buy their foreign currency from exporters at a devalued rate;	<i>Capital Controls:</i> Until June 1931: 1/3 of foreign receipts had to be exchanged for dinars at the National Bank; Oct 1931: first 50% then 80% of foreign receipts had to be exchanged for dinars at the National Bank; accounts and claims of foreign residents were frozen; 1936: proportion of export proceeds exchangeable into dinars was decreased from 80% to 60%; 1938: down to 20%;
<i>Agricultural</i>	Special Law to encourage sugar beet production; Regulatory arrangements to encourage the allocation of acreage to industrial crops and reduce the cereal planting. Laws to prohibit new firms entering the tobacco growing and distilling industries;	Restrictions for area planted with tobacco and poppies with an aim of lifting the price; Subsidies and price guarantees supported the production of cotton and oil-seeds;
<i>Trade</i>	State Monopoly for Grain export	State Monopoly for Grain export

The Yugoslavian government promulgated a law establishing a moratorium on peasant debts in April 1932. After several promulgations and restrictions of interest, final settlement was created by the law of September 1936. Its specifications were a result of intense political debates and infighting. In its first version the agricultural lobby won the debates and all peasant debts to commercial and savings banks were reduced by fifty percent if they did not exceed twenty-five thousand dinars. Larger debts were reduced by thirty to fifty percent, depending on the amount its relation to the property of the person involved. The length of repayment was extended to twelve years and ceiling of interest payments was fixed at four and a half percent. By 1936, however, bankers' clamour had begun to overwhelm the system. . Finally all the bad debts were transferred on to the taxpayers by transferring all the agricultural debts to the Agricultural Bank, fully owned and funded by the state.

In Bulgaria the debt relief legislation, enacted in 1932, was also split according to the size of property and followed very similar lines to the Yugoslav one. It postponed repayments of debt obligations, fixed the maximum interest payments, and often cancelled either the interest payments or the whole principal. A new law in 1934 extended the protection to even the largest debtors, owing more than one million leva with further repayment time extension and setting the maximum interest to six percent.

A number of legislative acts were passed to restrict domestic competition, especially from any external entrants. As table 4.17 suggests they were mostly aimed at the agricultural producers and attempted to compensate them from lost income due to restricted exports as well as protect their domestic market share. There were even compensation schemes in place that transferred state money directly into the pockets of producers. Industry received its own legislative boost in Bulgaria in 1935-36 when the rights of protected industries, mostly among extraction, metalworks, and steel, were extended to almost two-thirds of the firms in the sector. These included fixing the number of enterprises that could exist in any given sector (effectively forbidding the creation of any new firms in manufacturing and industry) but took away any state subsidies.

I would contend that these economic transfers stand in support of Rogowski's thesis. He suggested, following the predictions of the Stolper-Smuelson theorem, that a decline in trade openness will create losers from the owners of the abundant factors and winners of the scarce factors. His predictions for the South East European region following the drop in trade and the Depression that ensued were that labour, as an abundant factor, will retreat from political strength and lose income. A class struggle was to ensue where labour would be repressed by the politically advancing marriage of land and capital. So far we have seen that economically labour certainly lost. Populist lobby groups ensured that agricultural producers were well protected from the fall in export income, as well as from their oppressive indebtedness. Industry and finance also avoided some of the widespread losses the Bulgarian and Yugoslavian economies had to face due to the international crisis. The bad debts of the banks were eventually transferred on to taxpayers via the state banks and the bailouts.

In the background of the economic turmoil and financial redistribution, there was a political struggle. Both Bulgaria and Yugoslavia descended into monarchial right-wing dictatorships by the mid-1930s. In Bulgaria, where the communist party was well organised, it had already incited an armed uprising in 1923 and a bomb plot to kill the king in 1925, but was outlawed in the 1930s, while other left wing formations were also persecuted and kept out of power despite electoral successes. The country's right wing political elite was strengthened by the external bilateral links developed with Nazi Germany; however, a fascist regime was only in operation during the years of World War 2²⁰⁴.

Yugoslavian politics had a number of dimensions. The class conflict between left and right was present, but much of the political struggles were wrapped around nationalist ideology by the Serbian majority, or the Croatian and Slovenian minorities.

²⁰⁴ Crampton (2005).

Following a shooting incident in the parliament, King Alexander suspended the constitution and established a dictatorship with himself at the helm. He was assassinated by Macedonian and Croatian radicals in 1934. The history of the invasion of Yugoslavia by Nazi Germany reveals the division that existed in Yugoslav Interwar society²⁰⁵.

The confused politics of the two countries, at a glance, appears to match Rogowski's predictions. In addition to class struggle, there rampant infighting amongst the groups of the elite. In Yugoslavia, the differences between Serbs, Croats, Slovenes, Macedonians, Bosnians, and Montenegrins surfaced during every economic or political crisis. If we consider the economic and financial crisis of the middle of the period as the crucial event to have shaped the experience of the two countries, then we might agree with Rogowski that political turmoil reflected changes in the exogenous international economy. However, the international economic interaction continued to exert pressures on Bulgaria and Yugoslavia even after the collapse in trade and the reversal in financial flows. According to Tooze and Ivanov (2011) the external constraint of servicing the foreign debt and the financial supervision from international bodies of bondholders had also profound influence on the stability of domestic politics.

I content here that the domestic political economy struggles were a reflection of these composite factors, but incited in the first place by a severe domestic economic downturn. There was no effective external constraint given the widespread international defaults, as well as the sharp reduction in international trade in the 1930s. Domestic political struggles were first and foremost to ensure favourable redistribution of domestic resources and cover the economic losses of entrenched interest groups.

Conclusions:

The experience of the Great Depression in the South East European periphery was characterised by economic and political turmoil. Evidence from Bulgaria and Yugoslavia suggests that agriculture and industry benefitted from government handouts, while the final bill was left for the taxpayers. The majority of taxpayers were the craftsmen, waged labourers, state employees, and the small professional class in urban areas. They were the economic groups that the state could most effectively reach and extract monetary contributions to the treasury. The peasant class, who were still dominant in terms of absolute numbers were either too impoverished or had

²⁰⁵ Lampe (2000); regarding the descent of Yugoslavia into war, see also Gligorijevic (1979).

difficulty monetising their agricultural output to effectively contribute to the state finances. This was especially true after the export markets for cereal production disappeared. Politically, both countries evolved into monarchial right wing dictatorships, which actively repressed left wing formations and ended up falling into the economic, political, and ideological sphere of Nazi Germany in the late 1930s.

The political alignments in the murky waters of Balkan politics conditioned the interventions in the domestic markets. The bailouts of domestic banks were done in an *ad hoc* manner in both Bulgaria and Yugoslavia, in response to the pressures of interest groups that began to feel the bite of the economic crisis. This chapter presents quantitative evidence for the crony links that determined the directions of the bailouts.

Genuine worries about the state of the financial systems prompted the creation of supervisory institutions and the use of the lender of last resort role of the central banks. Within one year of the height of the banking crisis, in 1931, however, the governments of Bulgaria and Yugoslavia switched their efforts from focusing on creditors to bailing out the debtors. By 1936 they had socialised the bad debts of agricultural and industrial producers. They had also poured money into the creditor banks, which could not survive without government intervention once their debtors first became insolvent and then protected by new debt relief legislation.

The results were ominous. Government intervention permeated every sector of the Bulgarian and Yugoslav economies and pre-empted the centralised, socialist-style economic transformations in the late 1940s and early 1950s. Foreign political and economic relations also developed in response to the crisis. Efforts to find export markets pushed both countries into the informal imperial sphere of Nazi Germany.

CONCLUSIONS

The economics of growth has moved a long way from its early focus on theoretical models that generate self-sustaining growth. Work on endogenous technological advances has been replaced with attempts to explain the diversity of growth experience. As Rodrik (2003) asserted, empirical search for correlates of growth has gone beyond economic variables (such as physical and human capital, or price distortions) to explore indirect, but possibly 'deeper' determinants of economic performance (such as geography, institutions, and finance). Economic history has a central role to play in this effort. It can provide the longer-term quantitative view, as well as the comparisons between individual growth experiences.

A substantial theoretical literature has produced increasingly sophisticated economic models endogenising the role of finance into the growth process, while empirical studies have put forward data to detect the link between the two. Yet a large part of the empirical surveys operate with macroeconomic or cross-section data and have little to say about the channels, through which finance affects growth. This is changing and a budding literature is emerging that explores the mechanisms of growth created or supported by financial flows and credit institutions. This dissertation is a contribution to this approach. It provides new firm-level data from Bulgaria and Yugoslavia from the period 1919-1941 to tackle a number of questions related to finance, banking, and economic performance of the European economic periphery.

I start by assuming that finance has primarily an intermediating role, yet it can also bring about technological benefits. Capital flows, credit institutions, and public finance cannot be the determining source of growth; these can all contribute to a varying degree of significance. In the world of South East Europe, an underdeveloped region before 1945 characterized by information problems, technological backwardness, and political instability, the problem of credit (its availability, access to it, and the mechanisms of its generation) was ranked high in importance by contemporary economists, who identified the limitations of domestic finance as a real break on future growth.

Broadly, the results of this dissertation suggest that one benefit to growth from finance was through the channel of knowledge gains and technological improvements brought about by foreign investment. The instability of domestic credit institutions (vulnerable due to close bank-firm relationships), as well as an immature political class

that failed to deal with the effects of the Great Depression and operated along crony links, largely dissipated such gains. The micro-level data collected from archived firm dossiers allowed me to compute the productivity improvements that foreign direct investment brought about to the Balkans pre-World War 2. It is also the basis of the analysis of the Great Depression experience, which suggests that a widespread financial distress in Bulgaria and Yugoslavia can be explained by the theory of debt deflation and the institutional specifics of bank-firm relationships. Additional archival data and aggregate statistics, presented in the final chapter 4, confirm the conclusion that the Interwar Period was one of economic change, but not sustained growth for the Balkans. Domestic political economy frictions were one of the main factors to blame for this.

The analysis is broadly divided into three parts: capital flows and the effects of international investment on domestic firms; banks and the real sector during the Great Depression; and the political economy of government intervention during the Depression and post-Depression period.

The introductory chapter 1 sets the theme of the investigation by looking at the aggregate picture of finance, capital flows, and the problems of development in South East Europe in the period between the two world wars. It largely uses data from the League of Nations reports on the region to observe the flows of foreign investment and the changing roles of domestic commercial banking and state finance in the 1920s and 1930s. These findings present a dynamic financial sector in 1920s Bulgaria and Yugoslavia. In a time of structural transformation of the economies in the region, where agricultural productivity was increasing and manufacturing sectors were emerging, finance could play an important role in supporting the process of growth.

A number of economic theories formalise the role of finance in the process of economic growth. The most basic function of credit institutions and the stock market is to improve efficiency by transmitting information between savers and investors, spreading risk across them, and improving information flows. In other words, finance and financial institutions are needed to lubricate the workings of the rest of the economy.

More sophisticated growth models, which endogenise the role of technological improvements, have attached further importance to finance. Financial flows on a global scene can spread knowledge, managerial expertise, accounting standards, and importantly, alter the scale of production. While not a source of growth in itself, international finance can help deliver to underdeveloped economies the productive techniques that are at the heart of growth.

Following these theoretical claims, chapter 2 develops a method of computing the productivity improvements that foreign direct investment brought to a sample of firms in Bulgaria and Yugoslavia. Original, firm-level, dataset of Bulgarian and Yugoslavian firms can help examine the productivity performance of a firm and sectoral level, and also test theories of foreign investment effects on a host country. In broad terms, the findings suggest that the services sectors (insurance and banking) obtained most foreign capital relatively to the rest of the economy in both Bulgaria and Yugoslavia. Firms recipient of foreign investment also developed a considerable advantage in productivity growth compared to domestic firms over the 22-year period 1919-1941. The majority of this advantage came from productivity spillovers, while competition and trade effects were ambiguous at best.

These findings tend to support the writings of contemporary Balkan economists, who looked for inspiration to the industrialized west and attached great importance to new ideas from abroad. The economic problems of growth as far as contemporaries in the Balkans were concerned could be reduced to two issues – capital scarcity and technological deficiency. Foreign investment could solve both, by bringing liquidity to undercapitalized economies and transmitting productivity improvements to the firms that obtained the investment. Chapter 2 argues that it was direct investment, which involved foreign investors in the running of the local firm that brought about positive productivity spillovers.

The greater part of savings and industrial investment, however, were channelled via the domestic banking sectors. Local banks usually possess an information advantage over foreign investors and even the state, because of their longer-term relationships with clients. Financial history has paid specific attention to the merits of universal banks. These institutions were closely linked to commercial clients, held equity and industrial assets on their balance sheets, and sometimes took active part in the running of enterprises. It was not unusual amongst continental banks to send representatives to their clients' board of directors.

Chapter 3 puts these institutional specifics at the foreground of an explanation of the banking failures during the crisis of 1929-1935. There are two leading views of the role of banks in the origins and perpetuation of the Great Depression. One blames the panics that spread amongst the belligerent economies following asset price crashes and bank runs. The other suggests that the erosion of bank assets through prolonged deflation was at the core of the longevity of the Depression. The seminal work of Bernanke and James (1991) has pointed to the mechanism, through which deflation by reducing the net worth of banks and borrowers can affect flows and the quality of credit and thus have negative feedbacks to the real economy. Chapter 3 provides evidence of such feedbacks from the European periphery, which operated without

obvious bank runs and panics. It argues that universal banks were the key to this channel and led to insolvency in the local credit markets in a time of global illiquidity. The micro-level dataset is used to provide quantitative evidence of the Depression in Bulgaria and Yugoslavia.

The analysis concludes that firms that were linked to banks, i.e. heavily dependent on domestic credit, fared worse, while firms that had some alternative liquidity source, in particular foreign funds and export income saw their output and investment decrease least, or even increase in some instance. Banks reacted to the sharp loss of liquidity in a predictable way. They tried to shed illiquid assets and boost cash reserves. In the depressed domestic and international markets of the early 1930s, however, the majority of banks that had illiquid balance sheets laden with equity ended up being insolvent and failed. Overall, the financial crisis in the Balkans carried the scars of an earlier credit boom, which was stimulated by a generous influx of foreign capital in the 1920s. The argument advanced in chapter 3 is that the fall was made much worse by the length of the deflation and the strong economic links between banks and firms.

In the relatively small and underdeveloped economies of South East Europe personal or institutional links had important economic implications. Interlocking, or the links between banks and firms, may have been partially responsible for the severity of the financial crisis in this region. Chapter 4, however, argues that the state intervention to mitigate the results of the global economic downturn has also determined to a large extent by interest groups and crony connections. The bailouts of domestic banks and industry were done in an ad hoc manner in both Bulgaria and Yugoslavia, in response to the pressures of interest groups that began to feel the bite of the economic crisis.

Chapter 4 presents quantitative evidence for the crony links that determined the directions of the bailouts. Genuine worries about the state of the financial systems prompted the creation of supervisory institutions and the use of the lender of last resort role of the central banks. Within one year of the height of the banking crisis, in 1931, however, the governments of Bulgaria and Yugoslavia switched their efforts from focusing on creditors to bailing out the debtors. By 1936 they had socialised the bad debts of agricultural and industrial producers. They had also poured money into the creditor banks, which could not survive without government intervention, once their debtors first became insolvent and then protected by new debt relief legislation.

The steps taken by policy-makers from both countries to solve the crisis were almost identical. Chapter 4 describes the institutions Bulgarian and Yugoslav governments created to first take on the bad debts of the agricultural sector, then the changes in the financial infrastructure of both countries with an aim to socialise the 'toxic' assets of both financial systems, and finally the legislative changes that enacted protection for

the real sector and capital controls for the credit sector. The final tax bill was passed on to the weakly organised labour, to the benefit of the industrial and financial elites.

Using data from two of the South East European countries has allowed a comparison between the largest and smallest of them. Despite the fact that Yugoslavia was on the winning side of World War 1, enlarged its territories considerably, and obtained more foreign attention in terms of investment and political alliances, while Bulgaria had just the opposite outcomes, their economic experiences during the Interwar Period show remarkable similarities. Both countries benefitted from foreign funds and the technical assistance that came with them. Foreign investors financed very similar sectors, which can be explained by the similar economic structure of the two countries. The Interwar crisis affected the Bulgarian and Yugoslav economies in a similar fashion, too. Domestic banking assets shrunk significantly, although the Yugoslav experience differed somewhat, as closer links to Austrian and Italian capital meant greater liquidity problems in the aftermath of the central European bank crisis of 1931.

The evidence from Bulgaria and Yugoslavia presented in this study, suggests that South Eastern Europe behaved like typical economic periphery. The two countries shared many of the frictions poor countries of today face – capital scarcity, an economy characterised by information problems and informal connections in pursuit of rents rather than efficiency, among others.

This dissertation is not a complete assessment of growth implications of finance. Rather it is a detailed survey of the types of finance available to the developing countries of South East Europe and the role these played in the economies in the Balkans. Finance was important during the Interwar Period. Not only can I point to some empirical relationships that can be enlighten the debates around modern day developing countries, but I can also bring evidence for workings of the institutional specifics of the credit systems and the state. Relationship banking, cronyism, and the world of personal connections are all parts of the growth process of developing economies. Such characteristics may have historically evolved to deal with information problems and high transaction costs, but without any institutional reforms they also transformed themselves into rigid inefficiencies that came to light during the Depression and throughout the 1930s.

In the end, it was probably the policy-makers in the Balkans that had greatest influence on growth, by virtue of their central position in small, capital-starved economies, as Gerschenkron (1963) would have argued. The Depression was a watershed in South East Europe as much as anywhere else. One may argue that it made sure the role of state extended to all parts of the economy. For the South East European region, however, this was true from the beginning of the period. What the

Depression experience did was make policy-makers take notice of the booming credit institutions, embark on a learning curve of macroeconomic stabilising measures, as well as regulatory implementations. Eventually, however, policy-makers in the Balkans could not escape from the world of nepotism. The piecemeal interventions to limit the damage from the crisis benefited mostly government cronies in finance and industry.

This did not render finance useless. The general conclusion of this dissertation must be that finance can bring about real productivity improvements via certain channels of growth. It has also confirmed the importance of domestic structures and crucially the state in ensuring the longevity of any such benefits.

ANNEX 1

Summary Tables and Charts

Figure A.1: Proportion of Assets in Sample from Total Assets in the Economy, Bulgaria

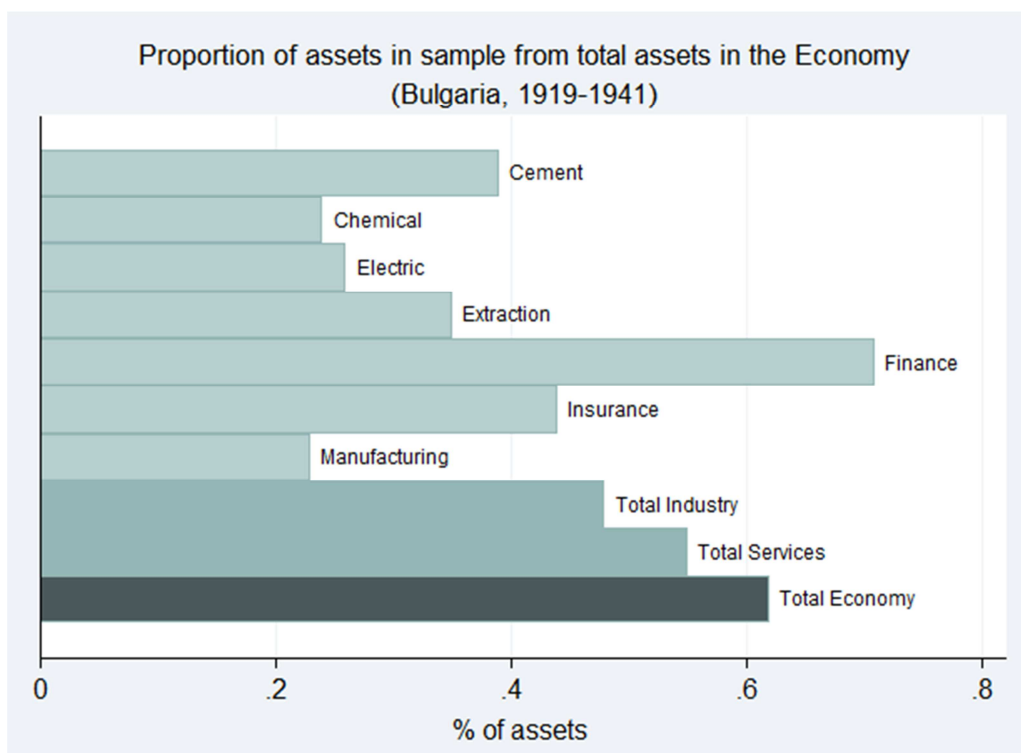


Figure A.2: Proportion of Assets in Sample from Total Assets in the Economy, Yugoslavia

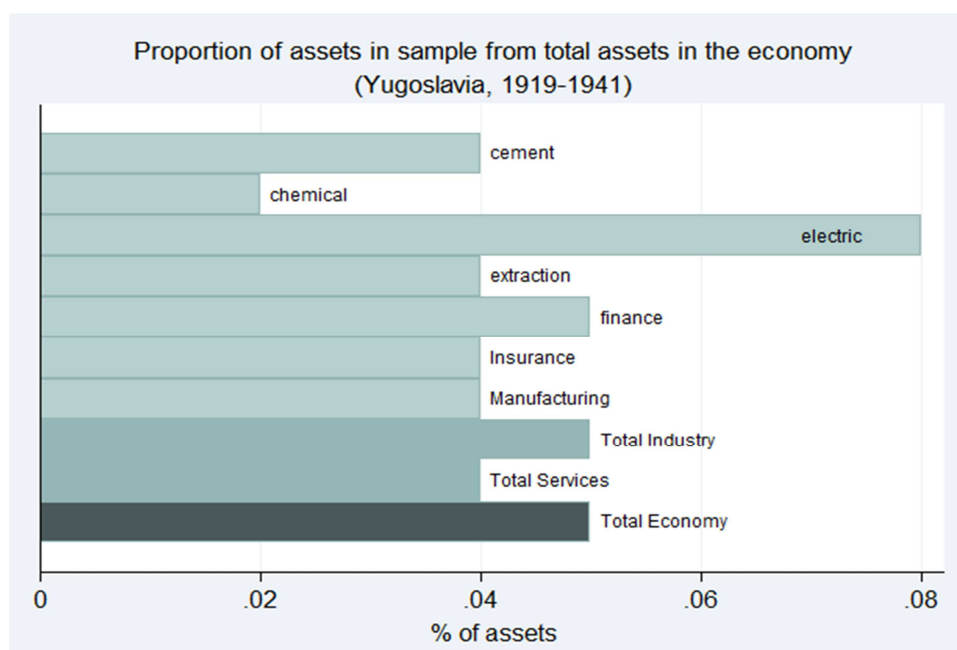


Figure A.3: Wholesale Price Index, Bulgaria and Yugoslavia, 1919-1941, 1919=100

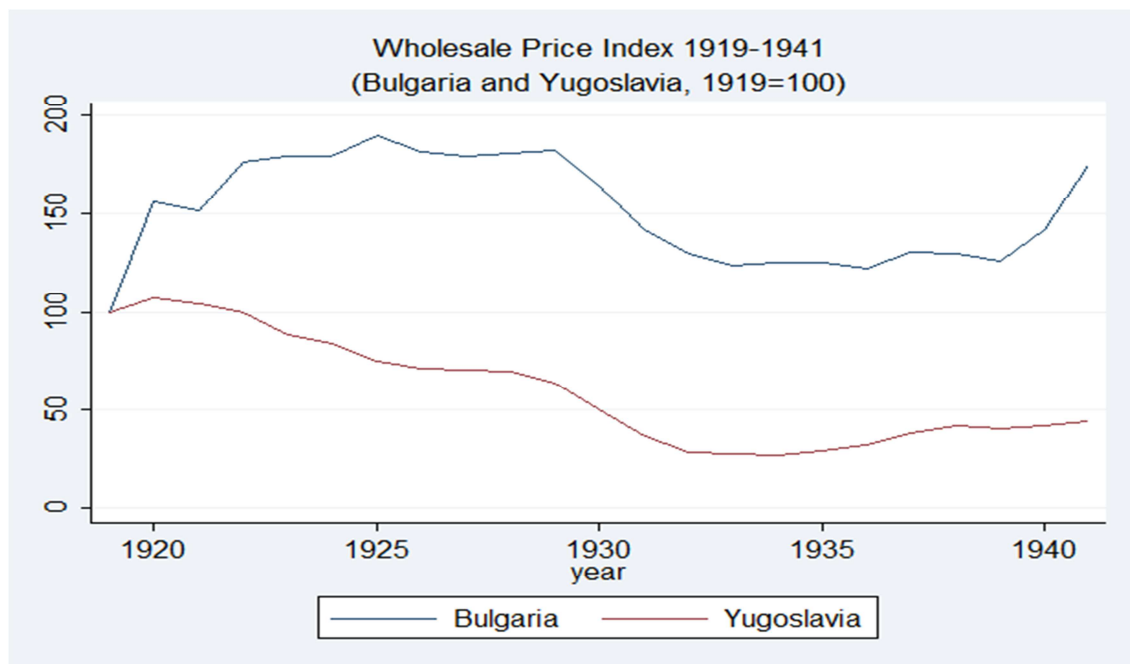


Figure A.4: Real Wage, Bulgaria and Yugoslavia, 1919-1941

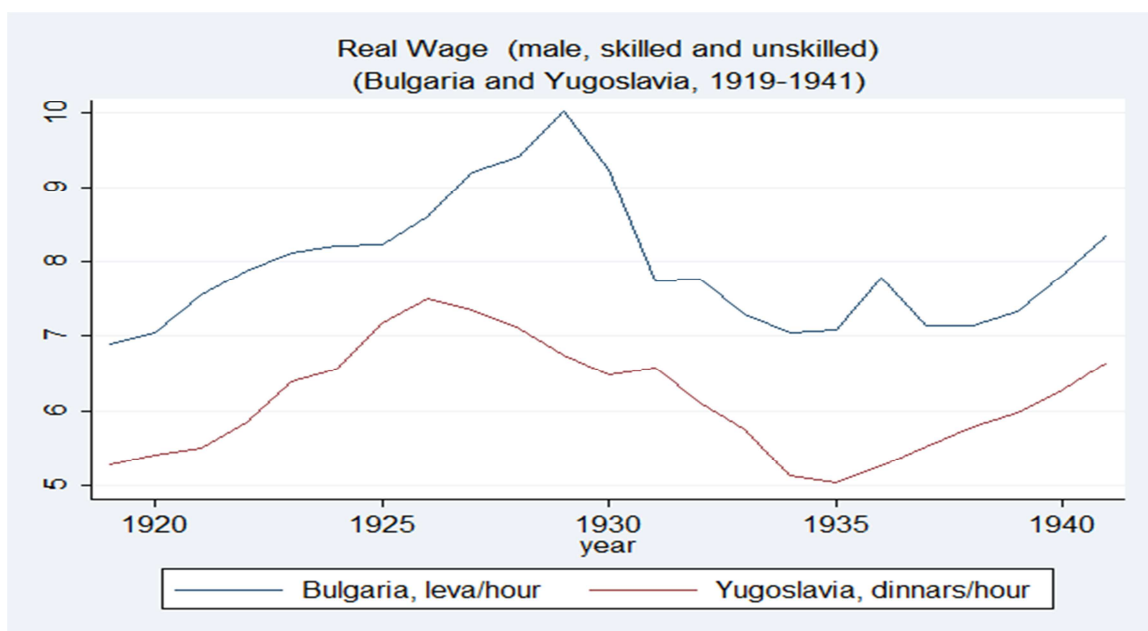


Figure A.5: Total Government Expenditure in the Balkans (in billions of local currencies);

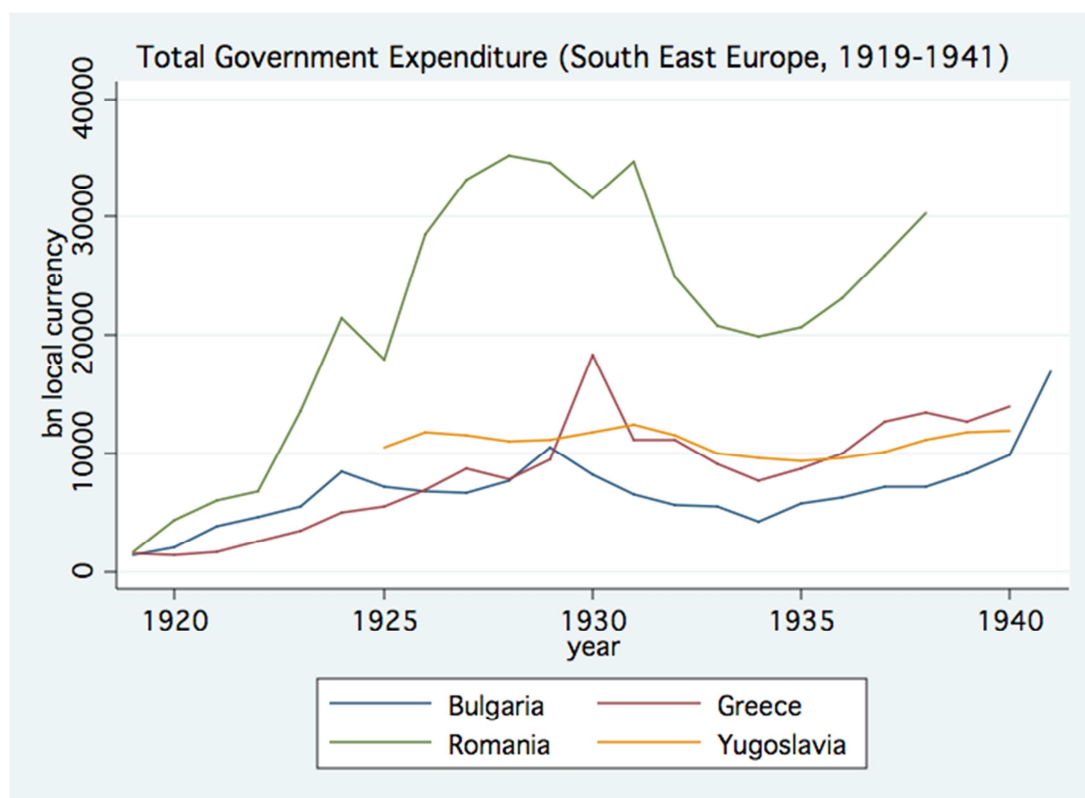


Table A.1: Hourly Wages per sector (selected sectors, adult males, skilled and unskilled)

Bulgaria (in leva / hour)										
	a	b	c	d	e	f	g	h	I	j
1919	6.48	5.98	6.98		5.98	5.98	6.78		9.63	6.89
1920	7.45	6.95	7.95		6.95	6.95	7.99		10.88	7.04
1921	7.65	7.15	8.15		7.15	7.15	8.35		10.99	7.56
1922	7.67	7.17	8.17		7.17	7.17	8.27		11.35	7.87
1923	8.56	8.06	9.06		8.06	8.06	8.89		11.92	8.11
1924	8.78	8.28	9.28		8.28	8.28	9.18		12.11	8.21
1925	8.98	8.48	9.48		8.48	8.48	9.35		15.26	8.23
1926	9.05	8.55	9.55		8.55	8.55	9.55		15.61	8.61
1927	9.65	8.96	10.15		9.15	8.96	10.15		15.50	9.21
1928	9.5	8.65	10.33		9.33	8.65	10.53		15.27	9.41
1929	8.04	8.5	10.67		9.67	8.5	10.55		14.82	10.01
1930	7.96	7.98	9.42		8.42	7.98	9.22		16.32	9.25
1931	7.88	7.9	9.01		8.01	7.87	9.11		12.68	7.75
1932	7.8	7.92	8.37		7.36	7.9	8.54		11.03	7.76
1933	7.72	8.08	8.44		7.42	7.96	7.63		8.49	7.29

1934	7.31	7.78	8.1	7.16	7.53	8.03	8.31	7.04
1935	6.93	7.14	7.84	7.52	7.03	8.15	8.26	7.09
1936	6.48	7.31	7.47	6.91	6.73	7.34	8.44	7.78
1937	6.96	6.6	7.32	6.89	6.47	8	8.49	8.15
1938	7.06	7.03	7.59	6.67	6.77	7.2	8.68	8.15
1939	7.41	7.41	7.86	6.86	7.41	7.86	8.38	8.32
1940	7.7	7.7	8.13	7.13	7.7	8.13	8.65	8.805
1941	7.99	7.99	8.4	7.4	7.99	8.4	8.98	9.367

Table A.2: Hourly Wages per sector (selected sectors, adult males, skilled and unskilled)

Yugoslavia (in dinars / hour)										
	a	b	c	d	e	f	g	h	I	j
1919	6.37	3.58	6.06	5.51		4.50	5.19	10.72	9.63	5.27
1920	6.51	3.71	6.21	5.66		4.64	5.33	10.88	10.88	5.41
1921	6.61	3.80	6.31	5.75		4.74	5.42	10.99	10.99	5.50
1922	6.94	4.13	6.64	6.08		5.06	5.75	11.35	11.35	5.84
1923	7.49	4.68	7.20	6.64		5.62	6.31	11.92	11.92	6.39
1924	7.66	4.84	7.37	6.81		5.78	6.48	12.11	12.11	6.56
1925	8.28	5.45	7.99	7.43		6.40	7.10	12.75	15.26	7.18
1926	8.60	5.76	8.31	7.75		6.71	7.41	13.09	15.61	7.50
1927	8.46	5.61	8.17	7.61		6.57	7.27	12.97	15.50	7.35
1928	8.20	5.35	7.92	7.35		6.31	7.01	12.74	15.27	7.10
1929	7.84	5.01	7.55	6.99		5.96	6.65	12.31	14.82	6.74
1930	7.58	4.47	7.62	7.26		5.14	6.71	12.58	16.32	6.48
1931	7.68	4.47	6.98	7.08		5.25	6.85	12.48	12.68	6.58
1932	7.21	3.95	7.17	5.86		5.32	6.93	12.25	11.03	6.11
1933	6.85	3.78	5.71	4.32		5.50	6.07	11.80	8.49	5.75
1934	6.22	3.70	5.19	3.94		5.17	5.71	11.55	8.31	5.12

Table A.3: Own Sample as a percentage of the total for the economies of Bulgaria and Yugoslavia

(data for total taken from countries' Statistical Yearbooks, various editions)

Own Sample versus the Whole Economy of each of Bulgaria and Yugoslavia 1919-1941 (in 000s \$s)

	Cement	Chemical	Electric	Extraction	Finance	Insurance	Manufacturing	Total industry	Total services	Total economy
Yugoslavia										
Own Sample	1,491,438	9,800,118	13,736,035	21,784,248	32,207	15,659	46,914,184	195,350,021	47,867	195,397,888
Total Economy	37,033,597	402,508,673	170,031,005	527,310,034	700,070	444,373	1,235,588,037	3,819,794,579	1,144,443	3,820,939,021
	Cement	Chemical	Electric	Extraction	Finance	Insurance	Manufacturing	Total industry	Total services	Total economy
%	0.04	0.02	0.08	0.04	0.05	0.04	0.04	0.05	0.04	0.05
Bulgaria										
Own Sample	127,036	84,679	40,071	34,618	1,092,871	153,257	151,284	855,552	1,246,128	2,101,679
Total Economy	322,038	349,134	156,458	98,775	1,537,942	346,851	661,305	1,779,719	2,251,701	3,382,311
	Cement	Chemical	Electric	Extraction	Finance	Insurance	Manufacturing	Total industry	Total services	Total economy
%	0.39	0.24	0.26	0.35	0.71	0.44	0.23	0.48	0.55	0.62

Table A.4: Price Indexes (wholesale prices, per sector for selected sectors, 1919=100)

Year	Bulgaria							Yugoslavia	
	a	b	c	d	e	f	g	a	
1919	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
1920	155.7	173.3	132.0	132.0	102.3	102.3	102.3	107.0	
1921	151.6	165.2	123.9	123.9	102.2	102.2	102.2	104.0	
1922	176.1	187.2	145.9	145.9	102.9	102.9	102.9	99.9	
1923	179.3	149.1	107.8	107.8	103.2	103.2	103.2	88.1	
1924	178.9	164.9	123.6	123.6	104.6	103.6	104.6	83.6	
1925	189.8	155.1	113.8	113.8	105.0	102.0	105.0	75.3	
1926	181.2	145.3	99.7	105.0	103.5	102.1	104.8	71.0	
1927	178.9	135.5	96.8	108.2	103.2	102.0	104.9	70.2	
1928	181.0	151.1	107.4	107.1	103.5	102.5	106.2	69.4	
1929	182.1	133.9	119.8	105.7	103.6	103.2	106.8	63.8	
1930	164.5	81.6	104.4	93.1	101.8	102.4	103.0	49.9	
1931	142.1	37.0	74.4	71.7	99.6	100.7	100.3	36.3	
1932	129.7	17.0	70.5	72.5	98.3	100.5	98.6	28.6	
1933	123.6	19.6	72.4	49.4	97.7	100.5	97.3	27.8	
1934	125.5	21.8	64.9	41.7	97.9	100.1	97.8	26.6	
1935	125.5	11.9	51.8	39.2	97.9	99.4	98.0	29.3	
1936	122.3	12.3	53.8	39.9	97.6	99.5	98.2	31.8	
1937	130.2	30.8	87.2	50.0	98.4	101.4	99.4	38.1	
1938	129.5	8.1	85.7	53.6	98.3	101.3	99.9	41.6	
1939	125.7	1.9	85.6	52.1	97.9	101.3	100.1	40.7	
1940	142.1	63.6	131.9	82.9	99.6	103.8	101.8	41.9	
1941	174.4	115.8	189.6	127.4	102.8	106.9	105.6	44.0	

a- Wholesale	b- Textiles	c - Bulding Materials	d- Fuels	e - Industrial Products
f - Investment Commodities		g - Consumer Commodities		

Table A.5: Government Revenues across the Balkan Economies, 1919-1941

(Source: League of Nations Statistical Yearbook, various editions)

Central Government Revenue and Main Tax Yields				
Bulgaria (in mln leva)				
<i>year</i>	<i>Total</i>	<i>Customs</i>	<i>Excise</i>	<i>Direct</i>
1919	844	40	149	104
1920	2006	423	300	288
1921	2846	665	406	378
1922	4423	1298	653	331
1923	5362	1275	746	206
1924	6858	1470	1006	343
1925	6364	1402	1152	402
1926	6234	1184	1171	465
1927	6687	1263	1184	568
1928	6282	1374	1338	779
1929	6713	1407	1396	625
1930	5597	853	1323	603
1931	5212	961	1252	490
1932	4751	883	1098	392
1933	4987	626	1002	456
1934	3713	537	977	418
1935	5399	672	1302	394

1936	6020	823	1445	527
1937	6847	1124	1513	590
1938	7188	1138	1671	608
1939	7708	1173	1771	656
1940	8994	1178	1969	1012
1941	13094	1163	3088	2430

Greece (in mln drahmae)

<i>year</i>	<i>Total</i>	<i>Customs</i>	<i>Consumption</i>	<i>Direct</i>
1919	516			117
1920	586			
1921	725	165	97	148
1922	978	192		
1923	1895	471		
1924	3712	1039		
1925	5091	886		898
1926	6045	2151		
1927	6999	2378		1197
1928	9448	2605	1694	1763
1929	9602	2579	1646	1871
1930	10322	2709	1654	1755
1931	10096	2660	1606	1595
1932	9506	3514	1649	1756
1933	8360	2826	1628	1551
1934	8476	2739	1763	1656
1935	9237	2931	1927	2051
1936	10647	3464	2017	2201
1937	13244	3669	2104	2655
1938	14131	3893	2524	2988

1939	12655	3753	2730	3284
1940	12620			

*Table A.5: Government Revenues across the Balkan Economies,
1919-1941 (continued)*

<i>year</i>	Romania (in mln lei)	
	Total	Customs
1919	1115	
1920	3554	1083
1921	7708	1501
1922	15114	3816
1923	18792	5778
1924	27744	8085
1925	34039	7325
1926	31224	8753
1927	36008	9252
1928	32768	6890
1929	36018	5727
1930	31155	4306
1931	27643	2518
1932	17848	2019
1933	18364	1869
1934	18809	1824
1935	23096	1354
1936	27184	1518
1937	30345	1511
1938	31649	1325
1939	35109	
1940	40813	

1941 66763

Yugoslavia (in mln dinars)

<i>year</i>	Total	Direct	Indirect	State Monopolies
1920				
1921	3884			
1922	6258			
1923	8135			
1924	10344			
1925	10405			
1926	10508	1960	3857	2520
1927	12504	1828	3577	2529
1928	11319	1754	3594	2388
1929	7541	1775	3227	2305
1930	9018	2393	3693	2374
1931	8476	2094	3587	2325
1932	6758	1785	2802	2133
1933	6132	1793	2504	1894
1934	6467	2104	2302	1866
1935	6698	2199	2457	1840
1936	6950	2196	2551	1911
1937	10571	2390	2732	1918
1938	11987	2705	3171	2070
1939	12387			
1940	12786			
1941	15116			

ANNEX 2

Data Description and Guide to Sources of Firm Level Dataset

I. Bulgarian Sources:

The data for Bulgarian firms has been collected from three sources:

- The folders of the *Министерство на Индустрията и Търговията* (Ministry of Industry and Trade) at the Централен Държавен Архив, София (Central State Archive, in Sofia Bulgaria). Archive fonds: 3k and 379k
- Company folders at the *Софийски Архив* (Sofia Archive, Sofia Bulgaria). Archive fond number: 3k.
- Balance Sheets and Income Statements published as printer documents annually in the *Държавен Вестник* (State Newspaper), various dates.

II. Yugoslavian Sources:

Quantitative data for Yugoslavian firms has been collected from the following archival sources:

- *Centrala Industrijskih Korporacija Kraljevine Jugoslavije* (Central Industrial Corporation of the Kingdom of Yugoslavia) Archival fond number 76.
- *Ministarstva Finansija Kraljevine Jugoslavije* (Ministry of Finance of the Kingdom of Yugoslavia): Archival fond number 70.
- *Ministarstvo Trgovine i Industije Kraljevine Srbia, Hrvatska, i Slovenska* (Ministry of Trade and Industry of the Kingdom of the Serbs, Croats, and Slovenes), Archival fond number 65.

III. Geographical locations of firms:

Below is a map of the Kingdoms of Yugoslavia and Bulgaria in the Interwar Period. The dark blue lines surround the territories occupied by both countries in the period 1919-1941. The light blue line represents the border between them.

The red dots represent the geographical locations of firms from the dataset. There are clearly visible clusters around the capitals (Sofia, Bulgaria; Belgrade, Yugoslavia) and regional centres of Plovdiv, Burgas, Varna and Rouse, in Bulgaria, as well as Ljubljana, Zagreb, Sarajevo, and Skopje, in Yugoslavia.



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