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RESEARCH

Monetary and Fiscal Policies in South-East Europe

HISTORICAL AND COMPARATIVE PERSPECTIVE

BULGARIAN NATIONAL BANK

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Foreword

In recent years, interest in financial history has grown considerably. The reasons for this are as much to do with the discipline's development as with its context.

No doubt, the unveiling of new historical records and facts, the inclusion of broader realms, the extension of statistical time-series, and the honing of historians' analytical tools are of significance. Such processes have always been part of the guild's business, yet in recent years they hastened notably thanks to the opening up of new scientific communities and to accessible information technology.

Alongside this, there has been a growing awareness of the unique point of view economic history offers. It provides opportunities to test hypotheses against an unusually plentiful empirical material. History is the natural field for the study of the character, development, and changes of institutions which have become a topical area of interest of economics over recent decades. Let us also note the historian's privileged position in understanding complex phenomena such as today's globalisation: they do not come as a surprise to him, for he has encountered various earlier incarnations of it. All this contributes to enriching the body of economic knowledge. Yet, it also notably boosts the significance of economic history for today's economic policy: comprehension of the past extends the range of policy alternatives, allows a better-argumented debate on different options, demarks in a more distinct way what is possible, and assesses *ex-ante* social engineering projects.

It was awareness of these opportunities that motivated the establishment of the South-East Europe Monetary History Network or SEEMHN. This regional community of financial historians was formed in April 2006 at the initiative of the Bulgarian National Bank and the Bank of Greece supported by researchers from other countries. As early as its First General Meeting, a consensus was reached on the benefits and potential of the active exchange in monetary and financial history. The initiative is clearly in line with trends promoted by organizations such as the European Association for Financial and Banking History and/or Past, Present, and Policy (CEPR, London, Sciences Po, Paris). SEEMHN shares their attention to comparative historical analyses and databases developed according to standards of high quality and consistency. Those are paths leading to a better characterization of a specific region within Europe, whose constituent countries share a number of similar features in their monetary and financial past. The outcomes would ben-

efit both historical science as a whole, and historians who have hitherto and traditionally worked mostly within national dimensions.

This volume presents the papers from the first SEEMHN Workshop hosted on 13 and 14 April 2006 by the Bulgarian National Bank. It was attended by representatives of the Austrian, Bulgarian, Croatian, Greek, Serbian, and Turkish national banks, as well as of a number of leading European universities and research centres.

As the volume's contents show, the seminar deliberated varied issues, periods, institutions, and economic indicators. Greek monetary history (Sofia Lazarethou) and that of the Ottoman Empire (Þevket Pamuk) were presented in a *longue durée* perspective, alongside their links with fiscal policy and foreign debt. Also presented were a case study on the early Serbian monetary history (Dragana Gnjatovic), and a parallel between 1920s exchange rate stabilizations in Bulgaria and France (Nikolay Nenovsky and Kalina Dimitrova). Three "institutional portraits" review central bank development in Bulgaria (Roumen Avramov), Serbia (Milan Sojic and Liljana Durdevic), and Turkey (Yüksel Ðörmez) with their different historical fates, yet similar challenges. This viewpoint is amplified by the story of a short-lived monetary institution during the Second World War in Slovenia (Zarko Lazarevic). Results from the building of historical time-series on Greek (George Kostelenos) and Bulgarian (Martin Ivanov) GDP, as well as a comparative assessment of long-term growth within the region during the 19th and 20th Centuries (Matthias Morys) were discussed. The information potential of bank balance-sheets was discussed (Damir Jelic). The seminar's proceedings showed up proximities within a seemingly diverse monetary area: today the region is host to "classic" central banks, a euro area member bank, and currency board arrangements, yet national monetary histories display a multitude of similarities.

We are convinced of the significance of the SEEMHN's forthcoming endeavor. Indications are already at hand. South-East European central banks not represented in Sofia expressed intentions to enter the network. Future seminars will address more focused issues, comparative elements in research will be strengthened, and the creation of a regional historical database is already materializing.

We would like to express our gratitude to the Bulgarian National Bank which produced a faultless SEEMHN First General Meeting. In particular, we wish to mention the contributions of Nikolay Nenovsky (Member of the Board of Governors, BNB), Kalina Dimitrova (Research Department, BNB), and Sofia Lazaretou (the Bank of Greece): prime movers in ensuring that the network grew from an idea into reality.

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From Debasement to External Borrowing: Changing Forms of Deficit Finance in the Ottoman Empire, 1750–1914

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1. Introduction

Large fiscal deficits arising mostly from wars were a major problem for many of the European states during the early modern period but less so in the nineteenth century. The existing literature examines the strategies pursued and choices made by individual governments as they attempted to finance these deficits over the long term subject to the constraints and opportunities provided by the domestic and international financial markets. These public sector financial policies, of course, had far reaching implications not only for money and monetary policy but also for the economy at large.[1] During the eighteenth and nineteenth centuries the central budgets of the Ottoman empire also showed large deficits during periods of war. When the frequency of these extraordinary periods increased, the cumulative effects of the deficits tended to create major pressures on state finances and the economy.

This paper identifies and analyzes an important change in the way the budget deficits were financed before and after the 1850s. The Ottoman budget deficits tended to increase after the late 1760s and reached their peak during the 1820s and 1830s. In response, the state attempted to increase its control over revenue sources, relied on internal borrowing, and when the short term fiscal pressures mounted, resorted to debasements. The timing and magnitude of debasements during this period suggests that the governments were quite sensitive to the costs of debasements, especially the urban political opposition they generated.

Then, in the middle of the 19th century, bi-metallism was embraced, new standards were adopted for coinage and the government began to borrow in the European financial markets. From the 1850s to World War I, debasements were abandoned, relative monetary stability was maintained and external borrowing remained the most important mechanism for financing the budget deficits. The paper examines the reasons for as well as the consequences of this shift. It is argued that the shift was due to the combination of European

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[1] For examples, see Weir (1989), Bordo and White (1991) and Velde and Weir (1992); also Parker (1974).

pressure and a desire on the part of the Ottoman government to maintain credibility in and access to the European financial markets. In the long term, however, the Ottomans paid a heavy price for borrowing abroad without establishing fiscal discipline since European creditors established financial control over Ottoman finances after the moratorium of 1875.

2. The Eighteenth Century: Relative Peace and Stability

The eighteenth century until the 1760s was a period of relative peace, stability and economic expansion for the Ottoman empire. While the available evidence on production is limited, it does point to an increasing trend for agriculture and artisanal activity as well as investment in manufacturing for many parts of the Balkans and Anatolia.[2] There also occurred a considerable expansion in the trade between the Ottoman empire and central and western Europe during this period especially through the Mediterranean, and to a lesser extent, across land in the Balkans. French merchants based in Marseille controlled the maritime trade until the French revolution.[3] This was also a period of stability for state finances. From the 1720s until the end of the 1760s, the evidence on Ottoman finances suggests that the overall trend was towards balanced budgets and surpluses were enjoyed in many years. The favorable financial conditions were especially apparent during the extended period of peace in mid-century, 1747 to 1768.[4]

The silver kurush (or gurush or piaster) was the leading unit of account as well as the leading means of exchange in the eighteenth century Ottoman monetary system. Virtually all prices and government obligations were expressed in terms of this unit. The state also minted a number of gold coins without face value. Their exchange rates against the kurush were determined by the markets although during extraordinary periods the goverment attempted control these rates. Gold coins including the Venetian ducat played a limited role in daily transactions. They were used in large payments and for store of value purposes. In addition, the European silver such as the Dutch thaler and Spanish eight real piece were used both in international trade and domestic payments. The exchange rates of these coins were also determined in the local markets.[5]

The Ottoman kurush was relatively stable during this period. In addition to the favorable state finances, the Ottoman currency was supported by the rising levels of output in the new silver mines of Anatolia, in Gumushane, Keban, Espiye and Ergani whose total output reached 35 to 40 tons per year in mid-century. The older silver mines in the Balkans, in Sidrekapsi and Kratova continued to contribute as well. Numismatic and archival evidence summarized Figure 1 shows that the silver content of the kurush declined at a moderate pace, by a total of 40 percent until the end of the 1760s.

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[2] Genç (1984).
[3] Panzac (1992), Frangakis-Syrett (1992), Paris (1957).
[4] Tabakoglu (1985), pp. 74–113.
[5] Pamuk (2000), pp. 159–70.

From the 1760s until the end of the century, however, Ottoman state finances and money were jolted by two exhausting wars, 1768 to 1774 and 1787 to 1792, the first with Russia and the second with Russia and the Habsburgs. Although the first of these created financial difficulties, a major debasement was avoided by relying on the reserves accumulated in the earlier era of peace. During the second war, however, the government was forced to reduce the silver content of the piaster by about one third. The debasement was accompanied by a demand, which included a reference to the ongoing holy war, that the public surrender to the government all available silver at official, below market prices.

To keep prices from rising both as a result of this operation and in the face of wartime shortages, the government tried to enforce a system of price ceilings (*narh*) for most goods in urban areas, especially in the capital city. These price ceilings were extended to the exchange rates of other coins, both gold and foreign, against the silver piaster. The available evidence is too scanty to attempt an evaluation of this package of intervention. It appears, however, that the government was not particularly successful in achieving its ends. Even though mint records are not available, it appears that the government could not induce significant flows of silver to the mints. Mint output, therefore, remained limited until the government later raised the mint price of silver. At the same time, the price ceilings only exacerbated the shortages in urban areas, especially in the capital. Merchants in the provinces simply refused to send goods to the capital. This was in fact the first and the last time in the eighteenth century that the government attempted to use coercion to generate seigniorage revenue. It was also the most severe crisis of provisioning faced by the urban areas, especially the capital city.[6]

3. Financial Reform and Attempts at Internal Borrowing

The reign of sultan Mahmud II (1808–1839) was a very difficult period for the Ottoman empire and especially the central government. During these three decades the central government was forced to deal with a series of uprisings, nationalist revolutions and a series of wars abroad. While it was able to suppress the various uprisings of notables in both the Balkans and Anatolia, the Serbian and Greek revolutions led to the secessions of these territories from the empire. Much more costly to the state finances than any of these were a series of wars against Russia (1806–1812 and 1828–29), Iran (1820–28) and Egypt (1831–33 and 1838–39). This was also a critical period of Western style and centralizing reform for the Ottoman empire. The attempts to establish a western style army had started earlier, during the reign of Selim III (1789–1807) but progress had been limited due to the opposition of the janissaries. After the suppression of the janissary revolt and the abolition of the order in 1826, the efforts to establish a new army (*Nizam-i Cedid*) gained new momentum.[7] Another important and difficult task was the reorganization and modernization of the internal administration of the empire. In this respect, the strategy of

[6] Pamuk (2000), pp. 170–1.

[7] Shaw and Shaw (1977), pp. 1–54.

Mahmud II was the elimination of intermediate authorities both in the capital and the provinces and the centralization of power in his own hands. As the reform movement began to spread beyond the military field in the 1820s, to administration, justice, and education, the demands for resources increased as well. While precise budget figures do not exist, recent estimates suggest that after adjusting for inflation, the expenditures of the central government increased by 250 to 300 percent from the end of the eighteenth century until 1840. Roughly half of the budget expenditures were being allocated for military purposes and this share rose considerably during periods of war. To deal with changes of such magnitudes, of course, constituted a financial task of enormous proportions for the central government. As a result, one of the key goals of the reform process was the financial re-organization of the empire and greater centralization of the revenues.[8]

During the eighteenth and nineteenth centuries, the political and administrative capacities of the Ottoman government often determined the limits on fiscal revenue. Without an administrative network for tax collection, the government was forced to share tax collections with the powerful groups in the provinces. Beginning in the 1820s, the state was able to reduce the power of the alliance between high level bureaucrats and financiers at the capital and the locally powerful groups at the provinces. It thus became possible to exert greater control over the tax collection process. Through this centralization the state was able to increase, in real terms, the revenues collected at the center. However, the expenditures continued to rise at a faster pace throughout this period. For this reason, in addition to its efforts at financial re-organization and centralization, the government devoted a considerable part of its energies, from the late eighteenth century until the 1840s, to developing new methods of long term internal borrowing.

Ever since the sixteenth century, the state had relied on the financiers at the capital for short term loans. Even though these financiers, or bankers without banks, expanded their activities considerably in the second half of the eighteenth century, their lending capacity was still small in relation to the needs of the state. One obvious way for the government to borrow on a long term basis was to link the borrowed funds explicitly to the revenue sources of the state. In fact, the malikane or life-term tax-farm system which was initiated at the end of the seventeenth century, was based on this principle.

After the end of the war of 1768–1774 which had dramatically exposed the military as well as financial weaknesses of the Ottoman system, the financial bureaucracy started a system of long term domestic borrowing called esham. In this system which was based partly on the malikane system, the annual net revenues of a tax source were specified in nominal terms. This amount was divided into a large number of shares which were then sold to the public for the lifetime of the buyers. The annual revenues of the source continued to be collected by the tax farmers.[9]

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[8] Cezar (1986), pp. 279–281.

[9] These arrangements were similar to those used by the European states in the early modern era, most notably in France. See Weir (1989) and Parker (1974).

Clearly, one motivation here was to broaden the base of state borrowing and enable the state go beyond the limited numbers of large financiers who tended to dominate the malikane auctions and to reach a larger pool of small and medium sized lenders. However, the inability of the state to control or limit the sales of the esham between individuals and the difficulties in preventing the heirs of the deceased from continuing to receive payments seriously limited the fiscal benefits of this system. As a result, it proved to be a rather costly system of long term internal borrowing. Many Ottoman thinkers argued in favor of abolishing it especially when the fiscal pressures subsided. During the next half century the state vascillated between abolishing the esham during periods of fiscal stability and continuing and even expanding it when fiscal pressures mounted and additional funds had to be secured with little regard for their longer term cost. [10]

During the war of 1787–92 the Ottoman government also considered the possibility of borrowing from abroad, which would have been a a first for the Ottoman state, from France, Spain or Netherlands. In response, the Dutch government indicated in 1789 that it was not in a position to lend and referred the Ottoman government to the private sector. However, due to difficulties both in Europe arising from the French revolution and the Ottoman side, this possibility could not be pursued any further. Another proposal was to borrow from Morrocco because it was a friendly Muslim country, but it was obvious that the ability of Morrocco was quite limited. From the late eighteenth century until the 1840s, extraordinary wartime taxes and the expropriation of the wealth of prominent individuals especially of those who accumulated their wealth as a public servant or in their financial dealings with the state continued to serve as other means of raising fiscal revenue during troubled times.[11]

4. The Great Ottoman Debasement (1808–1839)

In addition to these long and short term measures, the Ottoman government made extensive use of currency debasements during this extraordinary period. When the centralizing and reformist sultan Mahmud II ascended the throne in 1808, the standard kurush still contained 5.90 grams of silver, unchanged since the debasement of 1789. During the next three decades, the silver content of the Ottoman currency declined at times sharply, at times more slowly. The lowest point for the kurush was reached in 1831–32 at 0.5 grams of silver although it subsequently rose to 0.9 grams in 1832 and then to 1.0 gram in 1844 where it stayed until World War I. In other words, the kurush lost more than 90 percent of its silver content until 1832 and then recovered somewhat. All in all, from 1808 to 1844 it lost 83 percent of its silver content. (Figure 1)

[10] Cezar (1986), pp. 128–34, 198–200.
[11] Cezar (1986), pp. 89–92, 137–38.

Figure 1

Silver Content of the Ottoman Monetary Unit, Akçe, 1469–1914

in grams; 1 kurush = 120 akçe (source: Pamuk, 2000)

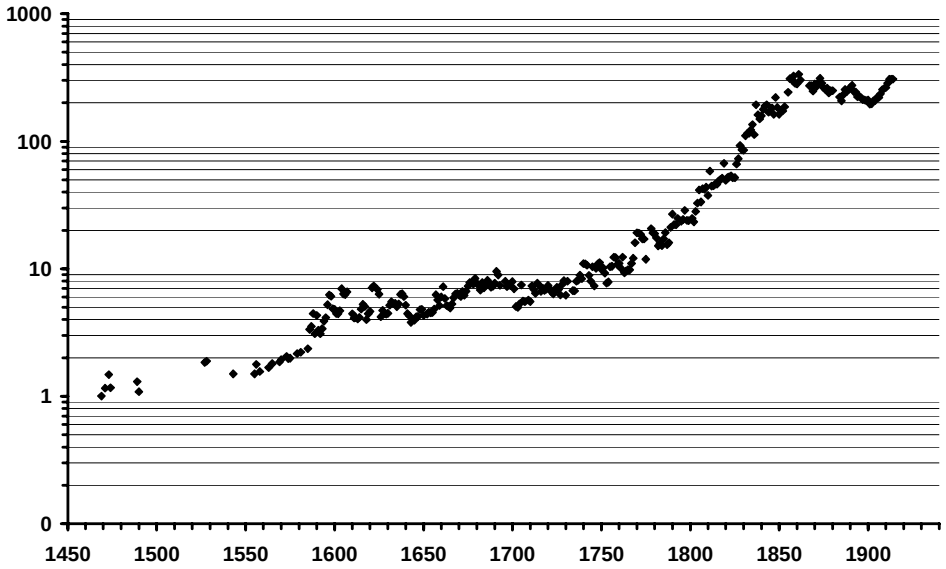
Closely following the debasement of the currency, of course, was the sharp fall in its exchange rate and the rapid rise in the general price level both of which were were equally dramatic. In 1788, 5 and a half kurush exchanged for one Venetian ducat and 11 kurush for one British pound sterling. In 1844 one ducat equalled 50–52 kurush and the British pound exchanged for 110 kurush. In other words, during these six decades the price of these leading currencies in terms of the kurush had increased 9 to 10 fold or the Ottoman unit had lost about 90 percent of its value against them and most other European currencies.[12] Consumer price indices for Istanbul constructed by the present author from the account books of the imperial kitchen at Istanbul indicate that food prices paid by the palace kitchen increased approximately 8 fold from between 1780 and 1845, reflecting closely the changes in the silver content of the currency and its exchange rate against the leading European units. (Figure 2).

[12] The slide of the kurush against the most European currencies slowed down during the Napoleonic Wars as the others also depreciated but resumed with the end of European hostilities. Issawi (1980), pp. 329–31, Pamuk (2000), pp. 191.

Figure 2

Consumer Price Index for Istanbul, 1469-1914

1469 = 1,0; (source Pamuk (2004).



During the reign of Mahmud II the government continued to issue varieties of gold coins such as *zeri mahbub* , *rumi* , *adli* , *hayriye* , *mahmudiye* , each with different and changing standards. However, these gold coinage were not subjected to such rapid rates of debasement. The overall decline in the specie content of the gold coins remained below 20 percent. It is thus clear that the government did not view the gold coins with the same seigniorage logic that was applied to the silver kurush. This was because the unit of account for the economy and state finances was the kurush and not any of the gold coins. All obligations of the state were expressed in terms of the silver kurush and not linked to any gold coin. Under the circumstances, the expected seigniorage gains from debasing the gold coins was very limited.[13]

[13] In a different context Motomura has argued that the Spanish government of the seventeenth century made a similar distinction between copper coinage on the one hand, and silver and gold on the other. The government enjoyed substantial seigniorage revenues from the minting and international circulation of silver coinage and, in order to maintain worldwide confidence in the currency, did not want to change the standards of these coins. On the other hand, the copper coinage used in the domestic economy were subjected to a policy of regular debasements. Motomura (1994).

The debasement during the reign of Mahmud II unfolded in an uneven fashion, in fits and spurts. An examination of the timing and magnitudes of each debasement should provide important insights into the motives of the government as well as the fiscal consequences. There is no doubt that the fiscal difficulties and crises created by the wars figured prominently in the decline of the currency and its timing. For example, highest rates of debasement in Ottoman history took place during and after the war of 1828–29 with Russia. Between 1828 and 1831, the silver content of the kurush was reduced from 2.32 grams to 0.53 grams, a decline of 79 percent during 4 years. As the financial conditions began to improve after 1832, however, the silver content of the currency was raised to 0.94 grams. (Figure 1)

A simple model can be employed here to examine the attitudes and behavior of Ottoman governments towards debasement during these three decades, and more generally during the period 1789–1844. In this framework the government is viewed as weighing the short term seignorage revenues accruing from debasements against both the short term and long term costs of such action. If the state perceives these costs to be less than the expected seigniorage benefits, then, a debasement or a series of debasements may be adopted. In other words, far from being an exercise in futility, the debasements are viewed as a potentially effective instrument of fiscal policy, especially in the short term.

The fiscal benefits of a debasement are not difficult to establish. With the amount of specie at hand the state is able to issue a higher amount of money in nominal terms and thus meet a larger amount of its obligations. In addition, the state obtains additional seigniorage revenue from the old coins brought to the mint by the public. As prices and wages paid by the state rise, however, many of the state revenues which are fixed in nominal terms will decline in real terms. In other words, debasements generate an initial surge in revenues followed by their decline in real terms due to the high levels of inflation they create. In the longer term, a debasement may even lead to a real decline in state revenues if the state does not adjust upwards the taxes and other revenues which have been fixed in nominal terms.

There are a number other possible costs of debasements that may be borne by the state. If the public loses confidence in the currency and begins to anticipate further debasements, it will become increasingly difficult, for the state to take advantage of further reductions in the specie content of coinage. For example, in the open mint system, the public may begin holding another currency and stay away from the mints. Some degree of currency substitution did that place in this Ottoman episode as varieties of foreign coinage were always free to circulate.

Another cost of debasement in the Ottoman context was the emergence of widespread counterfeiting. When the state issued new coins with lower specie content, counterfeiters immediately began to mint the new coins with the same or even higher silver content in order to share the seigniorage revenues of the state. This opportunity declined, however, when the prices of metals adjust upwards along with other prices.

Yet another cost of was the adverse implications of debasements for the ability of the state to borrow domestically. One of the reasons why the state did not pursue further the option of long term internal borrowing was that, for a variety of reasons, this process was perceived to be too costly. When the state begins to resort to debasements, however, it loses whatever credibility it might have in these markets. There is evidence that with the acceleration of debasements after 1808, rates of interest increased even further and it became even more difficult for the state to sell the esham.

In the Ottoman case, probably the most important cost of debasements was the political opposition it generated amongst the urban groups, especially in the capital city. Since incomes of some groups were fixed in nominal terms, they stood to lose from debasements and the subsequent price increases unless their wages and salaries were also adjusted upwards. Best organized and most powerful amongst them were the janissaries stationed permanently in the capital. In Ottoman history, there are a number of successful revolts by the janissaries against the debasements of the state. Their opposition was a major constraint faced by the governments considering debasements. During the reign of Mahmud II, the janissaries were an especially important part of the political picture in the capital as they opposed his efforts of western style reform. Mahmud II wanted to replace the janissaries with a western style army. However, during the early years of his long reign, he did not have the political support to make this critical move.

Into this equation of costs and benefits, wars enter as exogeneous shocks, events which raise both the need for short term revenues for the state and the willingness of the public to accept or excuse extraordinary measures such as debasements. As the urgency of generating revenues increased, the state often invoked references to holy wars and even linked the new coinage explicitly to the ongoing wars, by calling the new issues of coins and bonds, cihadiyye, for example.

During the reigns of both Selim III and Mahmud II under examination here, the governments were well aware of the limitations imposed by the janissaries. Hence, debasements were used only in connection with wars. After the janissaries were finally defeated and the order was abolished in 1826, in what is usually considered as one of the most important political events of this period known as Vaka-i Hayriye or the Auspicious Event, a major constraint in the way of debasements was lifted. While the government did not embrace debasements as a peacetime policy, it is not a coincidence that during the first major war following this event, it undertook the largest debasement ever in Ottoman history, reducing the specie content of the kurush by 79 percent within a period of four years.

It is interesting that by reducing the borrowing requirements of the state, these seigniorage revenues also brought down the interest rates in domestic financial markets and provided indirect benefits for the state treasury. In addition to any amount the state may have borrowed in the domestic markets, the decline in interest rates provided fiscal relief through its impact on the tax farming system. The tax farmers who entered state auctions for the right to collect specific tax revenues of the state were required to make a certain fraction of these payments in advance for which they typically borrowed from the private

financiers. When the domestic interest rates declined, therefore, the auction prices of tax farms tended to rise, thereby increasing the net tax revenues of the state.

This examination of the currency policy of the Ottoman government during these three turbulent decades shows both the benefits and limitations of debasements. While the Ottoman administrators were well aware of the seigniorage calculus and state did obtain obvious fiscal benefits, it is also clear that they were reluctant to view debasements as a permanent instrument for raising revenue, to be used during peace as well as wartime. The time series I have constructed for the silver content of the Ottoman currency also shows that twice during this period, in 1818 and 1832, the government raised the silver content of the kurush after the return of peace, confirming those limits of debasement as perceived by the government. (Figure 1)

5. A New Strategy: Stable Money and External Borrowing

From the perspective of Ottoman economic and monetary history, the nineteenth century, especially the period after 1840, constitutes a period quite different from the earlier era. On the one hand, it was characterized by major efforts at Western style reform, in administration, in economic, fiscal and monetary affairs as well as education, law and justice. This was also a period of integration into the world markets and rapid expansion in foreign trade particularly with Europe turning the Ottoman economy increasingly into an exporter of primary products and an importer of manufactures. It is estimated that the foreign trade of the areas within the 1911 borders of the empire, Macedonia, Anatolia and Syria, increased by more than 12 to 15 fold between 1820s and World War I.[14] This process was facilitated by the construction of ports and railroads and by the establishment of modern banking institutions by European capital. As a result, the commercialization of agriculture proceeded rapidly in Macedonia, western Anatolia and along the Syrian coast. The rural population was drawn to markets not only as producers of cash crops but also as purchasers of imported goods, especially of cotton textiles. These developments substantially increased the demand for and the use of money in these more commercialized regions of the Empire.

For the European governments and especially the British, the success of reforms was considered essential for maintaining the territorial integrity of the retreating empire. They also believed that rapid expansion of commercial ties with Europe based on the principle of comparative advantage and European direct investment in the Ottoman economy which would contribute to that end were essential for the economic development of the country. In this context, monetary stability was perceived as an important pre-requisite for both reform and the expansion of international trade. As a result, the Europeans and especially the British began to exert considerable pressure on the Ottoman government to establish a more stable monetary system. They also made clear that they were ready to provide the technical expertise necessary for this purpose. The Europeans also linked future

[14] Issawi (1980), Chapter 3 and Pamuk (1987), Chapter 1.

Ottoman access to European financial markets explicitly to fiscal reform and monetary stability.

As for the Ottoman government, the monetary conditions had reached chaotic proportions by the end of the 1830s. While the government had succeeded in raising short term revenue from frequent debasements, the resulting inflation had brought unfavorable political consequences. In addition, the production of large variety of coins each with different standards since the beginning of the century and the inability of the government to retire the earlier series from circulation had added to the difficulties. The earlier coins exchanged according to their silver content rather than the nominal value at which they had been issued. The quality of the many types of gold coinage that were produced during this turbulent period had also deteriorated although these were not debased as often or as extensively. While these conditions created difficulties for daily transactions, they made it even more difficult to carry out international trade. At the same time, the appeal and use of European coinage had increased especially in international trade and for store of wealth purposes.[15]

A reform in coinage was undoubtedly in order, and after the death of Sultan Mahmud II in 1839, the new government openly expressed that intention in 1840 as one of the first items in its agenda. Mint technicans and other specialists were invited from England and France to provide advise the ottoman government about the new standards of coinage. New machines and technology was imported from England. [16]

After some delay, the decision was made to adopt the bimetallic standard, a system in which the silver kurush and the new gold lira were both legal tender, freely convertible at the fixed rate of 100 kurush for one gold lira and obtainable at the government mint. The government began to produce the new gold coins in 1843 and the following year the new silver coins were issued along with an official declaration from the imperial mint, setting out the reasons for the reform. The gold-silver ratio was fixed at 15.09. [17] In practice, however, the government did not command sufficient resources to withdraw all the previous coinage from circulation by compulsory redemption. As a result, it was soon forced to recognize them as legal tender and even announce the official rates at which each of these, especially the large silver coins minted in the 1830s, would be accepted. Some of these coins remained in circulation until World War I.

The Ottoman governments abandoned debasements as a means of raising fiscal revenue after 1844. All silver and gold coinage minted until 1922 adhered to the standards established in 1844. (Figure 1) In addition, copper coinage of small denominations continued to be minted for daily transactions. Nickel coinage was introduced for the same purpose in 1910.

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[15] For a detailed list of all coinage, both Ottoman and foreign, circulating in the Balkans, for example, see Cohen (1976).

[16] Olçer (1970), p. 17.

[17] Pamuk (2000), pp. 206–8.

The stability of coinage did not mean the end of fiscal difficulties and the need to raise additional revenue, however. Throughout the century, the Ottoman administrations had difficulties balancing the budget and resorted to a variety of methods to deal with its fiscal problems. One method of raising fiscal revenue which began to be used in 1840 was the printing and circulation in the Istanbul area of interest bearing paper money called kaime-i muteber-i nakdiyye or kaime for short. As their volume remained limited until 1852, the kaime performed reasonably well despite problems with counterfeiting. During the Crimean War, however, large amounts of kaime were printed and the market price expressed in gold Liras declined to less than half the nominal value. One gold Lira began to exchange for 200–220 kurush in kaime. As a result, this first experiment in paper money resulted in a major wave of inflation. The kaimes were finally retired in the early 1860s with the help of short term loans obtained from the Imperial Ottoman Bank. [18]

There were two other occasions, both of them during major wars, when the government resorted to non-covertible paper money as a fiscal measure. The second kaime episode took place during the war of 1877–78 with Russia and they circulated in most parts of the empire. Because of their large volume, however, they declined to one quarter of their nominal value within two years even though the government agreed to accept some payments in paper currency. Similarly, during World War I, non-convertible paper circulated regularly and was one of the leading sources of fiscal revenue. By 1917 one gold Lira equalled six paper Liras. Once again, the use of kaime resulted in considerable rise in prices expressed in paper currency. For the period 1844–1914 as a whole, then, non-convertible paper remained an exception used only under extraordinary circumstances.

The most important method adopted by the Ottoman government after mid-nineteenth century to deal with the recurring budget deficits was borrowing in the European financial markets. This process was initiated in 1854 during the Crimean War. In the early stages, the Ottomans were supported by their wartime allies, the British government, which fully guaranteed the first bond issue against the Ottoman annual receipts from the Egyptian tribute. In the following two decades, the Ottoman government borrowed very large sums in London, Paris, Vienna and elsewhere under increasingly unfavorable terms. The net proceeds of these issues were directed almost entirely towards current expenditures. Only a small fraction was spent on infrastructure investment and on increasing the capacity to pay back. By the second half of the 1860s, the Ottoman finances had deteriorated to the point where new bond issues had become necessary to maintain the debt payments. A moratorium was in sight but the financial markets kept up the process lured by the unusually high rates of return. [19]

[18] Davison (1980).

[19] Blaisdell (1929) remains the classic treatment of this topic. For the magnitudes of funds flows arising from external borrowing, see Pamuk (1987), Chapter 4 and Appendix III.

When the financial crises of 1873 led to the cessation of overseas lending by the European financial markets, the Ottoman government was forced to declare a moratorium on its outstanding debt which stood at more than 200 million pounds sterling in 1876. After a period of prolonged negotiations, the Ottoman Public Debt Administration was established in 1881 to exercise European control over parts of Ottoman finances and ensure orderly payments on the outstanding debt whose nominal value was reduced approximately by half during the negotiations. For the following three decades until the outbreak of World War I, a sizable share of Ottoman tax revenues were controlled by the OPDA and used for debt payments. This control and the regular payments on the debt was quite reassuring for the European financial markets. As a result, the Ottoman government was able to resume borrowing towards the end of the century. With the rise of military spending, Ottoman borrowing gained momentum after the turn of the century. On the eve of World War I, the volume of annual borrowing as well as the outstanding external debt had reached unusually high proportions reminiscent of the 1870s. [20]

6. Credibility in the International Markets

From the perspective of the present paper, the important question, then, is why the Ottoman government pushed aside alternative methods of financing its deficit such as internal borrowing, debasements and/or issueing inconvertible paper and continued almost exclusively with external borrowing during these seven decades. We might point out that internal borrowing, especially long term internal borrowing, was not a serious possibility because of the limited size of the domestic market for funds in relation to the borrowing needs of the state. In addition, it might be argued that debasements of coinage had become an impractical method of seigniorage in the nineteenth century. Inconvertible paper currency often served the same purpose without some of the limitations and disadvantages of debasements. Hence, the actual choices facing the Ottomans can be reduced to two : inconvertible paper currency and external borrowing. Why did the ottoman governments insist on the latter and used the former only during exceptional periods such as wars ?

Part of the answer lies with the fact that, until the moratorium of 1875, the Ottoman government was a novice in external borrowing. Selling bonds in the European markets with maturities of 20 years or longer and thereby postponing the short term fiscal problems to the future must have appeared as an easy solution for them at the beginning, especially in view of the political and economic costs associated with debasements and inconvertible paper which burdened the Ottoman governments without any respite from 1808 until the 1860s.

[20] Pamuk (1987), Chapter 4.

After the establishment of the OPDA and European control over Ottoman finances, however, inexperience can not be considered as an explanation. By that time the Ottomans had learned more about the costs and consequences of borrowing abroad without bringing the budget deficits under control. For this second period, we need to focus on a combination of pressure from the OPDA and more generally the European interests for maintainning monetary stability and the need for the Ottomans to maintain credibility in the European markets if they wanted to retain their option of external borrowing.

The reasons for European pressure on the Ottomans to maintain monetary stability were the same after 1880s as they were in the earlier part of the century. Monetary stability was considered as an important condition for the expansion of trade with Europe and for attracting direct European investment. The representatives of the OPDA also made clear that monetary stability was necessary if the Ottomans wanted to retain their access to the European financial markets. Even though the Ottoman government issued bonds in European currencies, the perception was that high seigniorage and high inflation would seriously hurt the chances for borrowing abroad both in the short and long term.

In fact, the financial control exercised by the OPDA enabled the Ottoman government to borrow long term in the European markets at 4 to 5 percent per annum, which was reasonably low at the time wheras the effective rates paid by the Ottoman government in the earlier period leading up to the moratorium had fluctuated between 10 to 12 percent at a time of roughly stable commodity prices world wide. The ability of the Ottomans to continue borrowing at these low rates, according to this argument, depended on maintaining their credibility in the European financial markets especially in view of its poor record before 1875. [21]

At that juncture it was clear that the Ottoman government had to be willing to burn all bridges with European commercial and financial interests in order to abandon monetary stability and return to debasements and/or inconvertible paper as the basic form of deficit finance. Instead, the government made great efforts to retire the inconvertible paper issued during the war of 1877–78, which took place after the moratorium was declared and before the negotiations with the creditors had ended. After these paper issues were retired, the government adhered to some form of the gold standard and the inconvertible paper experiment was not repeated until World War I.

[21] Bordo and White have contrasted the financial and currency policies of Britain and France during the Napoleonic Wars. They argued that the reason why France, the financially weaker country followed more “orthodox” policies during this period was its poor reputation and lack of credibility in the international financial markets. Bordo and White (1991).

7. Conclusion

After using debasements for deficit finance for many decades, the Ottoman government, along with many others around the world, embraced bi-metallism in mid–19th century and began to borrow in the European financial markets. From the 1850s to World War I, debasements were abandoned, relative monetary stability was maintained and external borrowing remained the most important mechanism for financing the budget deficits. The paper has examined the reasons for as well as the consequences of this shift. It has been argued that the shift was due to the combination of European pressure and a desire on the part of the Ottoman government to maintain credibility in and access to the European financial markets.

What was the long term balance sheet, then, for the mid-nineteenth century regime change ? Monetary stability, rapid expansion of foreign trade and European direct investment should appear on the positive side. Annual rate of growth of Ottoman foreign trade averaged close to 5 percent in real terms during the nineteenth century. There is also some evidence for economic growth from mid-century to World War I. If true, this economic growth was certainly related to the growing commercialization of the Ottoman economy. Monetary stability undoubtedly contributed to that process. However, the Ottoman default in 1875, the establishment of the Ottoman Public Debt Administration and the surrender of some of the leading sources of revenue to to the European creditors in 1881 suggest that the Ottomans paid a heavy price for borrowing large amounts from abroad before putting their fiscal house in order.

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South-Eastern European growth experience in European perspective, 19th and 20th centuries

Matthias Morys*

1. Introduction

South-Eastern Europe *ante portas*. While Greece and Slovenia are the only two countries of the region to enjoy European Union membership currently, nine more countries could potentially join the European Union (EU) within the next ten to fifteen years (table 1). Bulgaria and Romania will accede to the EU in 2007, and three more countries either have started accession negotiations with Brussels (Turkey, Croatia) or will do so in the near future (The former Yugoslav Republic of Macedonia). The remaining countries, i.e. the other successor states of former Yugoslavia and Albania, have either signed or will shortly sign association agreements with the EU, and they have been given a promise to consider their application when political and economic factors allow.

Within the last two centuries Balkan nations[1] have travelled a long way, from being parts of the Ottoman and Austrian empires to independent states, and from there to membership in a supranational union. After Balkan nationalism produced much bloodshed in the 19th and 20th centuries, EU membership can even be seen as the 21st century answer to what 19th century observers called the "Eastern question". Accession to the European Union and success of EU membership will, to a large extent, depend on economic fundamentals: when will economic conditions be ripe for EU membership to be mutually beneficial?

While it is certainly not for us to make any suggestions, this paper gives an answer to a closely interrelated question: how have the South-Eastern European economies performed in a European perspective since the 19th century? Have they converged on the economically more mature economies of North-Western Europe – epitomised by France,

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[1] We will use this terminology interchangeably with South-Eastern European countries. As Mazower (2001: 1–6) points out, the word "the Balkans" itself came into widespread use only in the late 19th century. For most of the 19th century, people referred to "Turkey in Europe", a terminology which became increasingly inaccurate – and unacceptable to the newly established Balkan countries – as Turkish influence in South-Eastern Europe eroded continuously. Similarly, reinventing the region as "South-Eastern Europe" can be seen as an attempt to leave behind everything that popular mind associates with the word "the Balkans". *Caesar dominus et supra grammaticam.*

the United Kingdom (UK), and Germany – and the United States (US)? Is there a need to distinguish between periods in which the Balkan countries caught up and others when they fell behind? Have some South-Eastern European countries performed better than others in the long run? This paper is motivated by the convergence hypothesis, i.e. the hypothesis that economic laws drive a process by which poorer countries will converge on richer ones. The convergence hypothesis is built around a country – or a set of countries – that are viewed as "economic leaders", and other countries that are viewed as "followers" with a potential for economic catch-up. We will choose the US, the UK, Germany, and France as our set of "economic leaders", against which we will measure the economic performance of the South-Eastern European economies from 1870 to 2001.

The remainder of this paper is structured as follows. In the second chapter, we will explain why economic theory suggests economic convergence to occur between rich and poor countries. We will illustrate what kind of indicators are available for real economic convergence, and why we choose to rely on GDP per capita. We will also discuss more recent theories in economics that see convergence as only one possible outcome of economic development. These theories, mainly based on endogenous growth theory and economic geography, underline the potential for long-term economic divergence.

Table 1

South-Eastern European countries

	Year of independence	**Year of European Union membership**
Current EU members		
Greece	1832	1981
Slovenia	1991	2005
EU Acceding countries		
Romania	1859/1878	2007
Bulgaria	1878/1908	2007
EU Candidate countries		**Start of membership negotiations**
Turkey	1923 (declared a republic)	2005
Croatia	1991	2005
The former Yugoslav Republic of Macedonia	1991	not started as of June 2006
Potential EU Candidate countries		**Date of signature of association agreement**
Serbia	1815/1878	under negotiation
Albania	1912	June 2006
Bosnia-Herzegovina	1991	negotiation has not started yet
Montenegro	2006	under negotiation

Sources: European Commission (2006), Mazower (2001).

In the third chapter we will describe the data we are relying on for the purpose of this study. Potential and pitfall of the data will become clear, and any weakness should be seen by the South-Eastern European Monetary History Network as an additional incentive to improve on the quality of the existing data.

Chapter four addresses the main question of this paper: to what extent have South-Eastern European economies converged with the more mature economies of North-Western Europe – represented by France, the UK, and Germany – and the US since 1870? We will distinguish five different periods: (a) 1870 – 1913, often called the First Age of Globalization or the *Belle Epoque* of the global economy; (b) 1918 – 1938, the interwar period; (c) 1950 – 1973, often referred to as the Golden Age of European economic growth; (d) 1973 – 1989, from the 1973 oil price shock to the collapse of communism in South-Eastern Europe; finally (e) 1989 – 2001, from the collapse of communism to present times. Differentiating between these periods aims at detecting periods of economic convergence as opposed to periods of economic divergence. While there were clearly periods of convergence, our findings for the South-Eastern European growth experience in the long run, ie from 1870 to 2001, will be rather bleak. Only Greece and Slovenia have converged with North-Western Europe and the US, whereas all other countries have actually fallen back slightly since 1870.

Chapter 5 summarises and concludes.

2. Theoretical considerations: the convergence hypothesis and countervailing ideas in economics

Should we expect convergence of economies over time? Two schools of thought can be distinguished: on the one hand, economic models rooted in Solow's now classical 1956 growth model. Solowian models predict convergence of productivity levels, thereby implying similar GDP per capita levels. On the other hand, the more recent literature has developed models seeking to reconcile economic theory with the empirical evidence of sustained – in some cases increasing – economic differences between countries. Endogenous growth theory, economic geography and path dependence theories all see economic convergence as only one potential outcome, with divergence being equally possible. We shall now turn to a closer description of these opposing schools of thought.

2.1. The convergence hypothesis

The prediction of economic convergence can be dated back to the classical economists, in particular David Hume (O'Brien 2004). Such a prediction certainly resonated well with the optimistic spirit of European enlightenment. The first modern economist to put these ideas into a coherent model was Robert Solow. One assumption is essential in predicting economic convergence. Solowian growth models are based on a macroeconomic production function of the type $Y = T * f(K, L)$, where income (Y) is the product of T – which can be interpreted as total factor productivity, i.e. the efficiency at which capital and labour are allocated – and a Cobb-Douglas type macroeconomic production function f,

which is determined by the levels of capital and labour employed (Barro&Sala-i-Martin 2003). F is a function characterised by constant returns to scale and diminishing returns to the accumulation of only one of the two factors of production. The latter implies: the higher the capital-to-labour ratio (K/L), the lower the marginal productivity of capital. As the marginal productivity of capital, in theory at least, equals the remuneration of this factor of production, capital will flow from countries with high capital-to-labour ratios (ie rich countries) to countries with low capital-to-labour ratio (ie poor countries). In the long run, the capital-to-labour ratio will equalise across countries, leading to economic convergence.[2]

2.2. Countervailing ideas in economics

In recent years the convergence hypothesis has come under serious attack from different sides. Criticism of the convergence hypothesis mainly reflects unease over its explanatory power, as divergence rather than convergence characterised much of the 20th century global growth experience (Pritchett 1997). Another contradiction to the convergence hypothesis is substantial evidence showing that capital actually flows from poor to rich countries and not the other way around (Lucas 1990). Two schools of economic thought, in particular, have criticised the convergence school. In addition, the path-dependency school in economic history has also provided theoretical arguments against the prediction of economic convergence.

The endogenous growth theory, also called new growth theory, was the first attempt to overcome Solow's neoclassical growth model with its prediction of convergence (Aghion&Howitt 1998). Understanding why this theory is called *endogenous* growth theory also helps understanding why convergence is no longer predicted as the only outcome. Solow's growth model was concerned with the process and the effects of factor accumulation. Technological change was left unexplained; consequently, the variable T in the growth equation Y = T * f(K, L) was exogenous. The endogenous growth theory attempts to model the process of technological change; technological improvements are seen as return to investments in capital (either physical or human capital). What looks like an extension to Solow's growth model effectively removes the prediction of convergence. Romer and other proponents of the endogenous growth theory argue that there are not necessarily diminishing returns to capital accumulation, as capital investment often generates spill-over effects in terms of technological improvements. But if there are no diminishing returns to investment in capital, then convergence can no longer be predicted.

[2] It should be stressed that equalisation of marginal factor productivities also depends on T which Solow saw as exogenous. As indicated in the main text, T can be interpreted as total factor productivity, ie the efficiency at which capital and labour are allocated. By adopting best practice from the economic leader, it might be argued that the value of T will not differ significantly from one country to the next. As a consequence, marginal factor productivities solely depend on the macroeconomic production function f.

Coming from a very different angle, economic geography is a more recent school of thought in economics that views both convergence and divergence as potential outcomes of economic development (Krugman 1995). Economic geography is concerned with where companies decide to locate. A company's decision to locate is guided by two opposing principles. On the one hand, a company wants to produce its goods at a location where suppliers and skilled labour are close. As the decision of companies producing similar goods is guided by similar considerations, agglomeration of industries might be the outcome. On the other hand, companies want to be close to potential buyers of their goods in order to reduce transportation costs. This rationale suggests that companies will be evenly distributed across a the territory of a certain unit (which might be a country, but can also be a free trade area such as the European Union or the North American Free Trade Association). Economic geography thus emphasises costs versus benefits of agglomeration. If costs are higher than benefits, concentration of industry will be low – and hence economic convergence more likely. By contrast, if the benefits of agglomeration exceed their costs, agglomeration will occur and some regions/countries will be home to substantially more industry than others – divergence will be the consequence. Economic geography entails some interesting paradoxes. For instance, road and rail track improvements in poor regions/countries are often justified on the grounds that they will attract industry to a region. Economic geography holds that the reverse might well be true; *ceteris paribus*, falling transport costs to a poor region might make it even less attractive to outside companies to relocate to the poor region/country.

Last but not least, the path-dependency school can be seen as economic history's contribution to the convergence debate. The path-dependency school emphasises inertia to institutional change; it thus represents a more recent branch of New Institutional Economics (North 1990). The early New Institutional Economics believed in the progress of institutions over time. More efficient institutions would supersede less efficient ones in the long run (North&Thomas 1973). The continued economic divergence between the developed and the developing world has seriously challenged these beliefs. Inefficient institutional arrangements have persisted in many parts of the world, as demonstrated by 19th and 20th centuries Latin American economic development (Engerman&Sokoloff 1997). To make matters worse, in many cases they appear to have reached a sub-optimal equilibrium. This empirical evidence has shifted the interest of NIE to new questions: Why have inefficient, growth-inhibiting institutions often proved so resistible to change? Is there a mechanism such as path dependence, ie historical, environmental or cultural conditions which determine a country's development?

We can conclude as follows: Economic theory based on the neoclassical Solow growth model provides arguments for economic convergence, but such a process is by no means automatic. More recent models, based on endogenous growth theory, economic geography and path-dependency theory, show that certain conditions have to be fulfilled for economic convergence to occur. Whether economic convergence occurs or not is therefore an empirical question rather than a theoretical one. This is what we turn to now.

3. Data

Any study of the convergence hypothesis for South-Eastern Europe necessitates reliable data. The convergence hypothesis can refer to productivity levels as well as to GDP per capita levels (cf. chapter 2). We will use GDP per capita data, as they are more reliable and more readily available. What data will we use, what time period will we study, and how reliable are the data?

We have used data from Maddison (2003) for all countries under investigation, ie for the South-Eastern European countries as well as the countries we are comparing them with. The Maddison data were complemented by data from Good&Ma (1999) on GDP per capita for Slovenia, Croatia, Serbia, and Bosnia-Herzegovina from 1870 to 1989.

We have limited ourselves to the period from 1870 to 2001. Before 1870, data are not reliable even for some of the mature economies of the day. Maddison, for example, does not provide annual data for the US before 1870, and German data are much more reliable after unification in 1871 than before. As we are interested in South-Eastern Europe, 1870 might actually be a good starting point; by then, one Balkan country – Greece in 1832 – had achieved independence, and two more – Serbia and Romania – would soon follow at the Congress of Berlin in 1878, with Bulgaria achieving autonomy the same year. 2001 as the last year of our study is dictated by the desire to rely on consistent data. GDP per capita figures are best expressed in 1990 Geary-Khamis dollars to enable comparisons over time, and Maddison data are only available until 2001. We have tried out data from other sources for 2002 – 2005. As the basic picture remained unchanged, we relied on the Maddison (2003) and Good&Ma (1999) data for reasons of consistency.

How reliable are the data from Maddison (2003) and Good&Ma (1999)? The data for 1914 – 2001 are of better quality than the data for 1870 – 1913. This is because the 1914 – 2001 data are genuine GDP data. By contrast, the data for the South-Eastern European countries for 1870 – 1913 were derived by proxy estimates. Proxy estimates to fill gaps in GDP estimates are a widely used technique when national-income type data are poor but a wide range of other socioeconomic data are available (Crafts 1983). Good&Ma (1999) – the data source Maddison is relying on for the South-Eastern European countries with the exception of Greece – use data for 12 European countries with good national income data to estimate a regression equation where GDP per capita is a function of several proxy variables. They find a stable relationship between GDP per capita and (a) the share of non-agricultural employment in the labour force, (b) the crude birth rate, and (c) letters posted per capita. In a second step, GDP estimates for South-Eastern Europe are estimated based on the estimated regressors and data available for (a), (b), and (c). The advantage of the proxy approach is twofold in our context. First, the proxy estimates provide us with data stretching back into the 19th century. In the words of Maddison (2003: 93): “Although I reject the proxies as a substitute for direct estimates, they seem plausible enough to fill gaps in the database until direct estimates become available.” Second, they are highly valuable for political/economic units that did not yet

form independent states; the socioeconomic data required for the proxy approach most usually exists on the level of relatively small territorial units. Therefore, Good&Ma (1999) were able to estimate GDP per capita levels in Slovenia, Croatia, Serbia and Bosnia-Herzegovina at a time when none of them was independent.

It should be pointed out that the data for 1914 – 2001 are not perfect either. Three reasons account for potential deficiencies. First, sophisticated national accounting methods are largely the result of Cold War efforts to establish accurately the size of Western economies. As early examples one might think of the need to facilitate assessment of needs for Marshall Aid and burden-sharing in NATO (Maddison 2003: 24). By contrast, communist countries were not particularly interested in national accounting – with obvious consequences for the quality of the data. Second, the data that do exist are of limited quality, as the price mechanism did not work under communism. Last but not least, South-Eastern Europe has been characterised by frequent border changes over the course of the 19th and 20th centuries. Greece alone witnessed border changes in 1832 (independence), 1864, 1881, 1913, 1920, 1923 and 1946 (Clogg 2002: 42).

We mentioned earlier that much of the data might undergo considerable revision. One of the main purposes of the South-Eastern European Monetary History Network is to improve on existing data, and the articles of Ivanov and Kostelenos in these conference proceedings show that considerable revisions for Bulgaria and Greece are to be expected in future. While we feel that these estimates are superior to the Maddison estimates in many respects, we have not relied on them for several reasons. An obvious limitation of the Ivanov data is that they only encompass the years from 1892 to 1945 and hence a much shorter period of Bulgarian economic history than the one we are interested in. The main reason why we have solely relied on the data from Maddison (2003) and Good&Ma (1999) is the consistency of the data. All data series are transformed into 1990 Geary-Khamis dollars, allowing comparisons across countries and over time.

4. Empirical evidence

4.1. Who are the 'economic leaders' from 1870 to 2001?

The rationale of the convergence hypothesis implies the need to define an 'economic leader' (cf. chapter 2). This economy is characterised by a high capital-to-labour ratio; it represents the role model to be emulated by the 'follower' economies. For the post-World War II experience of Western Europe, for instance, the benchmark economy is the US (Abramovitz 1986, Crafts&Toniolo 1996). In our case, things are more complicated as the 'leader' economy switched from the UK to the US in the time-span we are interested in.

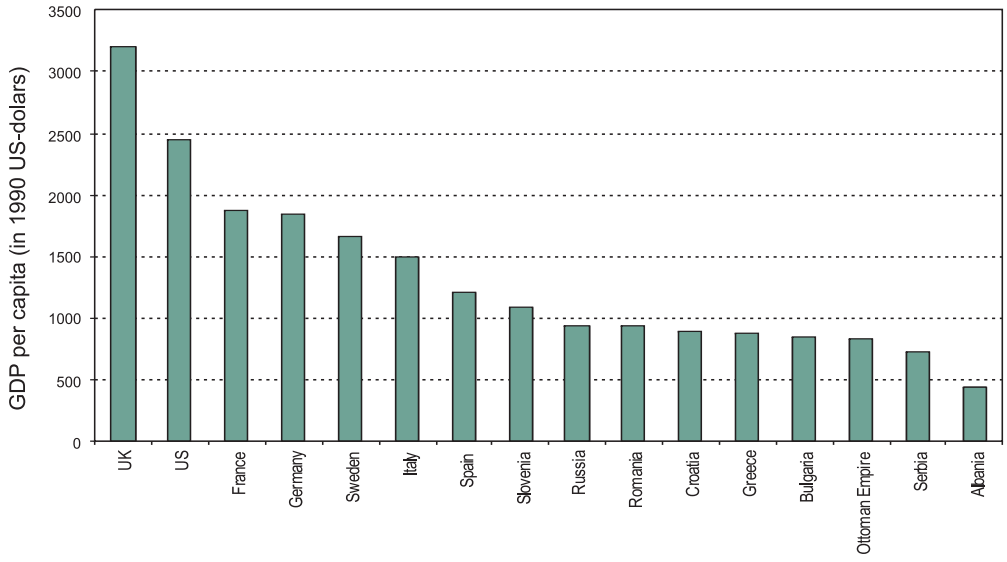
Figures 1 and 2 show GDP per capita levels for a selected number of countries in 1870 and 2001, respectively. In 1870, the UK was the leading economy of the day. GDP per capita was more than 30% higher than in the US and more than 60% above German and French levels. The British lead eroded quickly over the next decades. At the turn of the

century, the US overtook the UK in terms of GDP per capita income (Crafts 1998). The US has enjoyed higher GDP per capita than any of the large European countries ever since. The UK position also eroded within Europe, where the UK was overtaken by West Germany and France in the late 1960s. Another reversal of fortunes happened with German reunification in 1990 which put Germany behind France and England. As figure 2 shows the three largest European economies were playing roughly on par at the turn of the millennium.

This brief sketch demonstrates that choosing only one country as a 'leader' might be misleading when analysing the time span 1870 – 2001. We feel it appropriate not to refer to a unique leader, but rather to view the US, the UK, France and Germany combined as a benchmark that 'follower countries' wanted to come close to. We will therefore rely on an average measure for these four economies when trying to put the South-Eastern European growth experience into historical perspective.

Figure 1

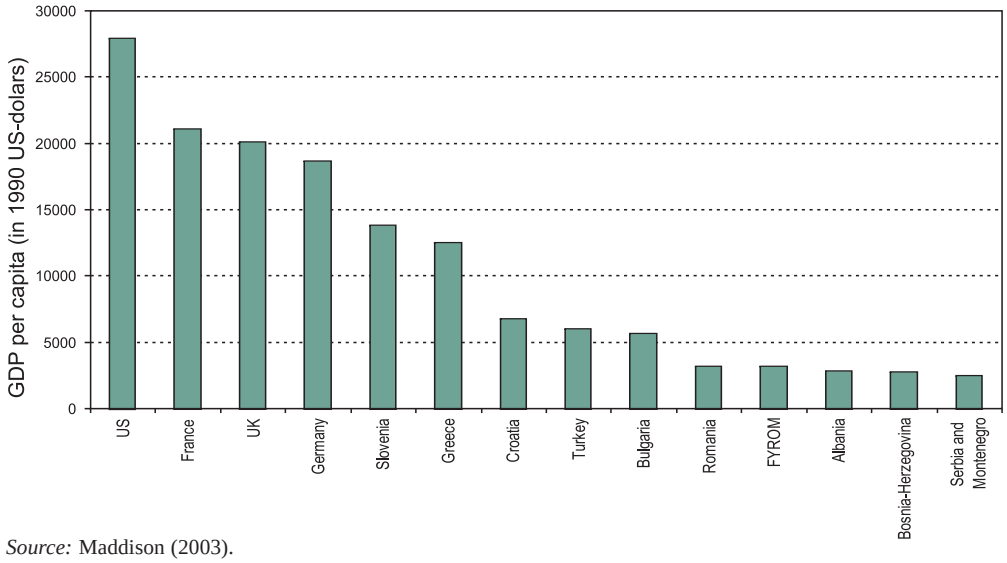
Level of GDP per capita in 1870 in selected European countries and the United States (in 1990 US-Dollars).



Source: Maddison (2003) and Good&Ma (1999).

Figure 2

Level of GDP per capita in 2001 in South-Eastern European countries and other selected countries (in 1990 US-Dollars).



Source: Maddison (2003).

4.2. 1870 – 1913: The First Age of Globalisation

Let us study figure 1 in some more detail. Industrialisation is normally seen as a process which started in England and then spread first to the North-Western European countries of Belgium, France, and Germany. Industrialisation also occurred relatively early in the New England states. Only in a second stage, did industrialisation spread beyond North-Western Europe to the Scandinavian, Southern European, Central European and South-Eastern European peripheries (Pollard 1981; Sylla&Toniolo 1991).

Figure 1 reveals the relative position of economic development of European countries in 1870; it includes representative countries of the Scandinavian and Southern European peripheries and Russia. The UK, the US, France and Germany were ahead of all other countries. Of equal interest is the relative position of the European peripheries. Tsarist Russia and the South-Eastern European countries were economically more backward than the Scandinavian and Southern European peripheries. While 19th century Balkan nationalist movements might have put the blame for economic retardation on the 'Ottoman yoke', the comparison with Russia – which was at roughly equal level with Romania – indicates that deeper forces were at work that distinguished Eastern Europe from Western Europe. One of the earliest studies to give an explanation was by Hajnal (1965). Based on a detailed study of the European demographic experience, Hajnal argued that Western Europe – which he saw as in the West of a virtual line from Saint Petersburg to Trieste – was characterised by a demographic system of preventive checks. In line with Malthus'

ideas, this was interpreted as advantageous – and hence leading to higher prosperity in the long run – over Eastern Europe with its positive check demographic system. Whatever the merits of this explanation and many others, virtually all economic indicators available suggest that Western Europe was richer than Eastern Europe in the 19th century (Mazower 2001: 17–44). It is worth pointing out that the difference between West and East was replicated within South-Eastern Europe itself, with Slovenia being the richest territory in 1870.

There are two more observations related to figure 1: first, from the four large Balkan countries to achieve autonomy and later independence in the 19th and early 20th centuries (Greece 1832, Romania 1859/1878, Serbia 1815/1878, Bulgaria 1878/1908), Romania comes out richest in 1870. This almost certainly reflects advantageous geographical endowments, with fertile land and even plains being abundant in what was initially the Danubian principalities of Wallachia and Moldavia. Greece, Serbia and Bulgaria all entail large parts of very mountainous territory and are less suited for agriculture. The natural riches of the Danubian principalities were well recognised in the 19th century, and agricultural surpluses sustained early on two of the more sophisticated cites in South-Eastern Europe, ie Bucharest and Jassy. It is worth remembering that the first hopes of 19th century Greek nationalists for statehood arose in the Danubian principalities under a Fanariot and former Russian army officer called Alexandros Ypsilantis. The agricultural riches – ie the even plains – proved his undoing, as it was easy for the Ottoman armies to fight Ypsilantis and his armies there. By contrast, the Greek revolution in the Peloponese, also in 1821 but some months later than Ypsilantis in the Danubian principalities, would be successful, partly because the mountainous territory gave a vital strategic advantage to the Greeks (Clogg 2002: 7–45).

The second observation refers to the Ottoman empire. How large were 19th century economic differences between the Ottoman empire and the European territories that wanted to break away from it? To much of 20th century political historiography this question seemed irrelevant, as it was assumed that 19th century Balkan national movements enjoyed widespread local support independent of economic motivations. Recent research, however, has demonstrated that in many instances economic incentives were needed to persuade an often passive rural population of the virtues of political independence (Mazower 2001: 45–76). The strongest incentive of this kind would surely be superior economic performance, coupled with the desire not to share the own wealth with the rest of the Ottoman empire. Figure 1 shows, however, that there were hardly any differences between the Ottoman empire and those countries that wanted to secede from it (or had already done so). In the case of Greece, this finding is supported by anecdotal evidence that many Greeks preferred the Ottoman empire over the new Greek state for purely economic reasons (Clogg 2002: 7–45).

While the Balkans were the poorest part of Europe in 1870, the South-Eastern European countries entered a very promising period of global economic history at this time. The time-span 1870 – 1913 has been described as the First Age of Globalisation, and rising prosperity and economic convergence were to be observed worldwide (O'Rourke&Williamson 1999). High growth rates were achieved in many parts of the world and help explain why 1870 – 1913 is often referred to as the *Belle Epoque* of the world economy. Resource rich and land abundant countries in the Americas prospered in particular. The United States and Canada achieved average annual GDP per capita growth rates of 1.8% and 2.3%, respectively, only to be surpassed by Argentina with 2.5%. The examples of Canada and Argentina demonstrate another crucial point of pre-World War I globalisation. Globalisation entailed specialisation, and specialisation meant that the land abundant countries would thrive on their comparative advantage, i.e. agriculture. Canada and Argentina had barely any industry in 1913, but both countries enjoyed higher GDP per capita than Germany and France (Maddison 2003).

If countries could grow rich with the help of agriculture alone, we should not be surprised to find similar results for the Balkans. Table 2 shows average annual growth rates for South-Eastern Europe from 1870 to 1913, alongside growth rates for the 'leader economies', the Scandinavian and Southern European peripheries and Russia. Two observations can be made. First, with an annual rate of 1.5%. South-Eastern Europe grew at the same pace as the economic leaders, and it actually enjoyed a slight lead over the Scandinavian countries. The European region losing out in the first age of globalisation was Southern Europe with an average annual growth rate of only 1.0%. This finding, here derived from aggregate GDP data, is consistent with more detailed studies on Southern Europe for this period (Tortella 1994). The other two countries with a poor growth performance were Russia and the Ottoman Empire. Second, there was little cross-country variation within South-Eastern Europe, with growth rates ranging between 1.3% and 1.8%. The GDP reconstructions from Ivanov and Kostelenos suggest that industry played a minor role in the cases of Bulgaria and Greece. In extrapolation, it seems reasonable to argue that the good growth performance of South-Eastern Europe as a whole from 1870 to 1913 reflects improvements in agriculture and the sale of agricultural surplus abroad rather than genuine industrialisation.

If growth rates were higher in the Balkans than in other parts of Europe, how much was achieved in terms of levels by 1913? Here the picture looks bleaker. Not even Slovenia, the most advanced Balkan territory, came close to the GDP per capita level of Spain, a low-income country in 1870 with poor subsequent growth performance (figure 1 and table 2). The main success, in terms of levels, was that by the outbreak of World War I, all Balkan countries – except for Bosnia-Herzegovina and Albania – were richer than Russia and the Ottoman empire.

Table 2

Average annual GDP per capita growth rates

	1870–1913	1918–1938[1]	1950–1973	1973–1989	1989–2001[2]
North-Western Europe and United States	**1.5%**	**1.2%**	**3.5%**	**2.0%**	**1.4%**
France	1.5%	1.2%	4.0%	1.9%	1.5%
Germany	1.6%	1.6%	5.0%	2.1%	1.0%
United Kingdom	1.0%	1.2%	2.4%	2.0%	1.7%
United States	1.8%	0.7%	2.5%	2.0%	1.6%
South-Eastern Europe[3]	**1.5%**	**0.6%**	**4.9%**	**1.3%**	**2.6%**
Albania	1.4%		3.6%	0.5%	5.7%
Bulgaria	1.4%	0.2%	5.2%	1.0%	1.5%
Greece	1.4%	2.6%	6.2%	1.7%	1.8%
Romania	1.5%	-1.7%	4.8%	0.8%	1.4%
Turkey	0.9%	1.8%	3.4%	2.4%	1.4%
Yugoslavia		1.3%	4.6%	2.3%	
Bosnia-Herzegovina			3.5%	2.6%	2.8%
Croatia	1.4%		5.2%	2.6%	3.9%
Serbia and Montenegro	1.8%		4.9%	2.8%	1.3%
Slovenia	1.3%		5.5%	2.5%	3.9%
Scandinavia	**1.4%**	**2.4%**	**3.4%**	**2.3%**	**1.8%**
Denmark	1.6%	2.0%	3.1%	1.7%	2.0%
Finland	1.4%	2.7%	4.3%	2.7%	1.5%
Norway	1.3%	2.8%	3.2%	3.0%	2.5%
Sweden	1.5%	2.1%	3.1%	1.7%	1.3%
Southern Europe	**1.0%**	**1.5%**	**5.3%**	**2.5%**	**2.2%**
Italy	1.3%	1.3%	4.9%	2.6%	1.5%
Portugal	0.6%	1.7%	5.4%	2.4%	2.7%
Spain	1.2%	1.4%	5.6%	2.6%	2.5%
Russia	**1.1%**	**1.9%**	**3.3%**	**1.0%**	**-1.8%**

[1] Growth rates for the interwar period were calculated by taking the 1913 value for 1918. This procedure avoids the problem of distinguishing between genuine growth after 1918 and recovery growth resulting from output losses in World War I. In virtually all cases our estimation leads to lower growth rates. This procedure was applied to avoid artificially high growth rates for the interwar period. In the case of Bulgaria, for instance, the growth rate would otherwise be 4.1%.

[2] For reasons spelt out in the main text, we chose 1992–2001 for Albania, Bulgaria, Romania and Russia and 1995–2001 for all successor states of former Yugoslavia.

[3] As most of Turkey's GDP is generated outside South-Eastern Europe, the calculation of the average annual growth rate does not take Turkey into account.

Sources: Own calculations based on Maddison (2003) and Good&Ma (1999).

4.3. The interwar period (1918 – 1938)

The interwar period is usually portrayed as a major departure from the pre-1913 global economic order. The rise of protectionism increasingly threatened the free trade ideals of the *Belle Epoque*, and the gold standard rule no longer commanded the respect it had enjoyed before World War I. Both factors explain why the interwar period is often viewed as a globalisation backlash.

The picture is more benign when comparing growth rates in the interwar period with those achieved between 1870 – 1913. As table 2 shows, interwar growth rates for many countries actually compare favourably with those of the *Belle Epoque*. The Scandinavian and Southern European peripheries as well as the Soviet Union and Turkey grew faster after World War I than before, and even in the case of the economic leaders the slowdown in growth was not substantial. It is not easy to reconcile these surprisingly high growth rates with the condescending attitude economic historians are normally treating the interwar period with. Probably the best explanation available remains that the interwar period saw the industrialisation of a large number of peripheral economies that had remained almost exclusively agricultural in nature before World War I. As interwar de-globalisation made traditional reliance on the agricultural sector more difficult, peripheral economies were forced to develop an industrial sector of their own. Therefore, it has been argued cases that good outcomes were actually the result of initially highly adverse economic conditions.

The notable exception to this rule was South-Eastern Europe. Balkan countries only achieved an average annual growth rate of 0.6%. While the *Belle Epoque* saw catch-up growth of South-Eastern Europe, this trend was reversed in the interwar period when Balkan countries fell behind again. On a closer look, table 2 reveals interesting differences between South-Eastern European countries. The poor result of 0.6% is driven by Bulgaria and Romania which virtually stagnated in the interwar period. By contrast, the newly founded Kingdom of Serbs, Croats and Slovenes (Yugoslavia) achieved a growth rate of 1.3%, which is roughly similar to our group of economic leaders. Greece even achieved a growth rate of 2.6% in the interwar period.

What explains the performance of South-Eastern Europe in the Interwar Period? It is not easy to give a straightforward answer to this question, given that Greece and Yugoslavia performed substantially better than Bulgaria and Romania. Probably the best explanation is related to what extent industrialisation efforts succeeded in different Balkan countries in the interwar period. In the case of Greece we know that industrialisation proceeded at respectable speed (Freris 1986; Mazower 1991). The opposite was true for Bulgaria, where the Ivanov data show that the contribution of industry to GDP remained at roughly 10% in the interwar period with virtually no change to pre-1913. At a time when de-globalisation made continued reliance on agricultural exports difficult, the only engine left for sustained growth was industrialisation; either a peripheral economy developed the secondary sector – or it simply stopped growing. Future research will need to establish to what extent this line of argumentation also explains the very different performances of Yugoslavia and Romania.

4.4. The Golden Age of European growth (1950–1973)

The period from 1950 to 1973 is conventionally seen as the Golden Age of (West) European economic growth (Crafts&Toniolo 1996). 1950 is normally chosen as starting year, as most European countries had by then returned to pre-war output levels. The oil price shock of 1973 marks the end of the Golden Age, as it accelerated the slow-down of growth which had started in the late 1960s. The economic leaders achieved an annual average growth rate of 3.5% from 1950 – 1973. *Wirtschaftswunder* West Germany excelled with 5.0% p.a. within this group. In the case of Western Europe, the standard explanation for these extraordinarily high growth rates is based on catch-up growth with respect to the US (which itself only grew 2.5% p.a.). The Golden Age of European economic growth is often seen as the quintessential example of economic convergence as predicted by the Solow growth model (Abramovitz 1986).

To what extent was the Golden Age of West European growth replicated in Eastern and South-Eastern Europe, large parts of which were under Soviet control? As for South-Eastern Europe, table 2 shows that Greece led the crowd with 6.2%, to be followed by Bulgaria (5.2%), Romania (4.8%) and Yugoslavia (4.6%). Even Albania achieved 3.6% of average annual growth in this period.

For most economists, the main problem of communism in generating economic growth lies in inefficient resource allocation. Inefficient resource allocation also explains, we will argue later, why South-Eastern European countries under communist rule virtually stagnated after the end of the Golden Age in 1973. This harsh verdict makes the question only more urgent: How do we explain the remarkable growth performance of Bulgaria, Romania and Yugoslavia in the 1950s and 1960s?

Hayek's praise of allocative efficiency of systems respecting price signals help explain different economic outcomes in capitalist systems as opposed to communist ones (Hayek 1960). There is, however, one key advantage to communist command economies; they possess the coercive means to enforce factor accumulation. It might be helpful to recall Solow's macroeconomic production function $Y = T * f(K, L)$ (cf. chapter 2). Communism is poor in increasing T (total factor productivity, ie the allocative efficiency at which factors of production are employed), but it might well be superior to capitalism in increasing K and L. Communist regimes could achieve what had been impossible to most Balkan countries in the interwar period: industrialisation. Marx had argued communism would transform industrial economies characterised by exploitation into more benign communist economies. While such transformation has never happened historically, another transformation of no less significance took place. Allen in his study of the USSR economy – for which he finds equally high growth rates in the Golden Age as we do for Bulgaria, Romania and Yugoslavia – calls this "From farm to factory" (Allen 2003). In other words, communism achieved the industrialisation of previously largely agricultural economies.

Economic historians will certainly not be surprised by such an interpretation. Gerschenkron (1962) already pointed out that late-comers to industrialisation required

what he called “substitutes for prerequisites to industrialisation”. While such substitutes might require only limited state intervention in moderately backward countries (such as 19th century Italy), Gerschenkron suggested that a strong state might be the quintessential “substitute” for truly backward countries such as Russia. Whatever one thinks of the political system of Soviet communism, it is hard to deny that it generated structural change and economic growth on unprecedented scale in Eastern and South Eastern Europe in the 1950s and 1960s.

4.5. 1973–1989: From the Oil Price Shock to the End of Communism

Global economic conditions changed after the 1973 oil price shock and brought the Golden Age of European growth to an end. Growth rates dropped by roughly 50% in most parts of the world (table 2); growth in the four economic leaders, for instance, dropped from 3.5% to 2.0%.

How did South-Eastern European countries perform from 1973 to the collapse of communism in 1989? Growth rates in the Balkans fell substantially more than in Western Europe. Romania, Bulgaria and Albania virtually stagnated with growth rates close to or even below 1%. Greece and Yugoslavia achieved growth rates of 1.7% and 2.3%, respectively.

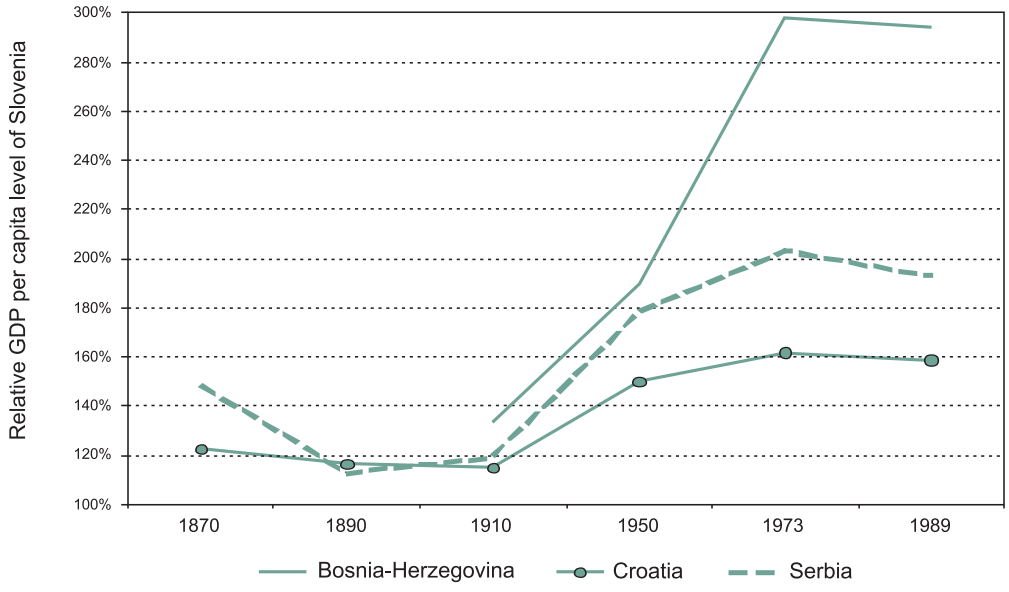
Is there a way to reconcile this poor performance of Romania, Bulgaria and Albania with the praise we have just given to their economic achievements during the Golden Age? When discussing Solow’s production function Y = T * f(K, L), we argued that communism might be superior to capitalism in increasing K and L, but inferior in allocating capital and labour efficiently; the poor growth performance from 1973 to 1989 simply reflects the other side of the coin. After World War II, high growth rates could be achieved simply by factor accumulation. At later stages of the growth process, however, additional factor accumulation became increasingly difficult. How do you want to make your population work harder, if you have already used the state’s coercive means to make them work long hours in the newly established factories? Similar considerations are true for increased accumulation of capital, which became more and more difficult in the 1970s and 1980s. In other words, after an initial period of rapid factor accumulation growth is essentially the result of increased allocative efficiency and new technologies (Crafts&Toniolo 1996). But exactly here communism failed from 1973 to 1989; the “creative powers of a free civilization” were conspicuousl absent, as Hayek (1960) had already anticipated at a time when communist countries were still enjoying high growth rates.

The only communist country to escape such harsh verdict is Yugoslavia, which achieved a growth rate of 2.3% from 1973 to 1989. The data prove much anecdotal evidence that Yugoslavia was an exceptional case within communist South-Eastern Europe for two reasons. First, Yugoslavia moved away from a centrally planned economy much earlier than 1989, allowing private entrepreneurship to an extent unacceptable to standard practice in communist countries. Second, Yugoslavia was unusually well integrated with the West European economies.

Last but not least, the data employed in this study allow to illuminate an interesting question of political history: To what extent was the dismembration of Yugoslavia after 1991 driven by economic factors? As figure 1 shows, "Slovenia" – which then belonged to Imperial Austria – had always been the richest part of what became Yugoslavia after World War I, followed by Croatia and Serbia, with Bosnia-Herzegovina coming last. Figure 3 shows the lead that Slovenia enjoyed over Croatia, Serbia, and Bosnia-Herzegovina from 1870 to 1989. GDP per capita differences grew from the foundation of the Kingdom of Serbs, Croats and Slovenes after World War I until 1973; differences then stabilised at extraordinarily high levels. In terms of GDP per capita, our data indicate that Slovenia was 59% richer than Croatia and 93% more wealthy than Serbia shortly before the dismembration of Yugoslavia.

Figure 3

GDP per capita level of Slovenia relative to Bosnia-Herzegovina, Croatia and Serbia, 1870 – 1989.



Source: Own calculations based on Good&Ma (1999).

4.6. 1989–2001: From the End of Communism to the Turn of the Millenium

Did economic growth in South-Eastern Europe return after the political changes of 1989? It is not straightforward to establish the appropriate starting year for the calculation of growth rates, as the transition from command economy to market economy led in virtually all countries to substantial output losses for some years after 1989. We have therefore proceeded as follows. For Greece and Turkey, there was no reason to deviate from 1989

as benchmark year. For Slovenia, Bulgaria, Romania and Albania we chose 1992, as it marked the lowest point of their GDP performance. For the successor states of Yugoslavia (except for Slovenia) we chose 1995, as the Dayton peace accord of that year reintroduced some forms of political and economic stability.

Slovenia and Croatia stand out as the most successful South-Eastern European economies, achieving growth rates of close to 4%. Romania and Bulgaria, by contrast, achieved only 1.5% and 1.4%, respectively. Croatia thus enjoys higher GDP levels as well as higher GDP per capita growth rates than Romania and Bulgaria. On the political level, 2007 will see the accession of Romania and Bulgaria to the European Union, while Croatia only enjoys the status of EU candidate country. This shows that EU decisions on accession are not solely determined by economic considerations.

4.7. GDP per capita levels of South-Eastern European countries relative to the 'economic leaders'

We have so far compared growth rates for five different sub-periods of 1870 – 2001. In this section, we will address the convergence hypothesis in another way: How have South-Eastern European GDP per capita levels changed relative to the 'economic leaders'? Table 3 shows our calculations for nine benchmark years; figures 4 – 6 visualise our results.

Table 3

GDP per capita levels relative to the United States, France, the United Kingdom and Germany (unweighted average), 1870 – 2001

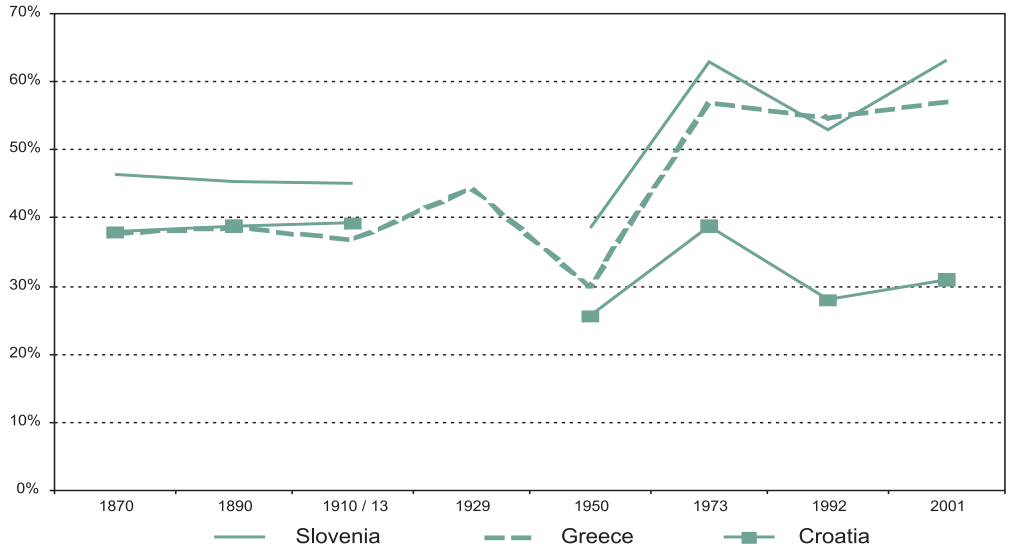
	1870	1890	1910	1913	1929	1950	1973	1992	2001
Slovenia	46.3%	45.4%	45.1%			38.5%	62.8%	52.9%	63.0%
Greece	37.6%	38.6%		36.7%	44.3%	29.9%	56.9%	54.7%	57.0%
Croatia	37.9%	38.9%	39.2%			25.6%	38.8%	28.0%	31.0%
Turkey	35.3%			28.0%	22.9%	25.3%	25.9%	30.2%	27.5%
Bulgaria	35.9%	37.1%	36.7%	35.4%	22.3%	25.7%	39.3%	26.5%	25.7%
Romania	39.8%	40.8%	41.8%	40.1%	21.8%	18.4%	25.9%	15.0%	14.4%
Albania	19.1%	19.6%	19.6%	18.7%	17.5%	15.6%	16.9%	9.2%	12.8%
Bosnia-Herzegovina			33.9%			20.3%	21.1%	12.8%	12.7%
Serbia and Montenegro	31.3%	40.2%	37.9%			21.6%	30.9%	17.2%	11.4%

Sources: Own calculations based on Maddison (2003) and Good&Ma (1999).

Comparing relative GDP per capita levels in 1870 and 2001, we find that only Slovenia and Greece have converged on the 'leader economies'; all other countries have fallen back. Romania stands out as particularly unsuccessful, slipping from 39.8% in 1870 to 14.4% in 2001.

Figure 4

GDP per capita levels of Slovenia, Greece and Croatia relative to the United States, France, the United Kingdom and Germany (unweighted average), 1870 – 2001.



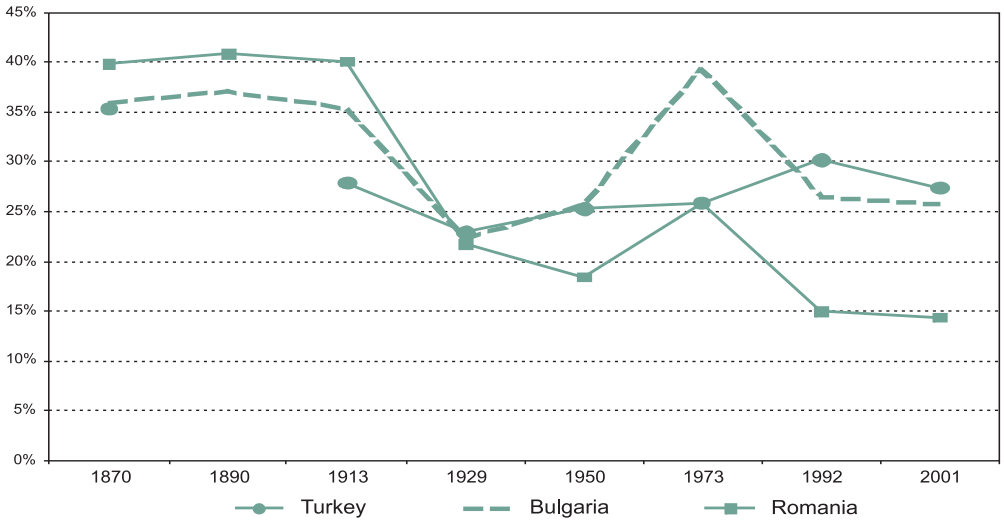
Source: Own calculations based on Maddison (2003) and Good&Ma (1999).

In 2001, only two South-Eastern European countries – Slovenia (63.0%) and Greece (57.0%) – enjoyed GDP per capita levels of more than 50% of the level of the 'economic leaders'. Croatia, the third-richest Balkan country, lagged behind substantially with only 31.0%. At the other end of the spectrum, we find four countries that enjoy GDP per capita levels of less than 15% relative to the 'leader economies': Romania (14.4%), Albania (12.8%), Bosnia-Herzegovina (12.7%), and Serbia and Montenegro (11.4%).

When did convergence and divergence occur? The only period of convergence for all nine economies under investigation was the Golden Age of European economic growth from 1950 to 1973. We can hence conclude that 1950 – 1973 also constituted the Golden Age of *South-Eastern European* economic growth. As far as the entire post-World War II experience is concerned, the picture is more mixed: only four countries have actually converged with the 'economic leaders' since 1950: Slovenia, Greece, Croatia, and Turkey.

Figure 5

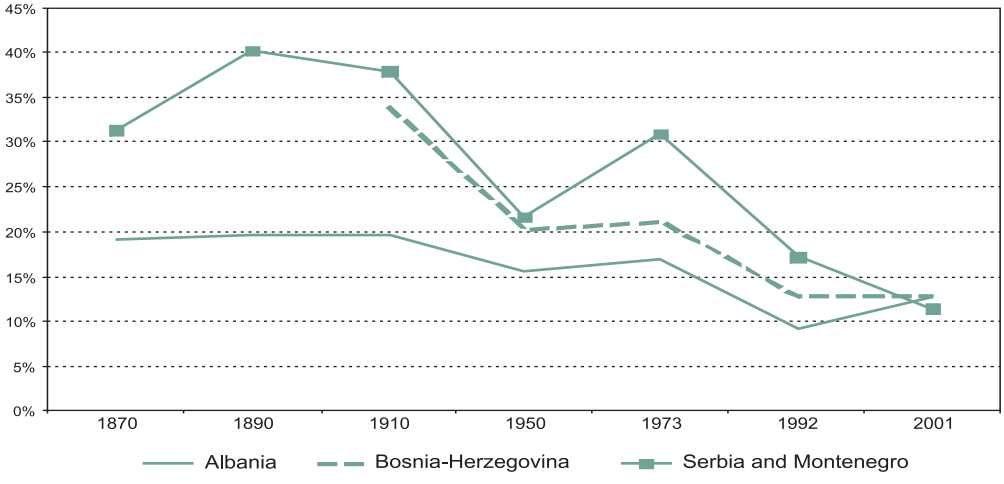
GDP per capita levels of Turkey, Bulgaria and Romania relative to the United States, France, the United Kingdom and Germany (unweighted average), 1870 – 2001.



Source: Own calculations based on Maddison (2003) and Good&Ma (1999).

Figure 6

GDP per capita levels of Albania, Bosnia-Herzegovina and Serbia and Montenegro relative to the United States, France, the United Kingdom and Germany (unweighted average), 1870 – 2001.



Source: Own calculations based on Maddison (2003) and Good&Ma (1999).

5. Summary and conclusions

This paper has been motivated by the convergence hypothesis, i.e. the hypothesis that economic laws drive a process by which poorer countries will converge on richer ones. Having chosen the US, the UK, Germany and France as benchmark economies, we have investigated whether the South-Eastern European economies have converged on the 'leader economies' in the time-span from 1870 to 2001.

We have explained why economic theory suggests economic convergence to occur between rich and poor countries. We have also discussed more recent theories in economics that see convergence as only one possible outcome of economic development. These theories, mainly based on endogenous growth theory and economic geography, underline the potential for long-term economic divergence.

We then turned to the main question of this paper: to what extent have South-Eastern European economies converged with the more mature economies of North-Western Europe – represented by France, the UK, and Germany – and the US since 1870? In accordance with mainstream literature on economic growth, we distinguished five different periods: (a) 1870 – 1913, i.e. the First Age of Globalization; (b) 1918 – 1938, the interwar period; (c) 1950 – 1973, the Golden Age of European economic growth; (d) 1973 – 1989, from the 1973 oil price shock to the collapse of communism in South-Eastern Europe; (e) 1989 – 2001.

We found that South-Eastern Europe grew at the respectable rate of 1.5% p.a. in the First Age of Globalisation. As the 'leader economies' grew at roughly the same rate, the Balkans neither converged nor diverged. The interwar period witnessed divergence, with the Balkans growing substantially slower (0.6%) than the US, the UK, Germany, and France (1.2%). Nonetheless, Greece and Yugoslavia achieved growth rates higher than the 'economic leaders' in the interwar period. We explained this by successful industrialisation efforts in both countries. After World War II, economic conditions in the Balkans changed for the better. The only period of convergence for all nine economies under investigation was the Golden Age of European economic growth from 1950 to 1973. After 1973, growth slowed considerably in Bulgaria, Romania, and Albania, while the more liberal economic policies of Yugoslavia paid off. After the fall of communism in 1989, Slovenia and Croatia have stood out as the most successful South-Eastern European transition economies, achieving growth rates of close to 4%.

In conclusion, the South-Eastern European growth experience from 1870 – 2001 can hardly be described as successful when placed in a European context. Comparing relative GDP per capita levels in 1870 and 2001, we found that only Slovenia and Greece have converged on the 'economic leaders'; all other countries have fallen back. Only Slovenia and Greece currently enjoy GDP per capita levels of more than 50% of the level of the 'economic leaders', while six of eleven Balkan countries have levels of less than 20%. On the positive side, the growth experience since the fall of communism has been successful, and the further political and economic integration of the Balkan countries into the European Union appears irreversible.

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Introduction Of Limping Gold Standard In The Principality Of Serbia

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1. Introduction

After more than four centuries of using foreign currencies in circulation, Serbia started its monetary reform at the end of 1860s, the ultimate goal of which was to reestablish monetary sovereignty. Monetary reform, which lasted from 1868, when the small domestic copper coins were minted, until 1879, when Serbia got its first gold coin, was the part of comprehensive institutional and economic reforms undertaken until then that gave important contribution to economic Europeanization of the Balkans in the end of 19th century. The first part of the paper will briefly point to specific characteristics of monetary circumstances in the Ottoman-ruled Serbia before the beginning of monetary reform. The currency exchange rate lists of foreign currencies that were in circulation in the Principality of Serbia have been preserved and have been particularly valuable for researching these specific characteristics. The second part of the paper deals with the analysis of the reasons due to which the Principality of Serbia decided to incline towards minting standards of the Latin Monetary Union. This decision was the expression of realistic consideration of general monetary problems that used to shake Europe at the beginning of the second half of 19th century. The third part of the paper explains how the standards of the Latin Monetary Union were turned into legal regulations and accepted in practice. Monetary laws of 1870s were preserved where it was explicitly stated that Serbia accepted the standards of the Latin Monetary Union. The fourth part of the paper is dedicated to conclusions about why Serbia has not become a member of the Latin Monetary Union although it accepted its minting standards.

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2. Foreign currencies in circulation in the Principality of Serbia

Serbia under the Ottoman rule was a part of central monetary zone of the Ottoman Empire where the basic monetary unit until the end of 17th century was silver *akce*, and from the beginning of 18th century it was silver *kurus* (Pamuk, 2000, pp. 59–76). The provinces that belonged to central monetary zone were under full monetary sovereignty of the central Ottoman authorities in Istanbul. Due to this, Ottoman-ruled Serbia did not have right to mint national coins. Even when Sultan's Edicts of 1830 and 1833 gave a relatively wide internal autonomy to Serbia and it formally became a vassal principality with hereditary principle at the head, when monetary issues were concerned it continued to be under the jurisdiction of Istanbul. This is why the monetary circumstances of Ottoman-ruled Serbia were largely predetermined by financial circumstances of the central Ottoman authorities. In the middle of 19th century, the key characteristic of the Ottoman monetary finances was in that in addition to debased silver Turkish coins there was also an abundance of various foreign coins in circulation. Kurus, known in Serbia under the name *gros* (grosh) and was divided into 40 paras, was used primarily as a unit of account, and in transactions Austrian silver coins were mostly used (Dugalic, 1999, pp. 19–22).

2.1. Currency exchange rate lists

Although monetary system of the Ottoman Empire was used in the Principality of Serbia, its monetary circumstances had their own specific characteristics. One of the specific characteristics of monetary circumstances in Ottoman-ruled Serbia was kind, quantity and price of foreign currencies that could have been found in circulation in addition to Turkish ones. Foreign currencies flew into Serbia with traders whose caravans came from Austro-Hungary and from the Mediterranean, bringing industrial products and carting away agricultural products. Currency exchange rate lists that were issued by the authorities of the Principality prior to tax collection speak about the kinds of foreign currencies in circulation in the Principality of Serbia and their exchange rates. The lists were issued as often as the relations of value and the content of currencies in circulation at the local market changed. Sultan's firmans were legal basis for issuing these lists; they determined the prices of those kinds of Turkish and foreign currencies expressed in accounting *gros* that the Porte was willing to accept from Serbia on account of taxes. Starting from 1815, the taxes in Serbia were collected exclusively by the Serbian Prince and the elders. The independence in tax collection made it possible for the Serbian Principality authorities to decide on the kind of foreign currency they would accept during tax collection.

In the period from 1815, when Ottoman-ruled Serbia acquired independence in tax collection from the Porte, until 1868, when withdrawing of foreign currencies from circulation began, several currency exchange rate lists had been issued. For the study of the first expressions of monetary autonomy of Ottoman-ruled Serbia, particularly important are those issued on October 12, 1819; December 16, 1822 (Petrovic, V., Petrovic, N., 1884, pp. 282–292); December 13, 1836; November 30, 1841; (Zbirka zakona, 1877, p. 153, 297); September 30, 1855 (Zbornik zakona, 1865, p.73, 89) and April 01, 1866 (Zbornik

zakona, 1866, p. 43, 46). The mentioned kinds of currencies in these lists speak about continuous dissapearance of Turkish coins from circulation and increase of variety of foreign currencies in circulation in the Principality of Serbia, which was the reflection of the increase of foreign trade exchange and weakening of monetary authority of the Ottoman Empire. Twelve kinds of foreign currency that the Principality authorities were willing to accept on account of tax collection were quoted in the currency exchange rate list issued in 1819, in 1836 there were 31 kinds of currency quoted in the list and in 1866 there were 47 kinds of currency. These exchange rate lists point to the fact that in Ottoman-ruled Serbia, Austrian, French, English, German and Greek coins were in circulation, in addition to Turkish ones.

By the autumn of 1819, foreign coins of all kinds that happened to be in circulation were accepted in Serbia on account of tax collection. But then it was noted that in addition to Turkish orders on foreign currency prices, the facts concerning the abundance of certain kinds of currency at that moment, their quality and their exchange rates at the local market should also be taken into account when determining the exchange rate of various currencies. This is why Prince Milos Obrenovic issued a Decree on October 12, 1819, by which the kinds of currency that would be accepted at tax collection and their exchange rates expressed in accounting *gros* were ratified for the first time by a currency exchange rate list (Petrovic, M., 1901, pp. 523–531). So, out of 33 currencies in circulation in Serbia at the time, only 12 were included by the currency exchange rate list of 1819: four gold, six silver and two copper coins. As for the Turkish currency, only one Turkish gold coin was included in the list, which was called *mahmudia* in Serbia.

When the time of tax collection came in the autumn of 1822, the Porte prescribed new, lower prices of European currencies expressed in accounting *gros*. This is why it was expected that Prince Milos Obrenovic would also prescribe new currency exchange rate list where lower prices of European currencies would find their place. However, since the currency exchange rate list from 1819, the currency exchange rates did not change on account of the European currencies at the local market in Serbia. Prince Milos ordered the Serbian elders to postpone tax collection and on November 23, 1822, he sent an appeal to the Porte to keep applying currency exchange rate list that was then in effect (Gavrilovic, 1909, p. 403–406). After a lengthy correspondence with the deputies in Istanbul, the Porte took into consideration the specific qualities of local monetary circumstances in Serbia. Prince Milos was informed that he could solve the issues considering the European currencies exchange rates directly with Belgrade Vizier, since it would be inconvenient for Istanbul if Belgrade pasha jurisdictional territory would be put in more favourable position than the other pashas' jurisdictional territories. In April 1823, Belgrade Vizier agreed to keep the currency exchange rate list that was in effect at the time, after which the tax collection was restituted.

2.2. Dual accounting monetary unit

The second specific characteristic of monetary circumstances in the Principality of Serbia was the introduction of dual accounting monetary unit. When Serbia became a vassal state of the Ottoman Empire by Sultan's Edicts of 1830 and 1833, various kinds of taxes that had been paid until then, were included into unified monetary tribute. Starting from the autumn of 1833, the Porte determined regularly by firmans how much Serbia should pay on account of tribute. The amount of vassal financial obligations and the price of foreign gold coins that the Porte was willing to accept on account of the tribute were expressed in the accounting *gros*. At that time, real exchange rate of Turkish silver coins was twice lower at the local market in Serbia than it was nominally determined in Istanbul since silver coins were systematically debased by the Ottoman authorities (Pamuk, 2000, pp. 193–200). In order to protect his fiscal interests from inflation, Prince Milos introduced dual exchange rate of accounting monetary unit *gros*. At the time when double accounting monetary unit was introduced in Serbia, the market value of Austrian gold coin was 48 piasters, and the Porte valued it 24 piasters in the firman.

On September 06, 1833, Prince Milos ordered to Serbian elders to accept taxes in European currencies, and if that was not possible, to accept Turkish currency, calculating "two *Turkish gros* for one *tax gros*" (Petrovic, M., 1901, p.530). Since that time there were actually two accounting monetary units in use in Serbia: *market gros* and *tax gros*, the relation between them being 2:1. *Market gros* was divided into 20 *tax paras*, and *tax gros* into 40 *tax paras*. In the currency exchange rate list issued in 1836, it was stated that the prices of currencies that would be accepted on account of tax were expressed in *tax gros*.

The use of dual accounting monetary unit in Serbia starting from 1833 was often the cause of disputes on the occasion of payments in commercial transactions, if the kind of foreign currency by which the payment would be made had not been determined in advance (Dokumenta, 2004, pp. 360–362). In order to enable for the local authorities to solve such disputes, by which the economic interests would be protected, it was necessary to prescribe the official currency exchange rate lists for market transactions as well. This is why starting from currency exchange rate lists issued in 1855, it was possible to find parallel foreign currency exchange rates expressed in both *tax gros* and *market gros*.

2.3. Minting of domestic copper coins

The third specific characteristic of monetary circumstances in the Principality of Serbia was minting of domestic small copper coins while Serbia was still formally under the monetary sovereignty of the Ottoman Empire. The currency exchange rate lists and double accounting monetary unit were the only expressions of monetary autonomy of the Principality of Serbia until 1868, when after more than four centuries the reestablishment of minting domestic coin started. It was then that small domestic copper coins were minted (Zbornik zakona, 1868, p.2) and it was ordered to withdraw all other kinds of copper coins (Zbornik zakona, 1869, p.18). Except in case of first currency exchange rate list, exchange rate for small foreign copper coins, which were in circulation in the Princi-

pality in Serbia until 1868, was not prescribed. It was left to the market to form the exchange rates for small foreign copper coins, primarily Austrian, in relation to exchange rates of foreign silver and gold coins. The reason why it was left to the market to form the price of foreign copper coins was that these copper coins were not accepted on account of tax collection either by the Serbian Principality authorities or the Porte. Serbian Minister of Finance, Kosta Cukic, found room to start reestablishing minting of national coins by minting of domestic small copper coins.

The monetary reform in the Principality of Serbia started by currency measures by which the obligation to accept Austrian copper coins in circulation up to two *market gros* was limited, and then their import into the country was completely cancelled (Zbornik zakona, 1870, p. 124). These currency measures were published in the Code of Laws and Regulations of the Principality of Serbia, within usual occasional appendices to the then effective Law on Currency Exchange Rate Lists dated April 1, 1866. Their meaning could have been interpreted in Istanbul as any other decision on any other kind of foreign currency that Serbia was no longer willing to use as payment instrument. However, the most important decision by the National Assembly, which referred to the beginning of minting domestic small copper coins, was not published in the Code of Laws and Regulations of the Principality of Serbia, since the Serbian authorities were afraid of the Porte's disapproval.[1] But there was not any disapproval, either when the decision was made to mint small copper coins or when these coins were put into circulation.

On March 15, 1868, Prince Mihailo Obrenovic signed a decision to mint copper coins featuring his portrait in 10, 5 and one-para denominations, weighing 10, five and one gram and the alloy of 95% copper, 4% tin and 1% zinc in one Viennese mint. During 1869 and 1870, domestic copper coins to the total amount of 74.5 million paras were put into circulation with 1868 as the year of issue. The value of a copper para in circulation was coordinated with the value of a tax para (Arhiv Srbije, 1868). The substitution of Austrian copper coins was carried out in 15 days only and did not provoke any reaction by the Ottoman authorities.

3. Deciding in favour of monetary standards of the Latin Monetary Union

After he had successfully minted and put into circulation domestic small copper coins, the Minister of Finance Kosta Cukic initiated re-minting of national currency. The first issue to be solved was to choose a monetary standard. Due to frequent fluctuations and drops of price of silver at the world market, the end of 1860s and the beginning of 1870s were marked by radical monetary reforms in Europe. The developed and already industrialized countries transferred one after another from bimetallism to gold standard after the example of England, and those less developed agricultural countries transferred from silver monometallism to bimetallism.[2]

[1] The decision on minting small copper coins was made based on one deputy's suggestion brought out at XII meeting of Michaelmas Assembly on October 11, 1867 (Ugricic, 1968, p. 57).

[2] Turkey introduced bimetallism in 1843 (Pamuk, 2000, p. 208).

There were thoughts in Serbia to restitute minting of domestic currency ever since the beginning of 19th century (Novakovic, 1914, p. 108). When choosing a monetary standard, the realities had to be taken into account. The reality was that there was no possibility to introduce the gold standard since Serbia of that time was an underdeveloped agricultural province. It was therefore appropriate to consider either bimetallism or silver monometallism. The closest model, from formal and legal point of view, that could serve the purpose was bimetallic monetary system of the Ottoman Empire or monometallic monetary system of Austro-Hungarian Monarchy with which Serbia had the majority of foreign-trade exchange and whose currency was in majority in circulation in Serbia. However, Serbia did not follow either Turkish or Austrian experience in arranging its monetary system but inclined towards the monetary standards of France.

3.1. Why not the monetary standard of the Ottoman Empire?

While at the end of 1860s there were preparations in the Principality of Serbia to introduce the national currency, the Ottoman authorities faced the difficulties in transferring from silver monometallism to bimetallism. Monetary problems of Istanbul reached the proportions of a crisis by the end of 1830s. Frequent debasements and plenty of various kinds of silver coins in circulation were the cause of inflation and general economic and political instability. This is why the authorities in Istanbul carried out the monetary reform in the course of 1843 and 1844, which introduced bimetallic standard. Debasement as a source of fiscal revenue was publicly renounced. The expectations were that these measures would finally provide for the conditions for monetary stability. Gold lira and silver kurus in the relation 100 kurus for one gold lira were introduced as parallel legal tenders, whereas gold: silver ratio was fixed at 1: 15.09. The adopted bimetallic standard implied open mint system of both monetary metals. However, bimetallic standard was never fully applied in practice. The state could not provide for sufficient means to withdraw earlier kinds of silver coinage from circulation, so it had to acknowledge them as legal tenders. This is why the official exchange rate lists kept reappearing in Istanbul where the Ottoman authorities announced at what prices, expressed in the accounting unit of kurus, they were willing to accept these various old kinds of silver coins (Pamuk, 2000, pp. 205–211). These kinds of silver coins were not withdrawn from circulation even when the Ottoman government abandoned bimetallism in order to turn to gold standard in 1881. As Serbia planned to withdraw from circulation all kinds of foreign silver coins of small values after introduction of domestic silver coins, incomplete bimetallism with many kinds of silver coins which were in use in the Ottoman Empire could not serve as a model to arrange monetary system.

3.2. Why not the monetary standard of the Habsburg Monarchy?

The monetary system of Habsburg Monarchy could serve even less as an example to the Principality of Serbia to arrange its monetary issues in the course of 1860s, since the neighbouring Monarchy was then on a pure paper standard. Although Austria founded its central bank in 1816, which at least formally got the exclusive right to issue national cur-

rency, the state did not renounce its privilege to print its own money (Gnjatovic, 2003, p. 120). Right after the founding, the Privileged National Bank of Austria started withdrawing state money from circulation by the replacement of 250 state paper forints for 100 forints in its banknotes convertible for silver. The Austrian government restrained itself until 1848 from issuing new quantities of money of necessity, but it constantly made pressure on the issue by the central bank. Such a pressure led to fast growth of quantity of money in circulation and to the drop of silver reserve ratio, often considerably under the prescribed minimum (Pressburger, 1969, pp. 173–175). Still, the convertibility of banknotes was sustained until 1848, i.e. the legal obligation of their convertibility for silver was not cancelled. It was a short period within which the central bank managed to a certain extent to perform its main function of controlling the money in circulation. However, difficult financial crisis of 1848 forced the Austrian government to cancel the convertibility to the banknotes issued by the central bank, to introduce imposed exchange rate for these banknotes and to restart the issue of state paper money. So until the final transfer to gold standard in 1892, two kinds of ever growing quantities of paper money were in circulation in the Habsburg Monarchy: the state money and the central bank money, which caused frequent incidence of inflation.

3.3. Accepting the standards of Latin Monetary Union

In 1860s, The Principality of Serbia found the model for its monetary system in bimetallic standard of France, which had just then transferred from complete to incomplete bimetallism. Complete bimetallism implied open mint system of both precious metals, and incomplete bimetallism fully open gold coin minting and partially open minting of certain kinds of silver coins. Due to the fluctuations of the price of silver, all silver coins, except those in 5-franc denominations, were proclaimed small change in France in 1864. Fineness of metal for small silver change was reduced from 900/1000 to 835/1000 and open minting was stopped. It was minted exclusively by the state in limited quantities and in 0.20; 0.50; one and two francs denominations. Only the coins in 5-franc denominations kept the fineness 900/1000; they could be minted freely; they were accepted as payment in unlimited amounts and were convertible for gold coins in prescribed ratio of silver and gold of 15.5: 1 (Nedeljkovic, 1921, p. 358).

In order to arrange uniformly their monetary systems in the minting field with France with which they had intense commercial relations, Belgium, Switzerland and Italy concluded a Convention with it on December 23, 1865, by which the Latin Monetary Union was founded. According to the Convention, gold coins of 100, 50, 20, 10 and five monetary units and silver coins of five monetary units, all of 900/1000 fineness, could be minted without limits and freely. The other silver coins of 835/1000 fineness were proclaimed a small change in all member-states of the Union and they minted them in limited quantities. Coins minted by all signees to the Convention were in open circulation among the population of the whole area of the Union (Meichsner, 1984, 1032).

3.4. Limping gold standard

When in the period from 1870 to 1872 there was an abrupt rise in production of silver and the market price of silver started to fall again, there was a danger that the member-countries of the Latin Monetary Union would be swamped with silver five-franc coins and that the gold coins would disappear from circulation. Namely, it has become quite profitable to buy silver as specie at market places and then to convert it into coinage of far higher nominal value. This is why in the period from 1873 to 1878 the member countries of the Latin Monetary Union stopped open minting of five-franc silver coin, by which these countries *de facto* passed to limping gold standard (Meichsner, 1954, p.185). Limping gold standard is a monetary system in which coins are minted of gold only, open minting of silver coins is stopped and in that way the quantity of silver coins in circulation is artificially limited, but the possibility is left to make payments to any amount by certain pieces of silver coins of higher values. Therefore, the difference between pure gold standard and limping gold standard is that pure gold standard means that all silver coins are reduced to the role of change, while limping gold standard allows for some kinds of silver coins to be used as unlimited payment instrument. In addition to this, there is still free convertibility of silver coins for gold coins according to legally fixed ratio of gold and silver value, but only for that quantity of silver that was minted into coins. In that way silver coins become change convertible to gold coins according to their nominal value.

Bimetallic system, on which the Union was originally based, could not therefore be maintained under the conditions of constant fall of market price of silver because of which the gold started to disappear from circulation soon after the foundation of the Union. In 1878, open mint system of full-value pieces of 5-franc silver coins was provisionally cancelled, but that temporary solution remained final. After World War I, monetary circumstances changed so much that the Latin Monetary Union broke off in 1926.

4. Restitution of national currency minting

Following the example of France and other member countries of the Latin Monetary Union, in 1873, Serbia based its monetary system *de iure* on limping gold standard. The original intention of the Serbian authorities was to introduce complete bimetallism in Serbia, which was in use in France until 1864. However, at the beginning of 1870s, the objective circumstances imposed to give up such intentions and to follow the decisions made by the Latin Monetary Union.

4.1. National monetary unit dinar

The Law on Minting Serbian Silver Coin passed on November 20, 1873, and published in the Code of Laws and Regulations of the Principality of Serbia determined the national monetary unit *dinar*, *al par* with French *franc*. Dinar was divided into 100 *tax paras*, and the fineness of metal, weight, dimensions of national currency, metric system of division of the basic monetary unit into 100 parts as well as limiting the right to mint small silver change to the state were determined after the provisions of the Latin Monetary Union

(Zbornik zakona, 1874, p.1). It was determined that *dinar* would weigh five grams of silver, fineness 835/1000 and tolerance of 3/1000, and the right to mint was limited exclusively to the State. According to the letter of the law, in 1875, silver coins in two, one and 0.50 *dinar* denominations to the total value of 6 million dinars featuring the portrait of Prince Milan Obrenovic were minted in a Viennese mint and put into circulation, with the year 1875 as the year of issue. Also, this law prescribed that state accounting and commercial books must in the future be kept in dinars as the only legal tender in the Principality of Serbia. A conversion from the accounting unit *gros* to the national monetary unit dinar was postponed during the wars for independence from 1876 to 1878. This was carried out in 1879.

The issue of silver coin minting was on the agenda in Serbia at the time when the disturbances had already started in the countries of the Latin Monetary Union due to the fall of market price of silver. Thus, those counties started making decisions on limiting monetary functions to silver 5-franc coins. As in 1873, it was not still clear what would happen in the Union in the end with this kind of money, its functions were to be determined later.

Immediately after letting silver coins in two, one and 0.50 *dinar* denominations into circulation, foreign silver small change started to be withdrawn from circulation. The Law on Minting of Serbian Silver Coin, in the Article 8, authorized the Minister of Finance to devaluate foreign silver small change that was in circulation in Serbia. The devaluation of foreign silver small change was sanctioned on December 28, 1873 already, when the change of currency exchange rate list dated April 01, 1866 was issued (Zbornik zakona, 1874, p. 75). By this change the value of foreign silver small change was reduced for one third on an average.

4.2. First Serbian gold coins

Monetary reform got its full swing after Serbia had won the state independence at Berlin Congress in 1878. On December 10, 1878, The National Assembly adopted the Law on Serbian National Currency that replaced the Law on Minting of Serbian Silver Coin from 1873 (Zbornik zakona, 1879, p. 8). By this Law, Serbia abolished oriental measuring system of money values and Turkish accounting monetary unit. Five grams pure silver coin of 835/1000 fineness was determined for monetary unit *dinar* and it was divided into 100 *paras*. The old tax and market accounting values were to be converted into new dinar values in such a way that *tax gros* was 42.1 *paras* worth and *market gros* was 19.8 *paras* worth. In this way, *tax paras* were actually converted into *dinars*, so the small change that was put into circulation based on the decision of 1868, according to the new Law had nominal value of one, five and 10 *dinar paras* instead of one, five and 10 *tax paras*. In the same way, small silver change that was put into circulation based on the Law on Serbian silver money of 1873 was not divided into 100 *tax paras* but into 100 *dinar paras*. The Law also ordered all state accounts, as well as the books of private monetary institutions, shops, handicraft shops and manufactures to be kept according to the new monetary system.

The Law on Minting Serbian National Currency once again confirmed that Serbia had decided in favour of the minting standards of the Latin Monetary Union. Article III of the Law prescribed minting of "gold coins or *Milandor*" (of Prince Milan Obrenovic) of 20 and 10 *dinars*, silver coins of five, two, one and 0.50 *dinars* and copper coins of 10, five, two and one *dinar paras*. The first gold coins in 20-*dinar* denominations were put into circulation based on the decision of the Minister of Finance on December 16, 1879 (Zbornik zakona, 1880, p.8), and the gold coins in 10-dinar denominations were put into circulation on June 23, 1882 (Zbornik zakona, 1882, p.169).

4.3. Limiting monetary functions of silver coins

By the time the Law on Serbian National Currency was passed, all member countries of the Latin Monetary Union had definitely limited monetary functions to five-franc silver coins in such a manner that the state claimed the exclusive right of their minting. Thus, such decision had been included in the Law on Serbian National Currency. First Serbian five-dinar coins were put into circulation on July 25, 1880, to the total amount of 1.000.000 dinars (Zbornik zakona, 1982, p. 174).

At the same time when five-dinar silver coins were put into circulation, the additional quantity of small silver change in two, one and 0.50 dinar denominations was put into circulation, to the total amount of 2.600.000 dinars. Namely, it turned out that the quantity of small silver change that had been put into circulation in 1875, based on the Law on Minting Serbian Silver Coins could not meet the requirements for small change since foreign silver coins were mostly forced out of circulation. Due to the same reason an additional quantity of small copper change to the total amount of 1.2 million dinars was put into circulation on April 03, 1880.

4.4. Use of foreign coinage

As for the use of foreign currency, the Law forbid to accept small copper change as well as silver coins the values of which was two or under two dinars. Foreign gold coins and silver coins the value of which exceeded two dinars could remain in circulation on conditions provided for by currency exchange rate lists. The Law regulated conditions for the currency of those states that had the monetary system in the field of minting arranged according to the provisions of the Latin Monetary Union separately from the conditions for coinage of all other states. The provisions were made that when the Principality of Serbia joined the Convention signed in Paris in 1865, foreign gold coins and silver coins in five monetary unit denominations, minted according to the guidelines of the Latin Monetary Union would be accepted at all state cash desks under the same conditions as the corresponding domestic money, if the cash desks of the countries that minted such money would accept the corresponding Serbian gold and silver coins. Until then, the same rules as for all other countries applied to the member countries of the Latin Monetary Union.

Based on the proposal by the Minister of Finance, on February 09, 1879, Prince Milan Obrenovic issued the currency exchange rate list which contained the exchange rates of

foreign coinage expressed in Serbian dinar for 10 foreign countries: France, Belgium, Italy, Switzerland, Greece, Austro-Hungary, Russia, Germany, England and Turkey (Zbornik zakona, 1879, p. 211). Only foreign gold coins and silver coins exceeding the value of two dinars appeared in this currency exchange rate list, of course. With the intention to prevent excessive inflow of silver coinage from abroad, this list limited the acceptance of foreign silver coinage at state cash desks to the maximum of 25% of the total value of every payment.

5. Conclusion

Although the Principality of Serbia minted money according to the rules of the Latin Monetary Union and although since the first plans of monetary reform it decided to become a member of the Union, it has never joined it. The system of minting gold coins in Serbia that was introduced in 1879 differed from the limping gold standard of the Latin Monetary Union primarily in that the state had the exclusive right to mint gold coins according to the Law on Serbian National Currency of 1878.[3] In the member countries of the Latin Monetary Union, this right was limited to the state only concerning minting of silver and copper coins. Gold coins were openly minted in state mints, but the private persons had to pay special tax to the state in order to be able to mint gold coins. In France, for instance, this tax was 6.70 francs per kilo of monetary metal (Nedeljkovic, 1921, p. 353).

At the end of 19th century, Serbia was an underdeveloped European province, and as such could not let the market be the regulator of the quantity and kind of national currency in circulation since it did not have a market in the true sense of the word. Serbia lacked market institutions in the field of banking and commerce and autonomous contracts with foreign countries. Also, open mint system of gold coins with full intrinsic value, which at metallic monetary systems played the role of automatic adjustment of the quantity of money in circulation to the requirements of financial transactions, implied at least a certain degree of state legislation. State institutions, however, as well as the commercial ones, were yet to be built in Serbia.

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Exchange Rate and Inflation: France and Bulgaria in the interwar period

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1. Introduction

The collapse of the communist regime at the end of the XX century in the Eastern European countries raised the question of financial stabilization in the region. Looking back in the history, we find out similar attempts for financial stabilization throughout whole Europe after the consequences of the First World War (the Great War). In fact most European countries took radical measures in the 20's to restore the monetary and financial stability which characterized the European economies under the gold standard.

Studying the history of monetary regimes provides us with useful insights. First, in theoretical aspect it feeds the present-day debate about the "best" monetary regime not only with well-forgotten theoretical postulates but also with some empirical facts of the past. Second, the development of statistics and econometrics nowadays allows us to test various theoretical models ex post. And third, the analysis of economic history can provide us with valuable practical information which one way or another could be integrated in the decision-making process of today and tomorrow.

In this paper, after a brief overview of the theoretical discussions of the 20's (section II) we make a comparative analysis of the financial stabilizations in France and Bulgaria after the Great War. In section II we put on test the theory of the dominant role of the exchange rate on the inflation (Aftalions' theory) applying modern econometric techniques (VAR models and causality tests). After summarizing the results which proved to be in compliance of the analysis of that time, we propose some concluding remarks on the factors lying behind some similarities and differences of the two stabilization processes.

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2. The exchange rate and inflation – a short journey in the theoretical debate of the 20's

The theoretical analysis and the empirical observations of the dynamics of prices, money in circulation and the exchange rate in several European countries at the beginning of the XX century made the distinguished French economist Albert Aftalion (1874–1956)[1] doubt the validity of the Quantitative Theory of Money (QTM) and Purchasing Power Parity (PPP). The shortcomings and difficulties of QTM and PPP are not first questioned by Aftalion (Keynes, Hawtrey, Nogaro (1924) among others brought into question their validity and usefulness) but he is the first to propose a thorough and systematic theory as a prospective and constructive alternative. In spite of its eclectic features, Aftalion's theory is characterized by elements of integrity and logical structure.

In brief, the way of reasoning and exposition of the theory is the following. Aftalion starts with observations of the development of the main variables in the QTM and PPP in different countries and for different periods (usually quite short periods of time). Applying basic statistical techniques (putting aside whether they can be interpreted as causality tests), he finds out that both theoretical postulates could not be supported by the facts and tried to give an explanation by (i) proposing as profound as possible arguments for the development of the monetary variables – income theory of money, and later on (ii) elaborated the fundamental income theory by adding the role of expectations on the behaviour of the monetary variables and primarily on the exchange rate (the "psychological theory of money and exchange rates").

Afltalion states that the causality (the cause-consequence chains) in the context of QTM and PPP is different for different spans of time and different countries (9 in his empirical studies) as the exchange rate has a dominant role in the price setting process rather than money in circulation or the money supply. Taking France for instance, he estimates that the magnitude of the link (i.e. the synchronized movement) of money in circulation and prices was getting weaker – it was still very strong in the period 1914–1919, weak in 1919–1920, and almost disappeared afterwards. At the same time this weak relation is replaced by another strong causality between prices and exchange rate – the devaluation of the franc lead to a direct increase in the price level. Moreover, Aftalion noticed that between 1927 and 1928 the growth of money supply was not accompanied by a rise in inflation[2]. The development of the same variables was similar in other countries under study as Germany and Austria are eloquent examples. Therefore, Aftalion argues in favour of the "hegemony of the exchange rate" on inflation for the period 1922–1924 (Aftalion, 1927, p.109).

[1] Albert Aftalion was born in the town of Rousse (Rustchuk). Bibliographical details and more information with respect to his theory on exchange rate and money see Nenovsky (2006).

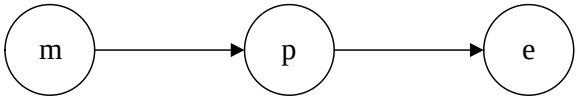
[2] According to Aftalion, the expected stabilization of the exchange rate causes an increase in the money supply (Aftalion, 1927, p. 98, p. 109).

In a similar way Aftalion criticizes PPP which is a logical extension of the QTM in the context of international monetary relations. Here we would like to remind the reader that according to PPP theoretical postulate the nominal exchange rate is determined by the price differential between two countries which on its behalf is determined by the money supply (money in circulation) in each of them. Aftalion considers that neither PPP, nor the current account approaches are sufficient to explain the behaviour of the exchange rates. Based on his empirics Aftalion rejects the causality relations starting from money in circulation through prices to the exchange rate and argues in favour of exactly the opposite causality chain, i.e. from the exchange rate to prices.

Drawing these causality chains analyzed in the QTM framework and Aftalion's theoretical propositions, they can be illustrated by charts 1 and 2, where *m* is money in circulation, *p* is the price level and *e* is the exchange rate. In chart 1 the first causality link (arrow) of money to prices is defined by the QTM and the second one from prices to the exchange rate is the foundation of the PPP.

Chart 1

Causality chains in QTM and PPP

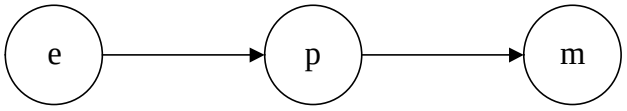


According the Aftalion's observations, France experience can be illustrated by the first causality chain in chart 2 while the second one describes more precisely the development of indicators in Germany. However, in both countries he finds empirical proves of the "hegemony of the exchange rate" on prices.

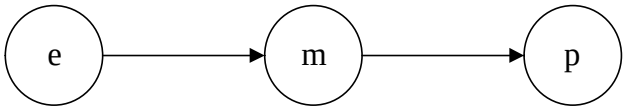
Chart 2

Causality chains in Aftalion's theory

The case of France



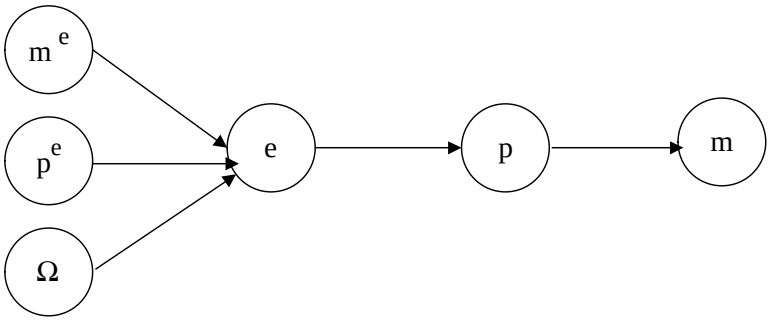
The case of Germany



In a more elaborated version of Aftalion's theory (Chart 3), he assumes that the inflationary expectations and the expected future development of the money supply (denoted by *e* superscript) influences movements of the exchange rate. Moreover, he adds a large set Ω of other macroeconomic and political factors (the situation of the public finances, the balance of payment, tax and customs policy, political, international and war news, etc) determining the behaviour of the "central" exchange rate variable.

Chart. 3

Causality chains in the elaborated Aftalion's theory



Whatever configuration we take, Aftalion summarizes that the exchange rate is the major and direct cause for inflation: "the *internal devaluation* of the currency is moving more or less together with the exchange rate; it is a satellite, not the driving force of the exchange rate" (Aftalion, 1927, p. 794). Therefore, he concludes that the exchange rate has a particular importance of an anchor for stabilizing money. Hence, he comes up with the practical proposition that monetary stabilization should start from stabilization of the *external purchasing power* (exchange rate) which automatically leads to stabilization of the *internal purchasing power* (price level). The exchange rate sets *directly* and *immediately* the expectations of the economic agents, that's why the fight against inflation should start with it and not with money supply. This argument has a direct policy implication in making the choice between stabilization targeting the exchange rate, or a monetary aggregate or price stability.

3. Stabilization in France and Bulgaria – chronological presentation

The monetary and financial stabilization after the Great War still attracts the attention of researchers because of its exceptional complexity and yet because of its straightforwardness and clarity in the economic and political international relationships[3]. This historical period enables us not only to see the complexity of the monetary and exchange rate phenomena (economy, politics, ideology, diplomacy, nationalism and other aspect) but also

[3] See for example Kindleberger (1990, [1984], 1988, [1973, 1986]) and Eichengreen (1997, [1996]).

to make some parallels with today when the monetary stabilization is on the agenda both in the centre and in the periphery of the global economy. In the period under study France is a country which could be referred to as a country in the centre of the international financial system, a winner of the First World War, while Bulgaria is just the opposite – a peripheral country where the issue of stabilization is pressing[4]. Bulgaria is in the camp of the defeated countries after the Great War and like Germany has to pay reparations[5].

Three steps were outlined by Sergent's Commmittee appointed in May 1926 to coordinate the establishment of the international monetary stabilization: 1) a preparatory period when inflation should be curbed and the exchange rate could be fluctuating; 2) *de facto* stabilization when the central bank takes the responsibility of maintaining the exchange rate at a certain level by buying and selling gold according to the golden points, and 3) the final step is when the exchange rate is *de jure* fixed (to the gold) (Hawtrey, 1932, p. 10). Therefore, in spite of the above mentioned differences between France and Bulgaria, the stabilization process in both countries goes through similar phases[6]. As a result of the specific implementation of the prescribed stabilization phases and the different international financial positions, France and Bulgaria are among the countries which manage to maintain their stable currencies for a long period of time after the devaluation in Great Britain (1931) and in the USA (1933). France gave up the fixed exchange rate in 1936. By the means of the specific exchange rate control Bulgaria officially withdrew from the convertibility rule in 1941 with the view to keep a prudent credit history.[7]

3.1. France – Poincaré stabilization

The First World War caused extremely negative consequences to the public finances and to the real economies of the European developed countries, hence to the stability of money[8]. The lack of willingness to reach a compromise among the developed countries resulted in chaotic and inconsistent measures which undoubtedly postponed the attempts for stabilization[9]. After the restoration of the gold standard at the pre-war value in Great

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[4] The definitions of the core and periphery could be diverse; however, we accept the distinction made by Barry Eichengreen who states that in the gold standard period (1870–1914 ã.) the "core" comprises of Great Britain, the USA, France and Germany which are creditors while the peripheral countries are characterized as debtors. More on the exchange rate issues in global and historical aspect see. Bordo and Frandreau (2001).

[5] Bulgaria entered the War as an adversary to France. The two sides clashed in Macedonia in late 1915 after Anglo-French forces landed at the Salonika front. (See for instance Ashcroft, 1924, Keega 2003, 1998.)

[6] More on the logical phases of whole stabilization process see Aftalion (1938), Vallance (1998, [1996], p. 261) and Rist (1933 [1925]). Rist argues that the monetary stabilization goes hand in hand with the stabilization of the public finance as the latter one comprises of two components – halting the excessive (uncovered) emission of banknotes and balancing the budget. Stabilization is more a question of credibility and usually it starts after accumulating enough foreign reserves. (Rist, 1933 [1925], p. 8–10).

[7] See. Ivanov (2005).

[8] On the consequences of the Great War and particularly in France see Sauvy (1984) who estimates that for 15 months the country looses income or wealth accumulated for a period of 11 years.

[9] Each country blamed its partners in egoism and harsh pursuit of it own interests. For instance France did not like to make any economic and political concessions to Germany and her allies because she heavily relied on the reparations from the defeated countries. On the role of the consequences of the reparations see two points of view exposed by Keynes (1920 [2002]) and Bainville (1920 [2002]).

Britain in April 1925 [stabilization measures were also implemented in Austria (1923), Germany (1924), Poland (1924), Switzerland (1924), Hungary (1925), Belgium (1925), Canada (1926), Finland (1926), Czechoslovakia (1926) and even in Russia (1922) in the context of different ideology], France finally found the political will to solve the dilemma of how to conduct stabilization – revaluation (deflation) or devaluation[10].

Here we would like to remind the reader that the stable franc (*le franc Germinal*) had dated back to Napoleon's day, with gold content remaining unchanged since 27 March 1803. As a result of the excessive emission of banknotes during the Great War (for a comparison the volume of the banknotes in circulation in 1913 was 6 billion French francs and in 1919 it reached 35 billion francs), the price level significantly rose and a great number of the new deals in the economy were contracted at the new prices. This fact made it very hard and even "immoral" to restore the old pre-war exchange rate achieved by deep deflation and money supply contraction. As a consequence of WWI, France had a lot of domestic and external debt and above all the burden of the short-term debt, the so called "flying debt" (*dette flottante*) which comprised of short-term Treasury bills and particularly of Defense Bonds (*bons de défense*). In spite of the widely shared view of that time that it was necessary to restore the pre-war exchange rate (one of its main supporters was Baron Rotshield), the experts and the representatives of the main groups of interests gradually converged to the opinion that this was impossible and that a new cheaper franc was needed. Although the debate on the level of the fixed exchange rate is important (we can recall Keynes's critics to Churchill on the restoration of the pre-war exchange rate of the British Pound[11]), in this analysis we are interested only in the fact of fixing the exchange rate, the restoration of the currency convertibility and the golden backing of the money supply which was suspended on 15 August 1914.

After several currency crises caused by growing evidence that Germany would not pay the expected reparations, and after former president Raymond Poincaré (1860– 1934) had become Prime Minister in January 1924, measures towards financial stabilization and balancing public finances were undertaken. Shortly afterwards, however, Poincare fell from power, and though the new left – wing government of Herriot tried to follow Poincare's financial policies in its early days, it lost confidence and took France to the brink of financial chaos, near – defaults on domestic debt, and a currency crisis. In the period from 3 of March 1924 to 2 of April 1925 the weekly balance sheets of the Banc de France were falsified by the means of accounting manipulations with the purpose to disguise the considerable increase in the money in circulation. The violation of the ceiling of

[10] Rueff endows this dilemma, personified within Poincare's life, with 'the resonance of an antique drama where the heart (in favor of restoring the old rate) struggles with reason (in favor of devaluation due the irreversible wartime rise in prices),' Vallance (1998, [1996], ï. 250). At the time in most developed countries and particularly in France, there is "pathological adherence to the monetary stability and to the orthodox points of view" (Kemp (1971, p. 82). Keynes analyses in details the "deflation-devaluation" dilemma reducing it to the choice between price and exchange rate stabilization (Keynes, 1923).

[11] Keynes argued in favour of the level of the stabilized exchange rate of the franc which was the opposite to the British decision (see the collection of his articles and pamphlets on the franc by Keynes, 1928).

41 billion francs fixed by law became obvious on the 2 of October 1924. Under the pressure imposed by the consultants of the Banc de France, the truth was revealed on 9 of April 1925 which immediately took the credibility in the franc to the ground, broke the expectations and increased the probability of currency and financial crisis, and Henrriot's government lost power[12].

Poincaré won again the elections in July 1926, forming a broad coalition (including Herriot himself) and immediately launched radical reforms with the view to "pay the bill for the war" and to stabilize the franc. An expert group was established for discussion of the technical details of stabilization in which Jacques Rueff was in charge of a "special mission" (*chargé de mission*)[13] to find the "optimal exchange rate of the franc. As a result of the constructive reforms in the public finances (balancing the budget), and mainly cutting the expenditures, tax increases and the conversion of the short-term debt into long-term debt, the expectations of stabilization grew stronger. This process was accompanied by capital inflows leading to the accumulation of foreign reserves at the Banc de France and to the restoration of the demand of national currency (in real terms).

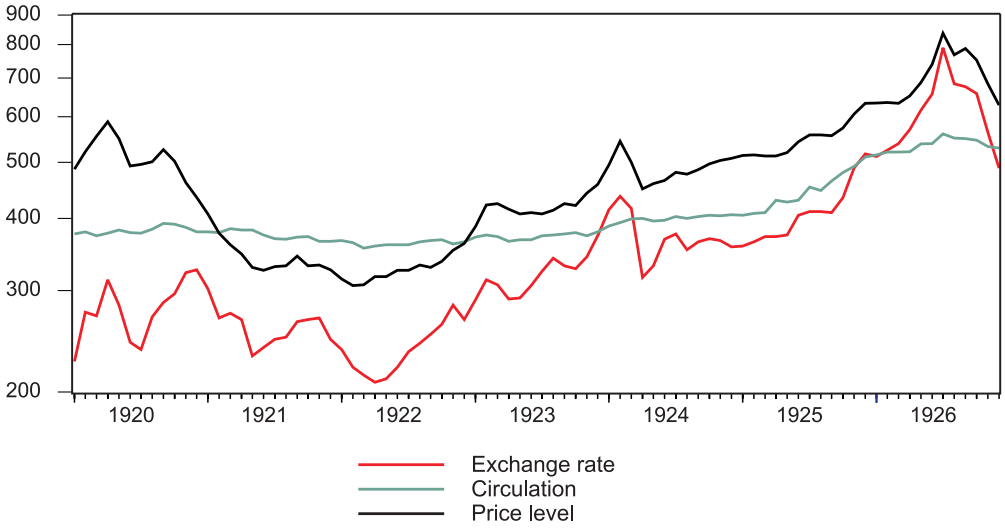
In August 1926 a new ceiling on the money in circulation was re-introduced and in February 1927 the emission of the Treasury bonds was ceased. The franc started to appreciate in nominal terms with respect to other currencies which favoured the next step of *de facto* stabilization. Bank de France began to intervene on the exchange rate market in order to reduce the volatility of the exchange rate (as in some periods of time it protected the franc from sharp appreciation). Further steps implied abolition of the restriction on capital outflows (10 of January 1928) and enactment of the Law on the Devaluation of the franc setting the franc at around 80% of its pre-war value. At that phase of stabilization the central bank held a significant amount of gold reserves (from June 1928 to December 1932 the foreign reserves increased to 55 billion francs, i.e. from 8% to 27% of the world gold reserves – see Moure, 1996, p. 137–138) which enabled *de facto* stabilization. A contribution to this was that accounting gains from gold revaluation were used for an ultimate strengthening of the central bank balance sheet (at the new rate, 1700 tonnes of gold led to a rise of Banque de France foreign reserves from 5.6 billion to 26 billion francs).

[12] For more details on the falsifications of the balance sheets of the Banc de France see Senegas (2000), Blancheton (2001), and also Jacob (1996).

[13] Rueff put his experience of franc stabilization to use in the 1958 franc stabilization which he led under the auspices of president de Gaulle. Jacques Rueff conducted League of Nations' financial missions in Bulgaria, Greece, and Portugal between 1927 and 1930 (http://www.archivesnationales.culture.gouv.fr/chan/chan/fonds/xml_inv/EtatsdesfondsAP/579AP.htm)

Figure 1

France (1920–1926): Price level, money in circulation and exchange rate (Franc-US Dollar) (logarithmic scale)



Subsequently, after the British and US devaluations of 1931 and 1933, France remained isolated in the so – called Gold Bloc. Ultimately, when even Gold Bloc members (Belgium, Switzerland) devalued their currencies one after the other, France was forced to cede the Poincare franc on 26 September 1936 under the left – wing Leon Blum government. The gold franc thus survived some seven years, making France the nation from the centre of the financial system to have sustained monetary stabilization the longest.

We may state that Poincare stabilization was a clear illustration of the role of the fixed exchange rate[14], while convertibility and the discipline of public finances were a classical example of how to build confidence in a national currency.

3.2. Bulgaria – the Stabilization of the Lev

The Bulgarian stabilization followed the logic of the stabilization in the developed countries with the peculiarities of the peripheral and less developed countries.[15] The economic and financial losses of the First World War for Bulgaria piled up over the losses born from the exhausting Balkan Wars 1912–1913 (the three wars are commonly referred to as the "Big War"). According to Kiril Nedelchev (Nedelchev, 1940, p. 76–77) while daily ex-

[14] Kenneth Moure (Moure, 1996) argues that in the context of the discussions on the technical details of Poincare's stabilization the reader can notice critical remarks with reference to the QTM and PPP, with reference to the equilibrium exchange rate as well (hence the terms "depreciation" and "appreciation" of the exchange rate are scantly mentioned), and the significance of Aftalion's psychological theory of the exchange rate and its popularity.

[15] On the functioning of the gold standard and its features in the core and periphery of the world economy in the pre-war times see Whale (1937) and in the inter-war period – Simmons (1996).

penditures for conducting the Balkan Wars were about 1 mill levs, during WWI they reached 2 mill levs. According to the same author, and not bearing in mind territorial losses, overall Bulgarian spending for the WWI may be rounded off at 3 bill gold leva. Public finance was entirely upset as for the period 1916–1918 the budget deficit was about 1.5 bill gold levs and the central bank (Bulgarian National bank – BNB) financed almost all war expenditures of the government (Ivanov 1929, p. 139). As a result, the banknotes in circulation increased drastically (around 14 times) and the coverage fell down to 3.2 % of the gold banknotes and to 5.9 % of the silver ones (Table 1). The public debt and particularly the "flying debt" reached perilous amounts (Figure 2).

Table 1

Coverage of the banknotes in circulation in Bulgaria (1912–1918)

Year	Banknotes covered by gold (million levs)	Gold reserves (million levs)	Gold coverage (%)	Banknotes covered by silver (million levs)	Silver reserves (million levs)	Coverage per cent (%)
1912	139.6	51.1	36.6	24.7	16.8	58.0
1913	166.0	55.3	33.3	22.8	23.4	102.6
1914	198.9	55.1	27.7	27.7	28.5	102.9
1915	304.8	61.4	20.1	65.1	22.5	34.6
1916	577.1	68.2	11.8	256.8	17.2	6.7
1917	1 176.0	62.9	5.3	316.8	16.9	5.3
1918	1 969.4	64.0	3.2	329.2	19.4	5.9

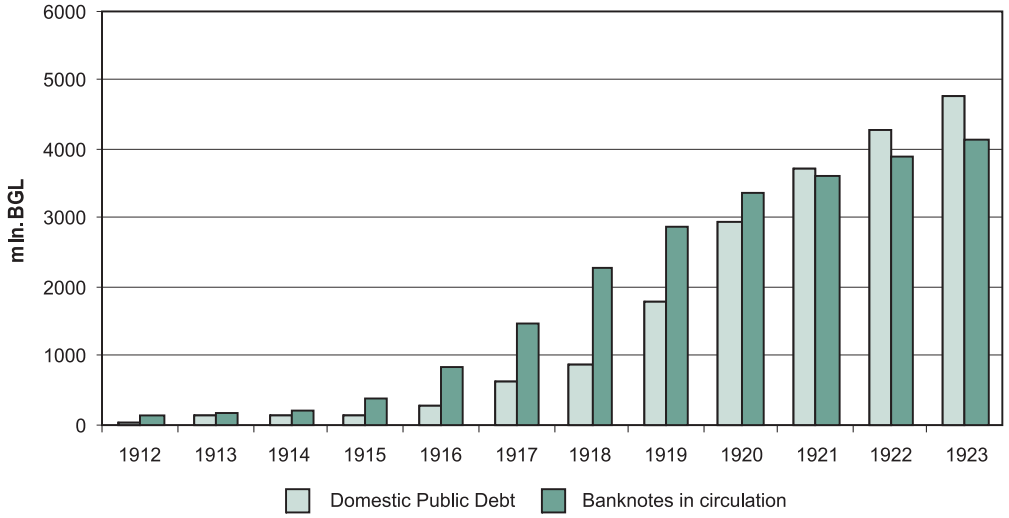
Source and notes: Nedelchev, K. (1940) "Monetary Issues: Bulgaria, 1879-1940", p. 77. Studying the data we have found out that calculating gold and silver coverage of the banknotes in circulation, Nedelchev used the maximum volume of banknotes in circulation reached in the year and the gold and silver reserves at 31 of December of the respective year.

Between the close of 1918 and the end of 1922, even before reparation payments began on 1 October 1923, foreign debt service reached 112 mill gold francs or 16.3 per cent of budget spending[16]. Reparations under the 27 November 1919 Treaty of Neuilly – sur – Seine were added to this debt, coming to 2250 mill gold francs at 5 per cent annual interest over 37 years plus occupation expenses representing a quarter of the na1tional wealth of the economy. French claims on Bulgaria were about 26% of overall external Bulgarian debt (next in the creditors' list of Bulgaria were Italy (25%) followed by Greece (12.7%) and Romania (10.55%). The external debt was 96% of the public debt as the reparations represented 9/10 of the whole external debt (Koszul (1932, p. 40). In spite of it difficult situation, Bulgaria made immense efforts to keep a record of "good" debtor who not only bore the debt burden on its own shoulders but also did not obtain any preferential debt relief (Ivanov, 2001, 2005).

[16] More on the development of the Bulgarian foreign debt as well as on the overall situation of the Bulgarian economy after the Great War see the fundamental and yet unpublished research work on the history of the Bulgarian external government debt by Vatchkov, Ivanov and Todorova as well as Koszul (1932) and Stoyanov (1933).

Figure 2

Public debt and banknotes in circulation (1912–1923)



Source and note: Nedelchev, K. (1940) "Monetary Issues: Bulgaria 1879–1940", p. 81. "The stock of the outstanding domestic public debt in 1922 and 1993 includes also Treasury Bonds amounting respectively at 150 mill levs and 300 mill levs. "

The convertibility of the lev was *de facto* interrupted in the beginning of the wars (10 of October 1912) and the unconditional government financing during the wars was suspended by the law in January 1919 (BNB, A Collection of Documents, Vol. 3, Sofia, 2001, p. 55–56). It was assumed that the break of the convertibility rule would be temporary like some typical short-term interruptions of the gold standard during wars or other extreme events ("rule with an escape clause", Bordo and Kydland, 1996). As a result the lev was devaluated 16.4 times for the period 1915–1918 (Toshev, 1928, p. 116, p. 172) and respectively 26.65 times over an extended period of time (1912–1923).

As prescribed by the international financial experts the phases of the Bulgarian stabilization are also three and have the following chronology.[17] The first preparatory phase started in 1922 with the introduction of the Law on limiting banknote emissions (at a ceiling of around 5.5 bill levs). A later amendment of the law required that the banknotes in circulation and the other permanent liabilities of BNB should not exceed double the value of available gold and other stable currencies on the assets side of bank balance sheet.

Measures to constrain on the public finances were also taken by limiting the advance

[17] For more details see Burilkov (1928), Toshev (1928), Ivanov (1929), Nedelchev (1940), Berov (1997).

credits extended to the government by the BNB to the amount of 4700 mill levs (up to 5400 mill levs in special cases). However, under harder budget constraints and heavy debt burden (annual payments amounted to around 132.5 mill gold francs or more than 50% of the annual budget revenues (Koszul, 1932, p. 48–49)), financing the government by banknote emissions was a crucial issue. Therefore, the state of the public finances had a considerable impact on the development of the exchange rate and prices.

The expectations of each round of debt negotiations strongly influenced exchange rate dynamics. The lowest international purchasing power of the Bulgarian lev was reached in 1921 (184 levs per US dollar) and in June 1923 a sharp rise to 75 levs per US dollar was observed which recorded appreciation of 245%. The following events of the French invasion in Ruhr and its economic and political consequences to Germany once again put the international exchange rate system on the devaluation path. As a result of the drastic devaluation of the Reichsmark Bulgaria (BNB) lost considerable amount of money denominated in Reichsmarks blocked in German banks.[18] These assets were accounted in the coverage of the Bulgarian levs and their devaluation brought a heavy blow to the purchasing power of the Bulgarian lev. This forced BNB once again to introduce monopoly of foreign exchange trade (the first exchange rate monopoly was established in December 1918 and abolished in May 1920). The foreign exchange market was closed (11 of December 1923) and BNB started to determine the buying and selling rates for foreign currencies.

According to the law dating back to 2 of May 1924 BNB commenced to manage the exchange rate (in the corridor of selling rate of 139 and buying rate of 137.2 levs per US Dollar) which is interpreted as the act of the actual stabilization (Ivanov, 1929, p. 141). A possible interpretation of the exact date of the *de facto* stabilization in Bulgaria could be found in the context of creditor- debtor relations. As we have already mentioned France heavily relied on the receipts (debt, reparations) from Germany (representing 52% of the German external debt) as the invasion in Rurh is a demonstration of her unwillingness to meet any compromise on this issue. However, when it became obvious that Germany would not be able to repay its debt and announced the devaluation of the Reichsmark, the question of guaranteeing the receipts from other countries (including Bulgaria) was in focus. France claimed more than one quarter of the Bulgarian external debt and the probability of the lev's devaluation (and consequently the probability of declaring moratorium on the external debt servicing) became more realistic due to the above described direct link between the Bulgarian lev and the value of the German Reichsmark. Moreover, given the influential economic and financial French expertise in the international financial system at that time, we could assume that the date of the de facto stabilization of the lev was a logical result of the complex economic and political relationships as according to Nikolov (1927, p. 28) the stable lev was in the interest of "our creditors".

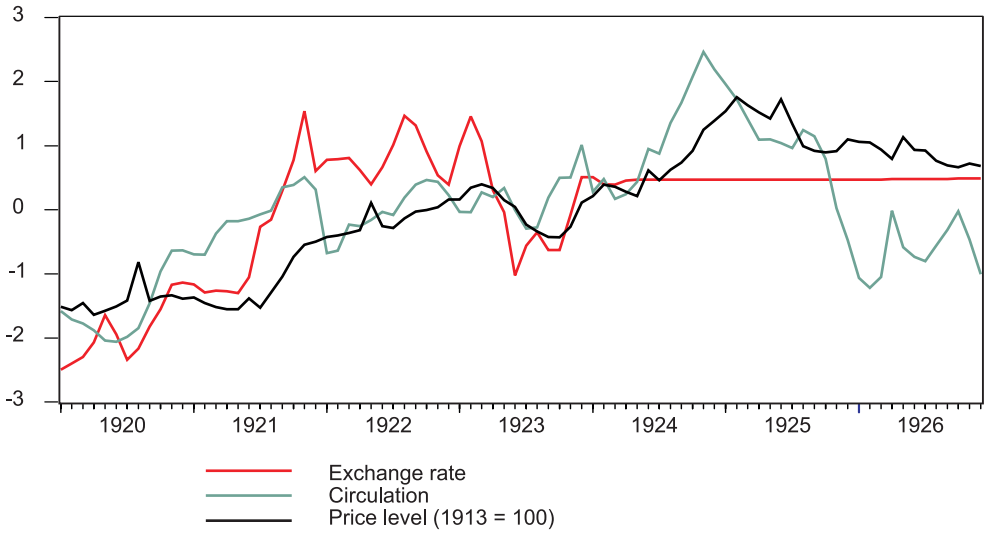
[18] Bulgaria entered WWI on the condition of getting a loan and financial support from Germany and Austria- Hungary of around 200 mill golden Francs.

The Law on BNB dating back to 20 of November 1926 is regarded as the next step in the stabilization process of the lev which constituted the convertibility of the lev, and thus enhancing the accomplished transition to the gold-exchange standard. According to Article 8 of the Law the coverage ratio of the banknotes was designated to 33 1/3 % as it was proposed to target 40%. Although this law defined the coverage of the banknotes in circulation, it did not fix the exchange rate to the gold, i.e. the gold content of the lev was not yet determined.

With the Stabilization Law (from 3 of December 1928) the lev was finally and legally pegged to the gold as the exchange rate of „92 Levs per 1 gram of pure gold" was laid in Article 1. In more details, accounting also for the BNB commissions the exchange rate of 139 levs per US dollar equaled 139 levs per 1 ? grams of gold (which is the gold content of the Dollar). The key role of the stabilization of the lev as a ground of the overall financial and economic stabilization is declared by the Bulgarian statesmen from its very beginning. On the behalf of the central bank, its Deputy Governor – Burilkov associated the stabilization of the lev with the restoration of the morality in the business relations (Burilkov, 1928, p. 3).

Figure 3

Bulgaria (1920–1926). Price level, money in circulation and exchange rate (Lev-US Dollar) (normalized scale)



Loosing foreign currency assets, the stabilization of the lev was accompanied by deflationary monetary policy.[19] The money supply contraction was a subject of debate and criticism coming mainly from the academic economists – Toshev (1928), Yurii (1923), Nikolov (1927), Totev (1932), Boshnyakov (1936), Chapkunov (1936), Sarailiev (1937) and Monchev (1939) among others) who blamed it to be at the root of the economic crisis in the country. For instance, Boshnyakov was a supporter of the devaluation ("expensive money is harmful") and pointed at the "bad" example of the deflationary policy of the French Prime Minister Laval (Boshnyakov, 1936, p. 12, p. 25–28). Nikolov described BNB economists as "orthodox (fanatics) who overestimated the role of stable money and disregarded the role of the national economy", and furthermore that "stabilization should not be maintained at any price; sometimes it contradicts with the stability of the economy" (Nikolov, 1927, p. 4, p. 18, p. 26).

Although the Great Depression exacerbated the economic crisis in the country[20], Bulgaria continued to maintain the fixed exchange rate and its convertibility, and after the devaluation of the US dollar in 1933 the lev was fixed to the French franc (BNB, A Collection of Documents, Vol. 4, Sofia, 2004, p. 419). After the devaluation of the Franc in 1936 the Governing Council of the BNB continued to maintain the fixed exchange rate by the late 1939 arguing that „we are not directly hurt by these devaluations and at the moment there is no need of certain adjustment measures and our export will follow its own way" (BNB, A Collection of Documents, Vol. 4, Sofia, 2004a, p. 557-562)[21].

The chronology of the stabilizations in France and Bulgaria shows an obvious parallelism of events. The co-movement of the monetary stabilizations is predetermined by the decisions taken at the two international conferences in Brussels (1920) and particularly in Genoa (1922). Moreover, France (which was our major creditor) was in some sense an example (an institutional benchmark) of good monetary policy conduct for the Bulgarian politicians and economists and they carefully tried to "imitate" it. As a result France and Bulgaria started almost simultaneously the preparations for stabilizing their national currencies in 1924. However, due to the fact that the French stabilization (the first Poincare's stabilization) was interrupted for two years on political reasons and resumed in 1926 when Poincare was back in power, the *de facto* stabilization of the Bulgarian lev was carried on before the stabilization of the Franc. Later on, the stabilizations in both countries reach their "legislative anchoring" together in 1928.

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[19] In the period after the exchange rate crisis between 1924 and 1927, the money supply drastically contracted by the means of the restrictive monetary policy of the BNB - for example Toshev estimates that it contracted by around 1/3 (Toshev, 1928, p. 176–177) while prices did not decrease by the same degree. According to other authors in order to reach an equilibrium prices should have decreased more (by around 40%) than the degree of money supply contraction (Yurii, 1923, p. 28).

[20] More details about the influence of the Great Depression on the Bulgarian economy as well as on the theoretical discussions of that time see Ivanov (2001, 2005).

[21] According to Monchev (1939, p. 55), there were two tendencies: creditors (among which France) wanted to devaluate their own currencies with the purpose to improve their balances of payments while debtors (primarily agricultural countries among which Bulgaria) decided on keeping the purchasing power of their money in order to reduce their liabilities (they often introduced protective premiums). A historical analysis of the reasons why Bulgaria did not devaluate the lev is offered by Ivanov (2005)

3.3. Two different ideological schemes

We shall stop here with the chronology of events and we shall try to highlight some facts of the Bulgarian stabilization which are similar to the facts of the French stabilization allowing for analysis based on Aftalion's theory under different ideological schemes. In the beginning it is necessary to point out that most Bulgarian authors studying the pre-stabilization period observed empirical discrepancies in the traditional postulates of the QTM and PPP (for example Petkof (1926), Kemilev (1936), Yurii (1923)). Going back to the war years 1915–1918, Berov summarized these discrepancies with the following empirics: an increase of the money in circulation by 6.2 times, 5.5 times increase in prices and only 1.5 times devaluation of the exchange rate to the Swiss franc explaining this observation by the strong state intervention in the economy in these years (Berov, 1997, p. 71). According to Toshev "the barometer informing us when inflation starts to accelerate is the exchange rate" (Toshev, 1928, p. 114–116). And many other authors (Koszul, 1932) as well as Bulgarian economists, acquainted with the French literature (Ilief, 1930, Petkof, 1926) and analyzing the pre-stabilization period, shared the opinion that Aftalion's theoretical framework was the most logical one in explaining the failures of the QTM and PPP in the interwar period.

If we use the classic interpretation of stabilization as a *credibility effect* (or confidence effect) and *discipline effect*[22], we can argue that in contrast to the dominating ideology of the stabilization of the franc in France, the role of the credibility effect is relatively underestimated in the stabilization of the lev. In other words, the Bulgarian economists and politicians underlined that the main motive behind the stabilization of the lev is the management of money supply rather than the convertibility of money and the credible fixed exchange rate. The few exceptions represent only economists of the BNB[23] who gave an advantage of the credibility effect achieved by the stabilization of the lev as at the same time they did not reject the importance of the discipline effect.

Some Bulgarian authors, however, totally neglected the role of the credibility effect stemming from the stabilization. For example, Toshev (1928) criticizing Adolf Wagner's theory of credibility, pointed out that there were objective economic laws, otherwise "scientific arbitrariness" would reign (1928, p.99). He states that the volume of money is more important than the convertibility rule, "convertibility is an empty word" (p. 178) and „the estimation of the gold content of lev is an arbitrary act" (p. 199). Like Toshev, Nikolov argues many times that the main question is not about the coverage or whether

[22] Raybaut and Torre (2005) provide an interesting analysis on the credibility and discipline effects.

[23] BNB economists stressed the role of confidence in the monetary stabilization on many occasions. For example in the Annual Report of the BNB from 1929 the analysis of the Bulgarian economic situation in the beginning of the Great Depression points out that: "The situation of the exchange rate as well as the measures undertaken by the management of the Bank has not given any reasons of concerns with respect to the stability of the Lev. Unfortunately, such disturbing rumours have found rich ground in our society, constantly worried about some phantasmagorical threats; those rumours went abroad and caused a great damage to our financing. The management of the Bank did its best to disperse all concerns and doubts and to ensure the public that in spite of the unfavourable economic development BNB together with the contribution of other factors is capable to maintain the stability of the Lev" (BNB, A Collection of Documents, Vol. 3, Sofia, 2001, p. 55–56).

money should be fiat or gold backed but rather about its quantity. He states that there is a "harmful psychological preference for gold money and not [for] fiat money" (Nikolov, 1927, p. 31–33). In his opinion, "the coverage is not equally suited for all times and for all countries" (p. 34). Toshev (1932, p. 52) also agrees that the main question is "How much money is necessary for market exchange?" and although he mentions the role of credible money (as a second factor which influence the value of money together with its volume), he insists that "in the process of stabilizing the monetary system, the quantity of money is more important than its coverage" (p.105–109).

Therefore, two different "ideological" schemes of monetary stabilizations are formed in France (dominating credibility effect) and Bulgaria (prevailing discipline effect) which predetermine to some extent (of course, together with other factors) the different approaches in the implementation of the stabilization process in the two countries[24]. While the stabilization in France is more "market-oriented" and based on building credibility, the stabilization in Bulgaria is more administrative and regulated by the state (foreign currency exchange trade monopoly imposed by the BNB, control over the capital flows, etc.) which aim is to establish financial discipline.

In spite of the variety of interpretations, Bulgarian economists were unified in underlying the role of the psychological factors and expectations in determining exchange rate and price movements. Similar to the influence of the expectations about the reparations' receipts from Germany on the French franc, the value of the lev was strongly influenced by the expectations about the outcome of the debt negotiations. The franc exchange rate was further influenced by the expected introduction of new taxes announced by the left government in July 1926, while the lev exchange rate reflected the expected increase of customs tariffs in 1921.

Moreover, we can draw an obvious parallel between the influence of the capital flows on the exchange rate and price development. In France there was a huge capital outflow by the mid of 1926 and after the second Poincare's government the capital returned back to the country. Similarly there was a capital outflow from Bulgaria in the period June 1923 till April 1924 when high taxation on capital profits were expected and quite a reverse tendency after the strong and explicit motivation of the authorities for stabilization. If we use Aftalion's scheme, the set of factors Ω having impact on the exchange rate comprises of: 1) the prospective optimistic outcome of the negotiations about the reparations, 2) the tendency towards budget balancing, 3) the development of the positive trade balance, as well as 4) many other psychological factors (mentioned by Chapkunov, 1936, p. 39).

[24] The different features of the stabilizations comparing Bulgaria to other countries of the "Golden bloc" are subject to analysis by Sarailiev (1937, p. 27) who focuses on the trade-off between "Lev's devaluation and customs' duties acceleration" and argues in favour of the latter with view to improve the external balance of Bulgaria. According to him the first approach is like a "leap in the dark". In Sarailiev's book the reader can find some of the later arguments of the presence of "*original sign*" in the peripheral countries (p. 32).

4. Econometric test almost a century later

In spite of being regarded as simple from present-day point of view, Aftalion applied progressive at his times methods of correlations and standard errors over time series of indices of the main variables and pedantically compares their dynamics. Wrongly or at least in an oversimplified approach (given nowadays theories) he interprets the change of variable õ coming before the change of variable ó as a causality relation ($x \rightarrow y$). Today we know that problems with causality are considerably more complex and that even causality in Granger terms (Granger-Sims) does not tell us enough for the "economic" causality among the variables. Let's recall that the meaning of the statistical Granger causality is the following: if we want to understand whether the variable õ causes or explains some of the development of *y*, first it is necessary to see to what extent the current values of y are determined by its previous values, and then, to see whether predicting the current values of y could be improved by adding past values of *x*. In this case, we say that "*x* causes *y* by Granger"[25] which is illustrated in the following formula:

$$\sigma^2(y_{t+1} / y_t, x_t) < \sigma^2(y_{t+1} / y_t) \quad (1).$$

In general the development of econometrics today provides us with the opportunity to make better estimates (in spite of its methodological constraints and disputability) of the economic relations and of the directions of causality among indicators. For instance, VAR models (*Vector Autoregressions Model*) allow us to study the interrelations of variables (as all variables enter the model as endogenous), how they react to shocks (*Impulse Responses Analysis, IR*) and to decompose the variance of each variable caused by the rest (*Variance Decomposition Analysis, VD*). VAR models are an alternative to the structural models in which the causality is *a priori* assumed.

We shall use the following VAR model (*q*):

$$X_t = K + \Phi_1 X_{t-1} + \Phi_2 X_{t-2} + ... + \Phi_p X_{t-q} + e_t \quad (2).$$

The vector of endogenous variables *X* is $X = \begin{bmatrix} \Delta m \\ \Delta p \\ \Delta e \end{bmatrix}$, i.e. it consists of the money in circulation *m*, price level *p* and exchange rate *e*. In equation (1) *X* is explained by its own past values with an optimal lag *q*. *K* indicates the vectors of constant variables, *F* comprises of estimated coefficients, and *e* – vector of residuals (the order of the variables in the vector matters and it requires preliminary tests and determining the optimal lag).

Before proceeding with the econometric tests of the psychological theory of Aftalion, it is necessary to comment some methodological features.

First, the tests will be applied for the period starting with the end of the WWI up to

[25] See Haudeville and Rietsch (2004). In other words, the variable õ causes ó at a given information set if the current value of *y* could be better forecasted by adding past values of *x* rather than without them.

stabilization as the stabilization is treated as a reaction to the dominating role of the exchange rate in explaining price development as well as in stabilizing inflation expectations. We stop to the *de facto* stabilizations, thus in the case of Bulgaria the last observation is for May 1924 and of France – July 1926. This automatically shortens the time series under study with almost two years.

Second, it is important to take into consideration the market "purity" characteristics in the period under study, i.e. to what extent the movement of the variables is driven by market forces and principles and to what extent the state regulates the prices or determines the development of other indicators (regulating the deficit by a coupon system or exchange rate controls). The more "clearer" the market is, the more obvious the effect of the psychological theory. No doubt, that during the war years the intrusion of the state in both countries is very strong. As we have already mentioned, the Bulgarian stabilization is considerably less market-based than the French one, and respectively the period in which we can detect Aftalion's interrelations between the variables is shorter (this could be one of the reasons why he has not included Bulgaria in the sample of countries which he studied).

Third, it is necessary to take in mind the quality of statistics in both countries like to what extent the announced price indices reflect the actual movement of prices or to what extent the announced money in circulation is close to the true one. We would like just to note that like in France (May 1924 – April 1925) there are observations of accounting manipulations with the balance sheets of the central bank in Bulgaria[26] with the view to disguise the true acceleration of the money in circulation and the violation of the legislation. For this purpose we provide a detailed data description of indicators' dynamics reflecting data quality characteristics and policy influence which will be taken into account in the econometric analysis.

The econometric estimation of the psychological theory of Aftalion for the pre-stabilization periods for both countries (France and Bulgaria) shall be reduced to several tests of the dynamics of the exchange rate, money in circulation and prices. The fist step involves analysis of the development of the indicators and their basic characteristics with a focus on building consistent time-series, variance and correlation statistics[27]. In order to identify causality chains in the second step we shall apply Granger causality test to each couple of variables according to equation (1). And finally the econometric analysis of indicators' relations and inter-dependency shall be extended to shock response tests and variance decomposition analysis based on built VAR models (for equation 2).[28]

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[26] This happens outside the period under study, in the mid 30's under the governor of the BNB - Dobri Bozhilov. Later on the accusations of falsification are addressed to Kiril Gunev - a deputy governor at the same time (BNB, A Collection of Documents, Vol. 4, Sofia, 2004b, p. 945-952).

[27] Similar to what Aftalion (1927) and Petkof (1926) for Bulgaria did by the means of "hand" calculations.

[28] The analytical steps are similar to the ones undertaken by Spanos et al. (1997) in studying the Cyprus economy in a VAR model.

[29] It is possible to estimate the correlation between the true and the falsified data with the purpose to analyze whether they move together or not. Another suggestion is to put a dummy variable in the models.

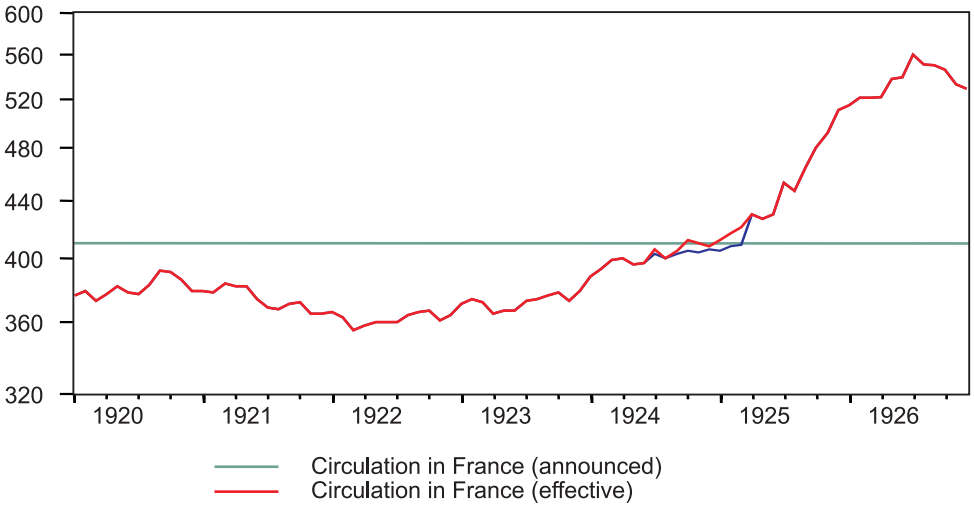
4.1. Econometric test for France (1920–1926)

The pre-stabilization period under study is the same as the one that Aftalion studied (1920-1926) and more precisely it ends with July 1926 when it became clear that Poincare would undertake the "second" stabilization reform. Therefore we use the same data which Aftalion used (Aftalion, 1927, p. 58-64). Here we would like to draw the attention of the reader to a very curious methodological case.

As we have already mentioned the weekly balance sheets of the Bank de France were falsified between May 1924 and April 1925 with the purpose to hide the excessive emission of banknotes (Figure 4; this case is studied in details in Blancheton, 2001). Weekly analysis of the balance sheets reveals that by falsifying its balance sheets, the central bank managed to meet the legislative ceiling of 41 bill Francs in the fourth week every month till August 1924. The violation of the rule could no longer be disguised in the last week of September 1924 and became obvious on the 2nd of October. Although the period and volume of falsified data were not significantly big (still a symbol of the violation of the rule), we come across a methodological case stemming from the fact that Aftalion built his theory on the official values of the observed indicators.

Figure 4

France: money in circulation, published and actual data (1920–1926)



Hence, it would be logical to ask ourselves several questions. First, is it appropriate to use the true data when the expectations of agents and their decisions are taken on the basis of the falsified data in fact? Second, is it not nevertheless right to use the true data which could better explain the fundamental relations in the QTM and PPP? Third, would it be proper to reject Aftalion's theoretical relations on the basis of data he did not use? Finally, why he (as well as other economists such as Rueff for instance (Rueff, 1927, p. 343)) did

not apply the true data when the falsification was revealed in April 1925 and turned out to be the direct occasion for the exchange rate crisis in 1926? The answers to these questions, though having an interesting "methodological" appeal, could be a subject of another long discussion[29]. In this study we shall use the same data upon which Aftalion build his psychological theory of money and exchange rate.

The statistical characteristics and above all the variance of variables (either in levels and in first difference of logs) show at first sight that the dynamics of the exchange rate is the most volatile (0.07) followed by the development of prices (0.04) and then by the money in circulation (0.01). Moreover, the correlation matrix (tables 2) proves that there is a stronger co-movement between the exchange and the prices as well as between the exchange rate and the money in circulation rather than between money in circulation and prices. Let's recall that Aftalion divided the period in small samples (up to a year) and he calculated the correlation in each of these sub-samples. However, we consider that this approach is not very useful and informative, not last because of the problem of interpreting correlations as causality. Therefore, we opt for testing Aftalion's theory for the whole period.

Table 2

France: Correlation matrixes of variables

In levels	Exchange rate	Money in circulation	Price level
Exchange rate	1.000000	0.925512	0.874854
Money in circulation	0.925512	1.000000	0.855251
Price level	0.874854	0.855251	1.000000
First difference of logs	Exchange rate	Money in circulation	Price level
Exchange rate	1.000000	0.286006	0.713637
Money in circulation	0.286006	1.000000	0.332630
Price level	0.713637	0.332630	1.000000

The second step in identifying causality relations, we study Ganger causality tests by pairs by taking threshold probability of 0.05 as a criterion to reject the null hypotheses (Table 3). Thus we can summarize the results and give them the following economic interpretation: (1) exchange rate dynamics is more likely to be the determinant of money in circulation development than the other way around, (2) exchange rate dominates the dynamics of prices and (3) the causality chain between prices and money in circulation is not clear-cut. Therefore, the direction of causality observed and theoretically postulated by Aftalion and namely that the impulse starts from the exchange rate, and later on passes through to prices and to money in circulation, is in general confirmed by Granger causality tests.

Table 3

France: Granger causality tests

Pairwise Granger Causality Tests
Sample: I.1920 – VII.1926
Lags: 4

Null Hypothesis:	Obs	F-Statistic	Probability
MF does not Granger Cause EF	75	2.08188	0.09308
EF does not Granger Cause MF		2.66357	0.04003
PF does not Granger Cause EF	75	2.58119	0.04513
EF does not Granger Cause PF		4.40683	0.00322
PF does not Granger Cause MF	75	4.20828	0.00428
MF does not Granger Cause PF		4.22419	0.00418

The results of the data analysis provide us with the necessary information to construct a VAR model which includes up to the 4th optimal lag of variables set according to the Akaike and Schwartz information criteria (see in the Appendix). Based on the relatively acceptable statistical characteristics of this model we generate impulse response simulations and variance decomposition as a next step of the econometric analysis. The simulation of impulse responses (Figure 4) "validates" Aftalion's theory of hegemonic exchange rate as prices respond much more to exchange rate shock rather than to a shock driven by the money in circulation (column 2). Moreover, it is apparent that the money in circulation has a comparatively weak influence on the development of prices and the exchange rate (column 3).

Besides, the results of variance decomposition analysis (Figure 5) show the role of inertia and expectations in the process of price and exchange rate setting. For example the decomposition of price variance (raw 2) suggests that around 62% is explained by its own past values, 36% – by the exchange rate and only about 1–2 % – by the money in circulation. In a similar way, around 85% of the volatility of the exchange rate is automatically induced, 12 % are associated with price development and only up to 3 % – is a result of the changes in money in circulation (raw 1). The variance decomposition analysis on money in circulation (raw 3) shows that 80% of it is determined by its own past values, around 11–12 % – by price dynamics and about 8–9% – by the behaviour of the exchange rate.

Figure 4

France: Impulse Response (IR) Analysis

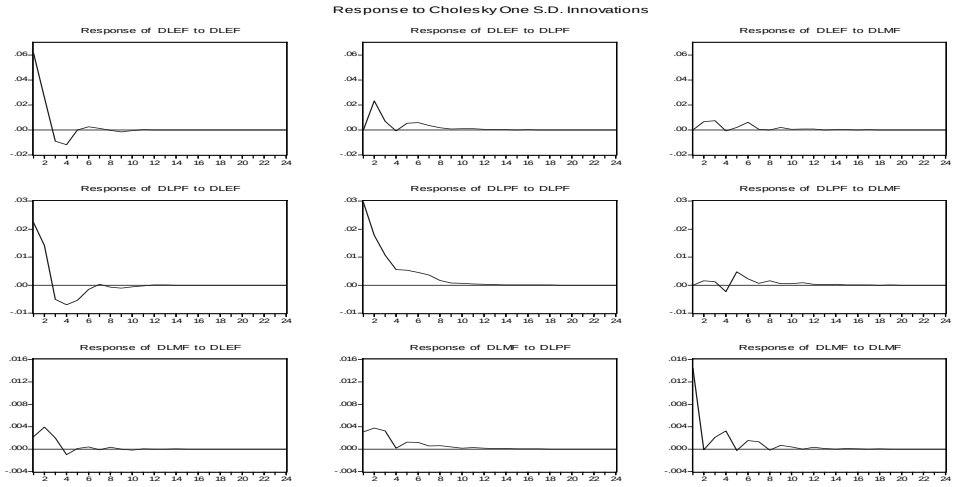
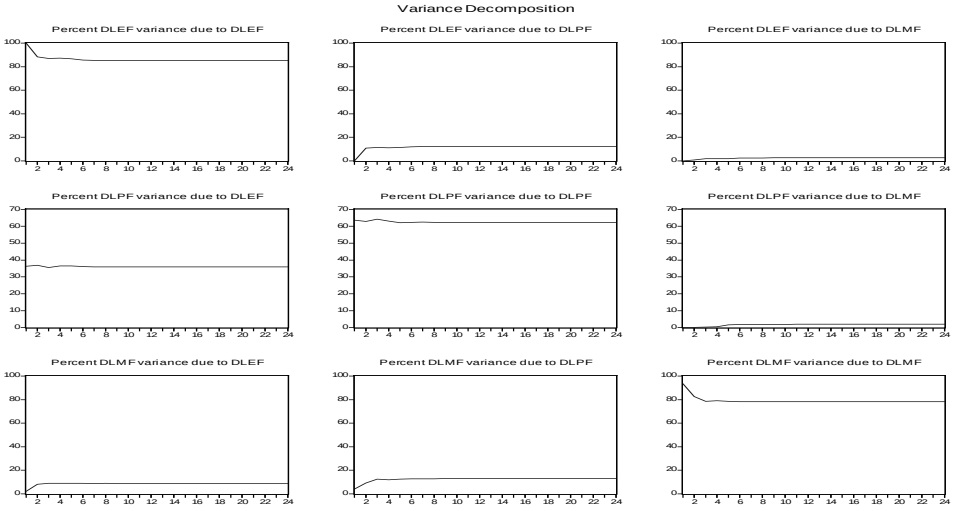
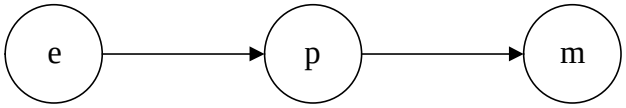


Figure 5

France: Variance decomposition



This final step of the econometric analysis allows us to "confirm" Aftalion's observations and theoretical arguments of the causality chains between these three variables and mainly that the dynamics of the exchange rate is the major source of shocks to the economy in the interwar period which passes through to prices and dies with the adjustment of the volume of money in circulation. Thus, we can illustrate these relations in the following chart:



4.2. Econometric Test for Bulgaria (1920–1924)

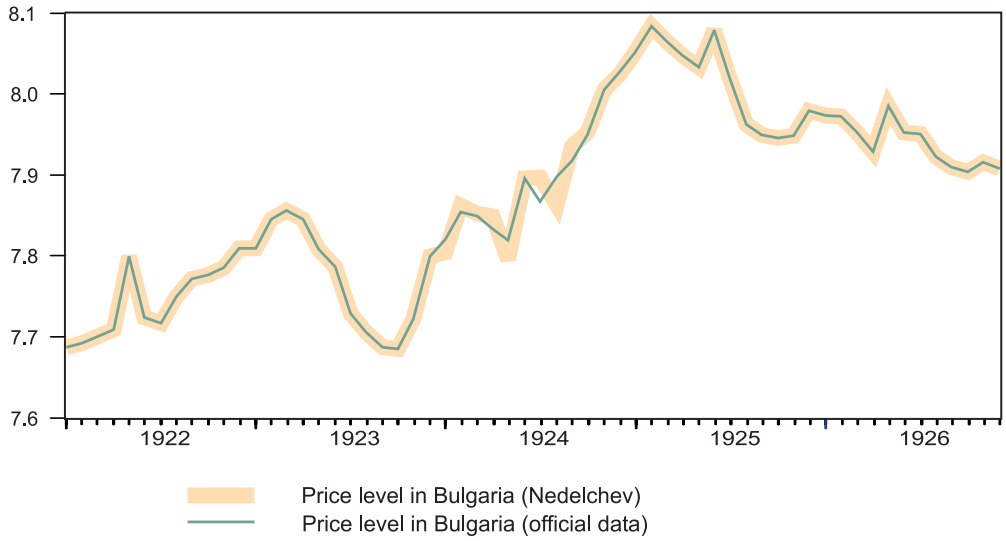
A common problem that everybody working with historical data comes across is to find long consistent time series with high frequency (monthly data). In the case of Bulgaria, this problem is even more complex because to our knowledge nobody has build such historical time series so far, the methodology of statistics has often been changed and during the wars no official statistical data have been announced[30].

For the period under study (1920–1924) we us monthly price data from the Statistical Annual Reports of the Kingdom of Bulgaria available from the beginning of 1922. In addition we analyze data collected from the literature and namely the time series of price changes of food, heating and electricity for the period 1922–1931 (Koszul, 1932, base indices 1914=100) and monthly data of "price index" for the period 1920-1927 (Nedelchev, 1940, base indices 1913=100) without any indication of its content and source of information. Adjusting them to one and the same basis (1913=100) and comparing them with the official statistical data starting in 1922, the three time-series overlap. Thus, for price indicator we use the "index of the price change of food, electricity and heating for the 12 major cities in the Kingdom of Bulgaria" according to the definition given in the Annual Statistical Reports. Due to a difference between the official data and data used by Kiril Nedelchev only for 1924 (Figure 6), we shall use Nedelchev's data for the period 1920-1923 and official data for 1924.

[30] During the war period 1915–1918 statistical annual reports have not been published and the annual statistical report in 1923 contains only annual data for the period 1913–1922.

Figure 6

Data on the prices level in Bulgaria

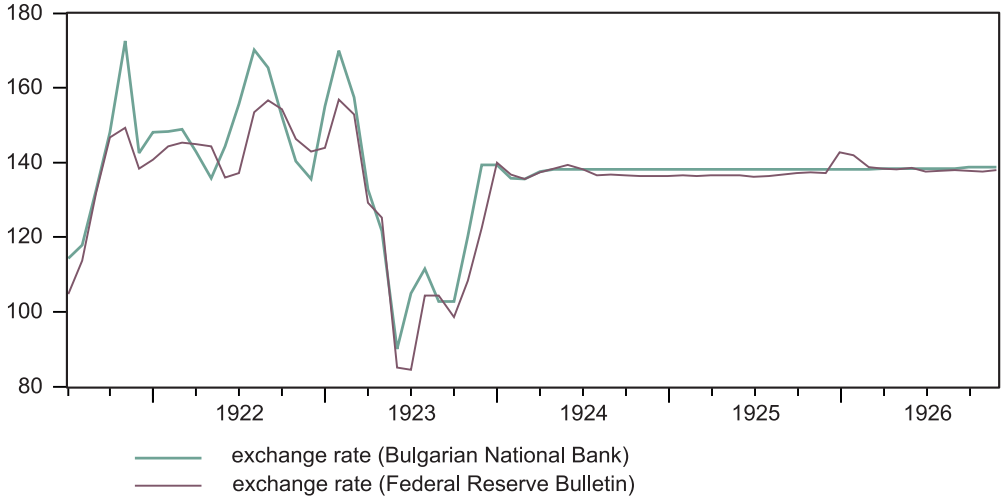


It is yet more difficult to find reliable data on the Lev US Dollar exchange rate over the review period. Koszul (1932) uses average monthly data published in the Federal Reserve Bulletin starting in 1922. Following the same source of information we manage to extend the series no earlier than July 1921 as before this data there are only minimum and maximum values. In BNB's quarterly bulletin ("Izvestia na BNB") there are monthly "average" exchange rate data for an earlier period – up to 1919 as we observe differences among the two time-series (Figure 7). As we already mentioned when we discussed Bulgarian price data, putting aside the deliberate data manipulation (typical for the period before and during stabilization), the differences could be due to print errors, rounding numbers or lack of qualified statistical staff in the BNB[31]. Our aim to cover as longer period as possible imposes us limits on using one and the same source of information namely BNB as data tends to underestimate nominal appreciation and overestimate devaluation of the national currency.

[31] For instance, the monthly average buying exchange rate for May 1924 is 147.2 and its maximum and minimum rates are 137.2 The latter is obviously a printing mistake which is probably the explanation of the resulting buying rate higher than the selling rate.

Figure 7

Data on exchange rate (BG levs per 1 US dollar)



And finally with respect to the third variable (money in circulation) the differences between available data series are minor regardless of the numerous approaches to define this indicator. Given the data availability constraints we study only banknotes in circulation as we have not found monthly statistics of the component on the liability side of the BNB balance sheet (demand deposits and correspondence accounts) before 1922. Moreover, the official data published by the BNB[32] and the data of money in circulation in Koszel (1923) are identical, so we have no problems in constructing this historical time series for the period under study

We may now turn to testing the statistics following the steps taken in analyzing the French pre – stabilization period. The statistical characteristics of volatility bring exchange rate movements to the fore, though not as clearly as in the French case. The exchange rate records the highest degree of deviation from its mean value (0.11) followed by price (0.04) and money in circulation ranks last (0.02) taking the variables as first difference of logs.

Interestingly, correlation matrixes and particularly when variables are transformed in first difference of logs suggest a stronger correlation between exchange rate and money in circulation (Table 4). It is worth noticing that for different sub-sample the correlations vary a lot which reflects the high dynamics and different characteristics of market-setting mechanisms, degree of state intervention, etc. For instance shortening the period by eliminating the observations before July 1921, produces a closer correlation between exchange rate and priced dynamics both in levels and in first difference of logs.

[32] Monthly data for banknotes in circulation for the period prior to 1928 were collected and generously provided by Martin Ivanov.

Table 4

Bulgaria: Correlation matrixes of variables

In levels	Exchange rate	Money in circulation	Price level
Exchange rate	1.000000	0.793905	0.780339
Money in circulation	0.793905	1.000000	0.691938
Price level	0.780339	0.691938	1.000000
First difference of logs	Exchange rate	Money in circulation	Price level
Exchange rate	1.000000	0.141123	0.000123
Money in circulation	0.141123	1.000000	0.019133
Price level	0.000123	0.019133	1.000000

Granger causality tests also show some differences from the dynamics of French monetary variables. Being more liberal (applying the acceptability/rejection criterion at probability of 0.10), we can say that: 1) exchange rate is obviously the cause of price movements, 2)exchange rate reflects money in circulation dynamics as well, and 3) that there is some probability that money in circulation influences price changes. What cannot be ruled out, however, is the alternative that exchange rate dynamics has a direct impact on prices.

Table 5

Bulgaria: Granger Causality test

Pairwise Granger Causality Tests
Sample: I.1920–V.1924
Lags: 2

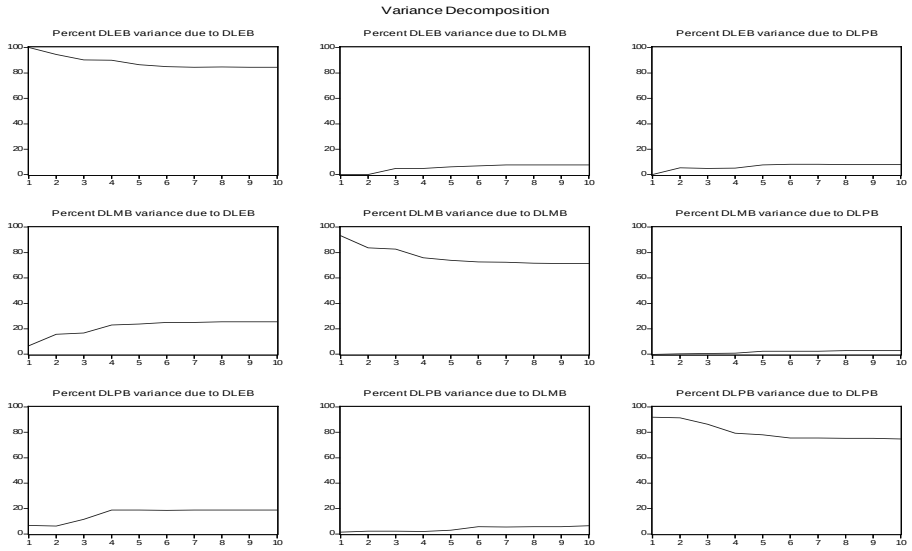
Null Hypothesis:	Obs	F-Statistic	Probability
PB does not Granger Cause EB	51	0.43735	0.64840
EB does not Granger Cause PB		4.95947	0.01121
MB does not Granger Cause EB	51	2.69840	0.07797
EB does not Granger Cause MB		2.29515	0.11217
MB does not Granger Cause PB	51	2.07661	0.13695
PB does not Granger Cause MB		0.07956	0.92365

Despite the comparatively short sample of 53 monthly observations (we have 79 observations for France) the VAR models provide us with interesting results (see Appendix). In

the first place, the impulse response analysis gives indications of weak influence of the money in circulation on the price and exchange rate setting mechanisms (column 2 in figure 8). All three variables are primarily determined by themselves implying either high degree of independence (strong inertia) or broken relations due to some kind of interference or administrative setting mechanism. What is important for the case of Bulgaria is the relatively stronger response of money in circulation (column 1, raw 2) and of prices (column1, raw 1) to an exchange rate shock which justifies the hegemony of the exchange rate. However, the IR analysis suggests that the volume of money in circulation lies somewhere between the exchange rate and prices in the causality framework.

Figure 8

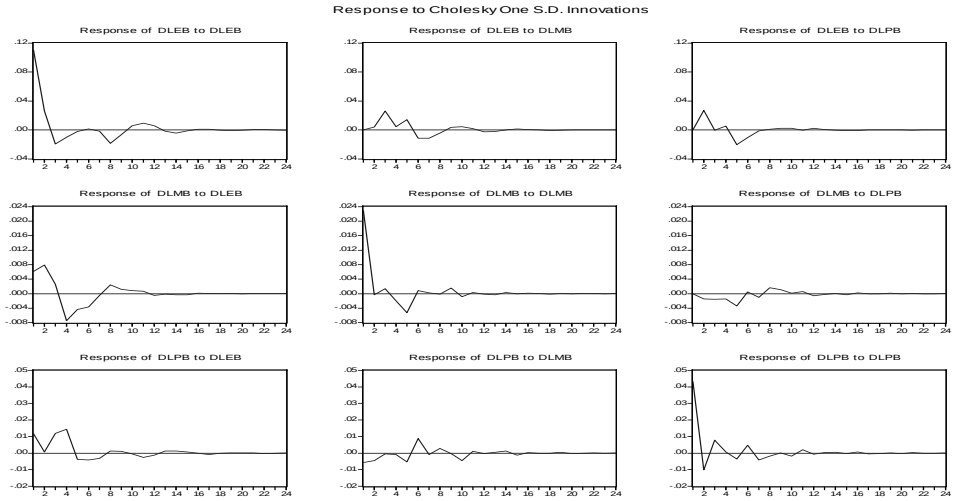
Bulgaria: Impulse Response (IR) Analysis



The variance decomposition analysis provides us with a quantitative estimate of the causality relations between the variables. The results (Figure 9) show that 74-75% of the price variance (raw 3) is predetermined by its own past values, around 19% –by the volatility of the exchange rate and around 7% – by movements of the money in circulation respectively. The variance decomposition of the exchange rate (raw 1) apart from the considerably high degree of self-induced variance (84–85%) is equally influenced (of around 8%) by (expected) performance of the price level and money in circulation. The results of the variance decomposition of money in circulation (raw 2) estimate the direct impact from the exchange rate at around 25%, which in comparison with the 3% inflation impact is more significant. Hence, money in circulation is a clear-cut function of the exchange rate.

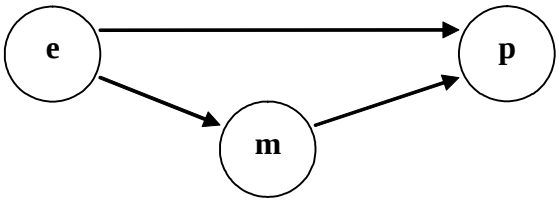
Figure 9

Bulgaria: Variance Decomposition (VD)



In summery, the results suggest that the exchange rate is the second of importance variable in explaining price and money in circulation movements after their strong dependence on their own "past behaviour". Of course, these estimates apart from being conditional on the short sample, could find a reasonable economic explanation like the considerable "non-market" setting of the exchange rate prior to the stabilization in Bulgaria (the monopolistic interventions on behalf of the BNB in the foreign exchange trade) in comparison to the French pre-stabilization period. We produce similar results of the causality test and with the VAR models by shortening the period up to the end of 1923 when the exchange rate control is de facto introduced and the development of the exchange rate starts to reflect to a great extent the interference of the central bank.

Although the exchange rate is the cause for the price movements, yet the latter are also influenced by the development of the money in circulation. This gives certain grounds for claiming that exchange rates affect prices in two ways: 1) directly and 2) indirectly, through money in circulation as in both cases, this is carried out by the means of expectations. Therefore, the causality chains in Bulgaria in the pre-stabilization period can be illustrated by the following chart:



Since Aftalion's theory and his statistical tests have been "applied" to the Bulgarian monetary history by his contemporaries, it is interesting to compare their results with the ones generated by the VAR techniques. As a whole the estimates by Koszul (1932) and Petkof (1926) are very similar to ours. According to the former author the curves' and correlation analysis of the money in circulation, prices and the exchange rate produce a clear-cut outcome that in the period 1920 – 1924 the causality chains start from the exchange rate (pp. 120–121, pp. 187–191) as with the time the significance of the money in circulation increases. The statistical estimates of Petkof are even much closer to ours. The author finds that in the whole sample of 1920 (1921) – 1924 the exchange rate dictates the development of prices and money in circulation as in times of economic upsurge he observe the following causality chain "exchange rate – money in circulation – prices" while in times of economic drop there are two chins" "exchange rate-prices" and "money in circulation-prices" (p. 112). In conclusion Petkof summarizes that the determinants of prices are two: exchange rate and money in circulation (money supply) (pp. 141–148, pp. 361–377).

It is interesting to notice that according to our tests the causality chains described in Bulgaria are similar to the ones which Aftalion identifies in Germany. This similarity is not surprising as both countries are defeated in the IWW and it is very likely that debt burden and debt related expectations influences the dynamics of the variables and gives this specific causality relation. In this configuration the exchange rate affects prices through two channels: directly and indirectly by the means of the money in circulation.

5. Concluding remarks

The interwar stabilizations have a number of common features with the modern concepts dominating the discussions on the effectiveness of the monetary regimes and particularly in favour of those based on exchange rate stabilization, convertibility and on rules in general rather than on discretion. Such monetary regimes have the unambiguous advantage of enhancing credibility in the monetary authorities and thus to impose discipline. In this paper we do a comparative analysis of the stabilizations in France and Bulgaria. The two approaches to stabilization are the logical responses to the specific pre-stabilization dynamics of macroeconomic variables which is difficult to explain by the conventional QTM and PPP theories.

Albert Aftalion is one of the first economists emphasizing the role of the psychological factors, expectations and confidence in the analysis of the development of inflation, exchange rate and money in circulation. In many aspects his psychological theory of money and exchange rate precedes the modern understanding of the process of prices and exchange rate setting (the role of expectations, overshooting effects, Random Walk, multiple equilibrium dynamics, self-fulfilling prophecy, etc.). Aftalion builds his theory on observations in the pre-stabilization experience in several European countries (Bulgaria is not included in his sample of empirical illustrations) and application of basic statistical methods (sometimes leading to imprecise interpretations of correlations like causality). The present –day econometric techniques allow us to run new tests on the validity of

Aftalion's theory at that time. Despite the structural differences between France and Bulgaria in the pre-stabilization period since in Bulgaria there was a great degree of administrative interference of the government in the monetary activities, Aftalion's theory proves to accommodate the facts as a whole.

The role of expectation is very significant as the money in circulation is no longer the leading indicator for prices and exchange rate development but rather and very often it is the final element in the causality chain of monetary relations. In both cases (of France and Bulgaria) the exchange rate is in the focus of expectations of economic agents. Its *de facto* and later on *de jure* stability as well as the convertibility of the national currency turns out to be the starting point of the whole process of stabilization. The specific characteristics of the stabilization process in both countries reflect the different ideological paradigms under which stabilizations were carried out. They illustrate the importance of the discipline effect (the control of money in circulation) in the debate concerning the stabilization in Bulgaria, and the dominant role of the credibility effect which was well shared by all economists and politicians involved in the French stabilization. In spite of the differences, stabilization measures are taken in response to similar problems and monetary dependences, all of them finding expression in the decisive role of exchange rates and expectation.

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Appendix

VAR Model for France

Vector Autoregression Estimates
Date: 08/08/06 Time: 14:06
Sample(adjusted): 1920:06 1926:07
Included observations: 74 after adjusting endpoints
Standard errors in ( ) & t-statistics in [ ]

	DLEF	DLPF	DLMF
DLEF(-1)	0.134482	0.011680	0.018543
	(0.15956)	(0.09593)	(0.03860)
	[0.84283]	[0.12175]	[0.48037]
DLEF(-2)	-0.266052	-0.222034	-0.010792
	(0.15529)	(0.09336)	(0.03757)
	[-.71324]	[-2.37816]	[-0.28727]
DLEF(-3)	0.043869	-0.024333	0.012586
	(0.15030)	(0.09036)	(0.03636)
	[0.29187]	[-0.26928]	[0.34614]
DLEF(-4)	-0.047258	-0.092423	0.008085
	(0.14425)	(0.08673)	(0.03490)
	[-.32761]	[-1.06569]	[0.23167]
DLPF(-1)	0.742948	0.589630	0.127069
	(0.26025)	(0.15646)	(0.06296)
	[2.85480]	[3.76848]	[2.01830]
DLPF(-2)	-0.418530	-0.017684	0.007236
	(0.28566)	(0.17175)	(0.06911)
	[-.46511]	[-0.10296]	[0.10471]
DLPF(-3)	0.045958	0.158871	-0.077449
	(0.29074)	(0.17480)	(0.07033)
	[0.15807]	[0.90889]	[-1.10115]
DLPF(-4)	0.134019	0.012063	0.013832
	(0.27123)	(0.16307)	(0.06562)
	[0.49412]	[0.07398]	[0.21080]
DLMF(-1)	0.458827	0.106168	-0.009510
	(0.54824)	(0.32961)	(0.13263)
	[0.83692]	[0.32210]	[-0.07170]
DLMF(-2)	0.366661	0.021685	0.124091
	(0.53723)	(0.32299)	(0.12997)
	[0.68251]	[0.06714]	[0.95480]
DLMF(-3)	-0.092247	-0.126553	0.213472
	(0.52357)	(0.31478)	(0.12666)
	[-.17619]	[-0.40204]	[1.68537]
DLMF(-4)	0.247051	0.502510	-0.000416
	(0.52339)	(0.31467)	(0.12662)
	[0.47202]	[1.59694]	[-0.00328]

C	0.009187	0.004769	0.003164
	(0.00835)	(0.00502)	(0.00202)
	[1.09986]	[0.94964]	[1.56608]
R-squared	0.323921	0.398689	0.234344
Adj. R-squared	0.190921	0.280399	0.083723
Sum sq. resids	0.232151	0.083914	0.013587
S.E. equation	0.061691	0.037090	0.014924
F-statistic	2.435508	3.370420	1.555849
Log likelihood	108.2825	145.9337	213.2996
Akaike AIC	-2.575202	-3.592802	-5.413503
Schwarz SC	-2.170434	-3.188034	-5.008735
Mean dependent	0.013873	0.005674	0.005169
S.D. dependent	0.068584	0.043723	0.015591
Determinant Residual Covariance		6.94E-10	
Log Likelihood (d.f. adjusted)		465.2493	
Akaike Information Criteria		-11.52025	
Schwarz Criteria		-10.30595	

VAR Model for Bulgaria

Vector Autoregression Estimates
Date: 08/08/06 Time: 14:11
Sample(adjusted): 1920:06 1924:05
Included observations: 48 after adjusting endpoints
Standard errors in ( ) & t-statistics in [ ]

	DLEB	DLPB	DLMB
DLEB(-1)	0.152272	0.045539	0.076154
	(0.15511)	(0.06360)	(0.03339)
	[0.98172]	[0.71605]	[2.28052]
DLEB(-2)	-0.313069	0.109705	0.015853
	(0.15772)	(0.06467)	(0.03396)
	[-1.98493]	[1.69640]	[0.46685]
DLEB(-3)	-0.191620	0.151034	-0.036271
	(0.16091)	(0.06598)	(0.03464)
	[-1.19086]	[2.28923]	[-1.04701]
DLEB(-4)	-0.147989	0.012393	0.029794
	(0.17155)	(0.07034)	(0.03693)
	[-0.86265]	[0.17619]	[0.80669]
DLMB(-1)	0.320343	-0.252603	-0.021176
	(0.73011)	(0.29936)	(0.15719)
	[0.43876]	[-0.84381]	[-0.13472]
DLMB(-2)	1.263009	-0.053182	0.015976
	(0.69362)	(0.28440)	(0.14933)
	[1.82088]	[-0.18700]	[0.10698]
DLMB(-3)	0.160999	-0.081902	-0.210192
	(0.71850)	(0.29460)	(0.15469)
	[0.22408]	[-0.27801]	[-1.35881]
DLMB(-4)	0.963770	-0.470828	-0.292166
	(0.70101)	(0.28743)	(0.15092)
	[1.37484]	[-1.63808]	[-1.93588]
DLPB(-1)	0.622371	-0.234208	-0.034306
	(0.39255)	(0.16095)	(0.08451)
	[1.58547]	[-1.45515]	[-0.40593]
DLPB(-2)	0.053459	0.089589	-0.092002
	(0.37463)	(0.15361)	(0.08066)
	[0.14270]	[0.58323]	[-1.14068]
DLPB(-3)	0.272731	-0.000270	-0.058845
	(0.35342)	(0.14491)	(0.07609)
	[0.77168]	[-0.00187]	[-0.77336]
DLPB(-4)	-0.259082	-0.207514	-0.068658
	(0.35277)	(0.14464)	(0.07595)
	[-0.73442]	[-1.43467]	[-0.90401]
C	0.008887	0.008602	0.007394
	(0.01820)	(0.00746)	(0.00392)
	[0.48832]	[1.15278]	[1.88726]

R-squared	0.290444	0.314350	0.309344
Adj. R-squared	0.047168	0.079269	0.072548
Sum sq. resids	0.425355	0.071509	0.019715
S.E. equation	0.110241	0.045201	0.023734
F-statistic	1.193887	1.337202	1.306374
Log likelihood	45.31574	88.11014	119.0323
Akaike AIC	-1.346489	-3.129589	-4.418010
Schwarz SC	-0.839706	-2.622806	-3.911227
Mean dependent	0.014162	0.008986	0.004814
S.D. dependent	0.112936	0.047106	0.024645
Determinant Residual Covariance		1.20E-08	
Log Likelihood (d.f. adjusted)		233.4311	
Akaike Information Criteria		-8.101296	
Schwarz Criteria		-6.580945	

The Bulgarian National Bank in a Historical Perspective: Shaping an Institution, Searching for a Monetary Standard

Roumen Avramov*

The Bulgarian National Bank (BNB) was established in January 1897. It was among the first institutions of the freshly created Principality of Bulgaria – a virtually independent tributary of the Ottoman Empire that emerged from the 1877–1878 Russo-Turkish war. Initially, the BNB was deprived from the privilege of issuing banknotes. This right was granted to it in 1885, transforming the institution into one of the first ten proto-Central banks worldwide.

The BNB has played a pivotal role throughout modern Bulgarian history. It is a key for understanding the philosophy of national economic development. The bank has mastered the capitalization of important segments of the economy and it shaped the fundamental relationship between the economy and the State. Moreover, the BNB has set important behavioral standards, thus molding the financial culture of the nation. It has also established patterns in the accountability and the transparency of the financial system. The National bank has been a first-order producer of economic data and (incidentally) of economic knowledge.

The aim of this paper is to outline a brief sketch of BNB's historical development. The focal perspective is on its role in the choice and implementation of the monetary regime. BNB's institutional arrangement is discussed, as well.

1. The Bulgarian National Bank: Shaping an Institution

1.1. The "impossible institution"

By definition, a Bank of Issue tries to manage an unmanageable "original sin": it receives a monopolistic privilege in exchange of services provided to the Government. Thus, having access to the credit of the bank and to its seignorage, the Government is provided with immediate solution to short-term emergency problems. The Bank, in turn, develops a specific dependence and a "financial Oedipus complex" vis-a-vis the State. The conflict of interest is inherent, its tackling being a matter of economic culture. Two key questions are addressed: How to deal with conventions? How to avoid violation of the frail balance?

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The two sides are not symmetrical. Crucial to monetary stability and the ultimate force behind money supply is a decent fiscal stance. No issuing policy going straight against the fundamentals of State financial targets is feasible. The Bank of Issue lacks the instruments to enforce such a fully autonomous line. Monetary policy can be constrained only when fiscal policy is credibly constrained.

Transgression of specific breaking points puts at risk the stability of the established monetary standard. History of the BNB (as of many Central banks) boils down to the account of this conflict.

1.2. Private versus public / Dependent versus Autonomous Bank

Checks and balances have been put in place in order to safeguard against the abuses of the State. They included self-constraints accepted by the Government; spontaneous devices implemented by the Bank; a more sophisticated set of conventions. The prevailing view at the end of the 19 century was, however, that a *private* Bank of Issue whose credit is separated from the credit of the State is the best warranty. At the time the BNB was established, several heavily regulated private issuing institutions were operating accross Europe. Only in a few countries "free money" was the rule. State-owned Banks of Issue were the exception, with the Bank of Russia being a well-known example. In other instances – such as Greece – the issuing authority was de facto dependent from the Government.

The 1879 design provided by the occupation forces followed the Russian pattern of a state-owned deposit/merchant bank for commercial credit. Later on, a series of reform projects (1879–1885) were inspired by the Belgian, the Romanian and the Greek models. Bulgarian politicians resorted to institutional plagiarism, and to a "copy/paste" approach, introducing into the blueprints eclecticism and baroque promiscuity of different banking cultures. Taking into account that the Romanian and the Greek banks were themselves inspired by Western models, the reforms of BNB followed a Byzantine institutional path that incorporated direct replica and "second order plagiarism".

The 1885 Law and later piecemeal and more pragmatic changes progressively shaped a stable BNB statute. Unavoidable inconsistencies between the institutional design and the archaic reality produced niches of "economic vacuum" filled up by "parallel forms" and by the underground. At the same time, "imaginary goals" developed, arising from the gap between "enlightened" policies of the BNB and the economic background of the country.

The core debate about the ownership of the bank has been clearly settled in favor of the State. This strategic choice was a crucial contribution to the deeply rooted *etatiste* mentality of Bulgarian society. State ownership became an angrily defended ideological dogma. Private capital was considered deprived from "moral rights" to run the Bank of Issue: private property was labeled as *a priory* dangerous, while the State was treated as *a priory* impartial. The shareholding structure was firmly opposed as ineffective and unsuitable for a country poorly endowed with capital. Possible participation of foreign capitals in the issuing bank was ruled out.

In this way, the 19th century European orthodoxy was inverted. A State institution (unlike the rigorous private bank) was supposed to be a "gentle bank", generous with the budget, benevolent with debtors and tolerating arrears. All the proposals (in 1879, 1883, 1891, 1899) to privatize the BNB have been systematically rejected. This sharply contrasted with the trend in neighbor countries like Serbia and Romania where the Banks of Issue have been established as privately owned institutions. The last and strongest attempt to revert the status-quo was the failed intent by the League of Nations to impose a privatization scheme for the BNB in1928. The plan was in line with the prevailing ideas in Europe and with precedents in Poland, Romania or Greece. BNB remained a State-owned institution, albeit with somewhat greater independence. The newly acquired autonomy, however, rapidly faded out during the Depression and was reduced to nothing in WWII.

In turn, the post-WW II profile of the bank followed the respective mainstream patterns in the East and in the West. After the nationalization of the financial system in 1947 BNB was transformed into an orthodox Soviet-type monobank (1947–1991). Shortly after the collapse of Communism, an independent Central bank was designed (1991) in accordance with the Washington consensus' principles. It was only with the implementation of a Currency board arrangement (CBA) that BNB departed from the "imitation" tradition. The exotic monetary device was put in place in 1997, in the aftermath of several inconclusive stabilization programs and a sharp financial crisis.

Looking back it can be argued that no sufficiently influent social forces have been interested to separate the Central bank from the State. The political elite have been keen to keep the bank under control, thus leading to a pervasive corruption of monetary policies. Neither a tradition of subtle institutional equilibriums was forged. The eventual choice of a hard and clear-cut regime such as the CBA was a natural upshot of the disillusions accompanying this long-run trend.

Once the ownership issue of the BNB was firmly settled, the controversy shifted to the safeguards of certain autonomy. Several types of warranties have been tested. Among the financial restraints, legal ceilings for advances granted by the Bank to the Government were introduced. Personal warranties were sought, as well, for the independence of the Governing body of the bank. Arrangements were made in the statute, providing for autonomy of the members of the Credit Committees.

Historical evidence suggests that all the checks and balances have proven to be illusory. The precautionary measures have been debased by the State, and not only in circumstances of *force-major*. Formal limits have been occasionally outpaced or circumvented, while balance-sheets manipulated. In several instances the gold (foreign exchange) reserves have been alienated by the Government. When it seemed necessary to the ruling party, the Governors have been fired. New laws were enacted if the existing ones obstructed Government intervention. Parliamentary commissions have been established to screen details in the Bank's activity (1884, 1920).

The conclusion based on Bulgarian evidence is that there is practically no room for maneuver when the Bank of issue is State owned. (It is still restricted when the Bank is private.) The only credible threat to Government interference with monetary policy remains external pressure exerted by foreign creditors and by the panoply of international organizations. The most effective constraints on issuing policy have been imposed through foreign conditionality: closing (or restriction) of the national bank's window for budget financing have been only possible by outside-driven deep institutional reforms. A restrictive clause baring paper money issue was included as early as 1902 in the contract of the important loan floated by the Banque de Paris et des Pays-Bas led consortium. During the pre-WWI period, menaces to impose extreme models, designed after the Dette Publique Ottomane, have been voiced on several occasions (1899, 1904, 1907). In 1922 the Inter-Allied Commission installed in Sofia after the signing of the 1919 Treaty of Neuilly enforced a formal ceiling on the Government debt to the BNB and to the banknotes in circulation. Later on (in 1928) a deep reform of the National bank was set as a precondition for the issuing of the Stabilization loan under the trusteeship of the League of Nations. The reorganization shaped the institution as an orthodox Bank of Issue managing a gold-exchange standard, strictly limited in its lending to the State. A League's Commissioner and a technical adviser were attached to the BNB. Their role (until they left in 1940) was essential for the handling of strategic and short-term monetary policy decisions. Further on, the Moscow-supported communist regime transposed literally the Soviet model of the monobank. Finally, it was the IMF that launched the idea for a Currency board arrangement and monitored its implementation in 1997.

Stringent institutional framework does not entirely preclude a role to personal qualities in a Bank management: indeed personality seems to matter and some Governors have been stronger than others in defending the autonomy of the Bank. Public clashes were scarce, but there were some prominent cases, such as the fervent 1894 letter to the Finance Minister by the then Governor Mihail Tenev defending "dissident" positions of the BNB on monetary issues. [Bulgarian National Bank (1998), p. 356]

This historical record led to a firm belief that "issuing policy is mostly State's, not Bank's, policy". [Bochev (1924), p. 168] In effect, the institutional image of the BNB has always been closely associated to that of the Government, the climax being uring the communist period.

2. In Search of a Monetary Standard

A comparative chronology of the BNB and of the Bulgarian currency is presented in Table 1.

Table 1

BNB and the Bulgarian Lev

BNB – Institutional milestones	Milestones in the history of the Lev
1879: Established as a State-owned deposit/merchant bank	**1880**: The Lev as a legal tender. Adherence to the Latin Union **1880–1887**: Monetary chaos and demonetization of foreign currencies
1885: The issue privilege is granted to BNB. BNB as a commercial bank and a bank of issue.	**1888–1902**: Unstable Bimetallism. *Aggio* (Premium on gold) **1899–1902**: Suspended gold convertibility **1902–1912**: Restored convertibility. Quasi gold standard **1912**: War *force majeur*: Convertibility suspended **1915–1923**: Fiat Money; War and post-war inflation **1924**: Stabilization *de facto* of the Lev at 1/27 of the pre-war gold parity
1928: The BNB is transformed into an authentic Bank of Issue under the aegis of the League of Nations	**1928**: Stabilization *de jure* of the Lev. Gold-exchange standard. Lender of last resort. **1931**: On the side of the "Gold block" **1939–1944**: Clearing surpluses with Germany. **1945–1946**: War and post-war inflation.
1947: Nationalization of the banking system. BNB as a monobank.	**1947**: Dealing with monetary overhang – currency reform **1990**: Default on the foreign debt towards private creditors.
1991: Two-tier banking system	**1991–1996**: "Transition inflation" unbound. **1996**: Banking and currency crisis. Touching hyperinflation.
1997: Currency Board Arrangement	**1997**: Regime shift and change of the monetary standard – currency board introduced. **????-** Joining the Eurozone. Changeover to the Euro.

The striking feature when comparing the two time-lines is their different length. Relatively few institutional changes have been compatible with a quite turbulent history of the Lev. Obviously, each subsequent general framework has been covering dynamic monetary arrangement.

The ensuing regimes follow similar patterns that could be shortly summarized. To start with, they typically pass through a set of trials and errors in searching of the adequate monetary standard. A recurrent episode is the (aborted) adoption of a prematurely imitated "modern" system that proves to be inconsistent with the prevailing economic conditions. Intents to impose credible monetary constraints and conventions face implicit resistance from the economy and chiefly from those interested to relax the financial discipline. Most prominent among them are debtors and (in particular) the Government. As a result the conventions are kept dormant, suspended, simply ignored, or circumvented through new – looser and inflationary – rules and substitutes. The collapse of the successive standards is marked by severe monetary crises triggered by external and/or fiscal disequilibria. The distinctive attribute of this emergency is money supply based on "hollow" assets.

Bulgarian monetary history confirms that official (metallic) standards in peripheral countries are fragile. They easily blow-up, while exit from the monetary rule is relatively straightforward. Ultimately, the ease/difficulty with which rules are transgressed is an indication of the maturity (monetization) of the economy.

Tensions between a relatively rigid institutional arrangement of the Bank of Issue and the dynamic monetary reality generate two kinds of cycles: recurrent shifts from "formal" to surrogate money, and a variable geometry of functions of the Central bank.

2.1. Early monetary history: monetary chaos and bimetallism (1880 – 1892).

In 1880, shortly after the country obtained Independence, the Parliament enacted a Law allowing for the mintage of coins, and introducing the Lev as legal tender. Gold, silver and copper coins were permitted, and a general ceiling was fixed for their overall quantity. [Avramov (1999); Christoforoff (1946)] The official regime aimed at joining the bimetallic standard of the Latin Union: payments to the Government were accepted in gold and silver coins, including (subject to reciprocity) those of the Union.

The actual system, however, stood far from this objective. Loopholes were introduced by the Law itself, accepting parallel circulation of coins from outside the monetary union. This corresponded to the reality where vast panoply of foreign coins (many of them demonetized in their own countries) served as a means of exchange. Besides, mintage of gold coins was indefinitely postponed, while there was no effective limit for the mintage of copper coins. The fundamental disequilibria was rooted in the widespread circulation of silver Rubbles left behind by the Russian army that departed from the country in 1879. An overly appreciated rate of those Rubbles was maintained by the Bulgarian authorities who were reluctant to deflate the key monetary asset of the population. This stance contrasted sharply with policies followed by neighbor countries. Serbia and Romania had depreciated the Rubbles, Turkey demonetized foreign silver coins in 1883 and the Bulgarian market was inundated by silver money. Instead of the bimetallic standard of the Latin Union, a de facto silver monometallic regime (with circulating copper coins) was established.

The prime goal of the new State in this context was to unify the monetary material by

eliminating the gap between the virtual ("official") statute of the Lev and the actual circulation. First, troubles came from the efforts to demonetize the Russian Rubbles. They took four painful years and were only completed in 1887. Meanwhile, the illusion that a monetary standard can be imposed by administrative means vanished. [Bulgarian National Bank (1998)]. The process boiled down to an implicit monetary reform as its final outcome was the control of money supply by the State.

The situation became even more intricate due to the intrinsic conflict of interests between the Government and the BNB. With the privilege of issuing banknotes granted to the National bank (1885) two competing sources of seignorage appeared. The question was who was going to capture the inflation tax. The Government, on the one side, was eager to collect the seignorage of coin mintage in order to monetize its budget deficits. BNB, on the other, was keen to "produce" banknotes' seignorage, thus broadening its liabilities and reducing its commercial lending rates. The bank's strategy was to introduce the gold standard as soon as possible. This was not only a question of international monetary trend and prestige. The gold standard, it was thought, would provide access to capital flows thanks to its "seal of approval". Above all, the new regime would eliminate the *aggio* which is the form inflation tax takes under bimetallism. In fact, the premium on gold in the domestic market appears when there is a disproportionate supply of silver currency, which was typical for Bulgaria during the last decade of the 19th century.

The struggle was short-lived and the results were not in BNB's favor. The bank failed in its first intent to introduce gold banknotes in 1885. The population was unprepared to use the new asset, and still keeping memories of the recent fiasco with the Ottoman bank's notes. Fiscal policy's short-term goals definitely prevailed, and the Government proceeded to large-scale silver mintage (1891, 1892, 1894), proscribing at the same time BNB from issuing silver-backed banknotes. This facilitated the monetization of the deficits, but the *aggio* remained at high levels, reaching 7.2% in 1895. Gresham's Law operated unrestricted, eliminating the gold from the currency market. Given the institutional weakness of the BNB vis-a-vis of the Government, the Bank abandoned (after 1892) its explicit ambition to introduce the gold standard and to eliminate the *aggio* through its own efforts.

2.2. The gold standard: cycle I (1897 – 1902) and cycle II (1902 – 1912)

The next attempt to implement pure gold standard was launched by the Government itself. A Law enacted in 1897 foresaw the introduction of gold Lev at par with the gold Franc. Circulating silver, bronze and nickel coins were to be eliminated. All the accounts had to be kept in gold Lev. [Avramov (1999)] Authorities were, however, hesitant. Their optimistic outlook was based on one favorable season of good harvest and on a couple of balance of payments surpluses. The situation was fragile and the Law stipulated that it is the Government's discretion to decide when the enforcement should take effect. The decision was actually postponed *sine die*.

The 1897 attempt turned out ill-prepared and premature. Gold standard was introduced only

formally, and a new gap emerged between the official institutional arrangement and the real regime. Shortly afterwards the economy was hit by a deep financial crisis (1899–1901). The monetary rule was abandoned and convertibility of gold banknotes was suspended from November 1899 till November 1902. Meanwhile BNB was allowed to issue silver-backed banknotes. The Government widely monetized its deficit through credits from the National bank: the entire issue was absorbed by the budget, and statutory ceilings of credit to the Government were occasionally violated. Money supply was entirely based on Government debt. It is not surprising that the aggio reached 14% in 1901. This was the end of the illusion that the "progressive" monetary regime could be imposed trough merely legal measures.

The outcome of this inconsistency with reality was exactly the opposite of the official objective. Instead of a gold standard, a pure silver standard was put in place. At the same time, banknotes earned credibility and irreversibly penetrated the economy.

After the first aborted cycle a new, benign one, developed. The legal framework did not change dramatically but the prevailing economic conditions improved substantially. A series of foreign loans arranged by the Banque de Paris et des Pays-Bas in 1902, 1904 and 1907 strengthened the external position of the country and piled up the exchange reserves of the BNB. They were followed (1909) by the first loan without special warranties, floated by a Viennese bank. Bulgaria entered its most successful decade, characterized by relatively important inflow of foreign capitals (namely in the banking sector) and by a more vibrant business activity.

Those changes were accompanied by an adjustment in the actual monetary regime shifting spontaneously to gold. The premium on gold in the domestic market virtually disappeared after 1906. Gold banknotes crowded-out the silver-backed notes. The result was a quasi-gold standard: although bimetallism was legally preserved, the de facto system was overwhelmingly monometallic. The policy objectives of the BNB changed accordingly. The Bank aimed to minimize the premium of gold over gold-backed banknotes and to support the forex rate of the Lev. The target variable became its gold/foreign exchange stock, and (like in classical Banks of Issue) monetary policy merged with exchange policy. Reflecting a growing creditworthiness of the country, the stance of the Lev in the foreign exchange markets remained remarkably stable in 1906–1912. [Bulgarian National Bank (1999)]

2.3. War standard (1912 – 1919)

Fortune changed with the outbreak of the Balkan Wars in October 1912. The official institutional arrangement had to be amended accordingly. It was customary for the classical gold standard that a suspension of the monetary rule is tolerable for belligerent countries, provided that they return to the norm through deflationary policies after the end of the hostilities.

An important modification had already been introduced when convertible foreign exchange was legally included in the cover ratio (1911). This step led to an implicit gold-exchange standard, thus extending money supply's elasticity. Bolder changes occurred in

the immediate aftermath of the declaration of War. "Provisional" suspension of convertibility and outpacing of the ceiling for the Government debt to BNB were announced in October 1912. The BNB was released from responsibility with the well-known Lettre d'Indemnite: a legal artifact devised in 1847 and repeatedly used in 1857 and 1866 by the Bank of England and the British Parliament shortly after the enactment of the restrictive 1844 Bank Charter Act. Those changes were ex-post amended by Law only in 1919.

After the end of the Balkan wars BNB managed to stabilize the exchange rate of the Lev, namely with the assistance of a banking pool that intervened in favor of the national currency. The access of foreign banks to external funds was essential for the success of the pool. Things went worse, however, after October 1915 when Bulgaria entered WWI on the side of the Triple Alliance. Financing of military expenditures came through regular German and (to a much lesser extent) Austrian "war advances" (1915–1918) converted into Lev via a fixed rate to the Mark. The BNB re-channeled the advances to the Bulgarian Government, while the incoming sums were officially accounted as full-fledged foreign exchange cover of the Lev.

Once more, the actual system diverged from the formal arrangement. German advances were not an authentic cover: they represented illiquid sums, blocked in Berlin bank accounts, not freely convertible into gold or "free" exchange. The Bulgarian Government did not have sovereign discretion concerning their use. After the Treaty of Neuilly significant amounts remained frozen in Germany, and eventually annihilated by the hyperinflation at huge cost for the BNB. Due to massive Government financing based on the war advances, the bulk of the budget deficit was basically monetized by the National bank. Gold and highly liquid assets were reduced to insignificant fraction of the money cover. By the end of the war (1919) their ratio dropped to mere 5%. Finally, domestic commercial paper (refinancing) was discounted in very restricted amounts as credit to the private sector was completely crowded-out. [Bulgarian National Bank (2001)]

Money supply was thus ultimately based on hollow assets. Direct loans to the Government hypertrophied and exceeded by far the legal ratio, producing uncontrolled inflation. At the same time the two other monetary assets (foreign exchange and refinancing) were cut down to almost nil. Keeping the formal monetary arrangement unchanged, the Lev suffered a 14-fold internal devaluation and 4-fold depreciation vis-a-vis the Swiss Franc (1919).

2.4. Restoring the Monetary rule (1919 – 1928)

WWI was followed by a new wave of inflation that depreciated the national currency even further. By 1923 the Lev fell to 1/27 of its pre-war gold parity. Adopting the emerging orthodoxy elaborated at the Brussels (1920) and Genoa (1922) conferences, Bulgaria opted for a gradual adoption of the gold-exchange standard. This target called for profound economic, as well as legal reforms. On the economic side, fiscal stabilization, an important deflationary squeeze, and a balance of payments adjustment had to be achieved. The access to foreign capital markets had to be reinstated: it was completely

disrupted due to the imposed reparation payments and to pending issues with pre-war creditors. A fundamental choice was to restore convertibility at the actual gold parity of the Lev. The return to the pre-war level (as in UK and a few European countries) was discarded as unsustainably deflationary. On the legal side, the statute of the National bank had to be reshuffled according to the modified version of the gold standard.

The Government started progressively repaying its accumulated debt to the BNB. Efforts were made to control monetary policy, the major step being the 1922 enactment of the thresholds (under the pressure of the Inter-Allied Commission) for BNB direct financing and for notes. The initial (completely unrealistic) reparation liabilities of the Treaty of Neuilly were scaled down in 1923. Negotiations with creditors led to the 1926 agreement on gradual restoring of the "gold clause" for outstanding debt service. Major events were the Refugee (1926) and the Stabilization (1928) loans floated in the London, New-York and Paris markets under the League of Nations auspices. They were conditional upon the implementation of macroeconomic stabilization measures and structural reforms modeled after those already introduced by the LN in Austria, Hungary, Estonia and in a handful of other European countries. In the end of 1923 the BNB was granted the monopoly of foreign exchange transactions that considerably improved its reserve positions. Since 1924 the Lev was de facto stabilized with respect to the US Dollar.

What remained to be done was to stabilize the currency de jure, i.e. to adequately transform the institutional design of the National bank. The reforms were carried out through successive amendments in its statute. They started in 1924, were pursued in 1926, and were completed by the new Law of 1928. At last, BNB was transformed into an authentic Bank of Issue operating under a full-fledged gold-exchange standard. [Bulgarian National Bank (2001)]

Thanks to the foreign loans BNB was recapitalized and liquefied. Money supply recovered its healthy anchor: foreign exchange became the main monetary asset; refinancing of commercial banks was based on clear principles; direct financing of Government was (almost) entirely ruled out. Convertibility was restored, although with some restrictions. For a while the official and the actual monetary regimes coincided. A large inflow of foreign capital that nurtured credit inflation and a booming economy also contributed to this accomplishment.

2.5. The collapse of the gold-exchange standard (1931 – 1944)

Success came too late, lasting only from 1928 until mid–1929. The blow of the Depression, the massive outflow of short-term capitals fueled by the Central European banking crisis during the summer of 1931 and ultimately, the exit of the UK from gold in September 1931 truncated the experiment with the gold-exchange standard.

The official policy of the Bulgarian Governments was aligned to this of the "gold block" countries that refrained from overt devaluations. Gold parity was explicitly maintained in order to avoid a surge in the servicing burden of foreign debt. The gold reserves of the BNB were meticulously preserved. Balance of payments problems, and the shortage of

convertible currency were dealt with since October 1931 through clearing agreements, trade policy and capital restrictions.

The actual monetary regime rapidly departed from the untouched legal framework of 1928. The combination of clearing arrangements, draconian import quotas and foreign exchange restrictions meant an effective suspension of convertibility without the old-fashioned paraphernalia of the Lettres d'Indemnite. Meanwhile, the transfer problem was addressed by a partial default on foreign debt (April 1932) and the eventual sequence of settlements with the bondholders' committees that reduced (by 1935) the payments in foreign exchange to 15% of the interests' gold value. An implicit loosening of monetary constraints was allowed in the domestic market as well. Starting in 1933, larger amounts of convertible exchange were freely traded between importers and exporters with a premium on hard currency which represented an implicit devaluation. By 1937 those "compensation deals" amounted to 36% of the foreign trade turnover. [Christoforoff (1939), p. 16]

The situation was familiar from the collapses of the previous monetary regimes. The money supply's anchor had been eroded ("falsified") by the respective devaluations of the British Pound and the US Dollar. Explicit depreciation of the Lev was avoided, but the arrangements mentioned permitted its undeclared devaluation. Alongside, a subtler trench developed within the clearing arrangement with Germany. The fixed exchange rate of the 1932 agreement was maintained despite the gradual devaluation of the Reichsmark in the foreign markets. This effective appreciation of the German currency vis-a-vis the Lev boosted Bulgarian exports and (after a period of relatively balanced accounts) started to generate important clearing surplus by the end of the 1930ies. More than half of the export was captured by Germany, and this trend was accentuated after Bulgaria formally joined the orbit of the Axis in March 1941. A key monetary implication of those developments was the Bulgarian authorities' qualification of the Reichsmark as authentic "hard currency" in 1941. The decision permitted to include it explicitly in the cover ratio, in spite of the fact that the Mark did not possess the qualities of a reserve currency. The situation from WWI was replicated: a "hollow" (spurious) asset served as a base for money supply. In this instance it was the (completely illiquid) Bulgarian clearing surplus with Germany that served as foundation for the money supply. The Government also resorted to other manipulations, such as "creative accounting" for the cover ratio, explicit monetization of the budget deficits, or issue of surrogate money in the form of short-term Treasury bills used as legal tender. [Bulgarian National Bank (2004)]

2.6. The monobank: a monetary standard without money (1947 – 1990)

Concomitant to the December 1947 nationalization of the banking sector was the abolition of the 1928 Law on BNB. During the next 44 years the National Bank operated according to an administrative statute without the force of a law. The institution adopted all the requisites of the Soviet orthodoxy. BNB was the sole lender in the economy: although two or three formally separate banks existed, they lacked all freedom. On paper, the Lev was distantly tied to the US Dollar (and to gold) through the Soviet Ruble, but this post-

WWII "gold-exchange standard" was an artifact as the country was not a member of the Breton-Woods institutions, and access to foreign exchange was completely controlled.

Overall, the economy was demonetized and disequilibria took natural, rather than monetary forms. Rationing was performed through commodities' deficits, not through money. Capital was practically priceless. Credit was provided (almost) automatically by BNB in the frame of the planning goals. Large segments of the economy were isolated from the world market through a grid of exchange coefficients that made every export/import "efficient" at the cost of huge subsidies. There was no means of international exchange in the COMECON, the "Transfer Rubble" utilized being simply an accounting unit, not a multilateral currency.

The actual regime, however, was more complex [Cf Details in: Antonov (1990), Avramov (1999). Archival evidence is provided in BNB (A)]. Different sectors had different degree of monetization. While the budget benefited from the privilege of unrestricted funding, households were more constrained, and the state-owned enterprises were denied any strategic or short-term decisions. Zones of spontaneous monetization appeared, producing leakages of "unplanified" and uncontrolled funds. Besides, monetization was unavoidable at the contact with the world capital and commodities' markets. It was there that periodic balance of payments and debt crises erupted (1959/1961; 1978/1980; 1989/1990). The successive attempts to reform the system that started in the early 1960ies can be summarized as inconsistent efforts to inject monetized enclaves, without questioning the fundamentals of the regime.

The economic unsustainability of communism was reflected in the growlingly chaotic/underground monetization. Larger zones of market prices, of cash transactions, of increasing labor mobility, of overt inflation, or of equilibrium exchange rates in the black market emerged. This was accompanied by megalomaniac State-induced investments in an economy that was not more than previously in a condition to transform internal into serviceable foreign debt. The BNB, like the entire planning machine, lost the command of the economy and, in particular, of money supply. The collapse during the 1980ies came with a critical amount of domestic and foreign debt arrears. By the second half of the decade more than half of the BNB loans were nonperforming, and the Government's debt outstanding to the Bank was rescheduled for 50 years. The external position of the country became untenable. As a creditor Bulgaria was exposed to insolvent debtors (Third World countries, Marxist regimes). As a debtor in convertible currency it suffered from the strong US dollar, from the import-driving overvalued official rate of the Lev, and from an extremely inappropriate liability structure with very high share of short-term debt to private banks. Since 1987 roll-over in the free capital markets became increasingly costly and inaccessible. The ailing Soviet Union was no longer in a position to arrange once customary bail-outs vis-a-vis of Western creditors. Forex reserves were rapidly exhausted in late 1989 – early 1990 and Bulgaria defaulted in March 1990. Open monetization of the disequilibria was unavoidable. So was the change of the monetary regime.

2.7. The first "Transition" monetary system (1990 – 1996)

A blueprint for a "Washington consensus"-like standard was easily designed after the fall of communism. A two-tier banking system and a formally independent Central bank were introduced in 1991. They operated, however, in a barely reformed context, with predominantly state-owned enterprises, distorted prices, unsupervised banking sector, and in seclusion from the foreign capital markets.

The already well-known divergence between official and actual monetary regime emerged very soon. BNB's long-term goal (price stability) was sacrificed to short-term fiscal goals, namely to the easy going capturing of inflation tax. Independence of the national bank remained on paper. The collapse came amid a generalized financial crisis in the second half of 1996 when BNB had to face incompatible goals: to preserve foreign reserves for debt repayments; to defend the exchange rate; to act as a lender of last resort to commercial banks in distress. During the entire period (1991–1996) money supply has been based on "hollow assets" and a biased structure: loans to the Government were simple monetization of budget deficits; refinancing was oriented to insolvent domestic banks; volatile foreign reserves were poorly (risky) managed and invested.

The economic debacle occurred in early 1997 with all the features of a currency crisis. Widespread dollarization eliminated the Lev even in small denominated transactions. Monetary instruments turned out to be completely ineffective, the maturity of government securities falling to 1 week. Hyperinflation and banking panic developed. After the recent Brady-type deal on foreign debt (July 1994), the country was again on the verge of default. The ideal prerequisites for a (new) change of monetary regime were in place.

2.8. The Currency Board Arrangement (1997 – Eurozone)

The shift in this instance was radical and adequate. The CBA introduced in July 1997 boiled down to the launching of a new currency. The issuing institution was completely redesigned. The new anchor (the exchange rate) was the only one that had remained undiscredited from the previously failed stabilization efforts. The simultaneous political regime change (Presidential elections took place and General elections were called) increased trustworthiness. Finally, the transfer of monetary sovereignty abroad (to the Bundesbank and eventually to ECB) gave the strongest possible credibility. The choice of the German Mark (later on – the Euro) as the anchor currency was the most appropriate one. [Bulgarian National Bank (1997)]

The Currency board establishes a gold standard-like monetary rule. Money supply is passive, not discretionary. It is covered by a single hard, liquid, safe and neatly defined asset (the foreign reserve currency). The quality of the money cover can not be forged (unless the Euro collapses) and the asset structure of the money supply can not be biased: risky domestic monetary assets (loans to the Government and refinancing) are simply eliminated. Thus, the recurrent incongruities between official and actual monetary arrangement being ruled out, it is no longer possible to circumvent and/or to undermine the conventions of the monetary standard.

3. The Bulgarian National Bank: a Variable Geometry of Functions

The institutional profile of the BNB has experienced deep changes in the wake of altering monetary regimes and economic backgrounds. Nevertheless, two opposite trends emerge, generating distinct long cycles. Their first phase is made-up by periods of "incestuous" amalgamation of central banking functions with other activities and targets. The second is dominated by a drift to functional cleansing.

3.1. First Cycle (1879 – 1928)

Growing heterogeneity was the dominant feature during the 1879–1906 period. Starting as a deposit/short-term credit bank, the BNB steadily added varied activities. The major addendum was the issuing function (1885). The Bank developed, as well, mortgage and agricultural long-term credit. The latter was partly extended indirectly, through refinancing of the Agricultural bank. Besides, BNB became rapidly (as a commercial bank) the favorite vehicle for the investment ambitions of the State and the Municipalities. Although credit to the Government was statutory, it developed in a large scale when deficit financing was needed during emergency periods (1899–1902). Covert Government financing through balance-sheet manipulations was also regular practice. As a result, private credit was crowded-out or crowded-in depending on the budget's needs.

The outcome of this promiscuity of functions was the building up of illiquid assets which is improper for a bank of issue. There was a general bias towards the long-term end, leading to a maturity mismatch. BNB developed a preference for direct credit, avoiding rediscounting operations with private banks. On the liability side, it had to rely initially on remunerated deposits instead on "free" banknote resources. It was only after the turn of the century crisis that interest rates on deposit fell together with the spread of banknotes' circulation.

The crisis and the 1902 loan set up a reversal in the institutional shape of the BNB. During the next two decades (1906–1928) a painful accretion of functions led to a neater target structure. First, exchange policies were brought to the fore (1906–1915). During the WWI and the immediate post-war years, the bank was converted into a printing press for the Government (1915–1922). At the same time, inefficient efforts were made to master a consistent exchange policy (1919–1923). With the de facto stabilization of the Lev, BNB progressively abandoned direct credit to the economy (1924–1928). Credit to Government, in particular, was gradually discontinued (1926–1928). The 1928 Law gave BNB its purest form: it became a "bank of the banks", that is, an authentic issuing institution and a lender of last resort.

3.2. Second Cycle (1931 – 1997)

The next long wave rose with the Great Depression. In the early 1930ies the activities of the bank overgrew by the addition of numerous bureaucratic tasks. Trade policy had supplanted monetary policy, and BNB became the technical arm of import and forex restrictions. It also served as a clearing bureau for the numerous bilateral agreements. The bank was the de-

pository of Lev accounts blocked as collateral against the missed foreign debt maturities. Lastly, BNB was at the core of the Supervising authority created in 1931. At entering WWII the National bank started to provide important direct financing to the Government.

The "amalgamation nirvana", however, was reached by the communist monobank. Planning authorities strived to simultaneously control money supply and money demand. Money supply practically merged with crediting: extension of credit was unrestricted and the Central bank did no longer face the dilemma of the lender of last resort. It was as if the eternal debtors' ideal of "accessible and cheap" credit was attained through automatic loans, a dense array of preferences, and permanent debt relieves. BNB was the centre of foreign exchange transactions. (In 1964 the Foreign Trade Bank was established, but it practically operated as a branch of the Central bank.) Moreover, it assumed a bulk of technical functions – monitoring the technological features of the investment process, controlling wages' growth, etc. It is true that the Bank completely lost its institutional independence. Its functional place, however, was very high in the hierarchy of effective power: for a while, the Ministry of Finance was closed (1987–1990), but BNB remained.

The first attempt to rationalize this heteroclite entity was made after the fall of the communist regime. It was believed that the design of a two-tier banking system suffices to operationalize a genuine central bank. The reversal proved unsuccessful. In the murky economic context of 1991–1996, BNB behaved like a "development bank" that bailed-out unviable (private and state-owned) banks and enterprises through indiscriminate refinancing. The fuzzy definition of forex reserves permitted risky investment and losses that undermined monetary policy. The trully radical cleansing was the implementation of the Currency board. It eliminated all but the issuing function of the former Central bank, thus achieving an ultimate institutional simplification.

4. Conclusion

The *longue duree* perspective captures the true significance of the Currency board. It is not just a common regime change, but it is rather one that addresses and disentangles *century long* problems of the Bulgarian monetary sector. The well-known costs of CBA in terms of greater rigidity are a "tax on history" to be paid for turbulent debt memories and for an unconvincing economic policy-making record. The new arrangement overcomes lasting experience with inadequate monetary policy: solves the "hollow monetary assets" problem (unless the Euro collapses); bases money supply on a simple, effective and transparent convention; puts and end to the tradition of inadequate refinancing practices; imposes hard budget constraints onto the Government and other sectors. BNB's independence is not an issue anymore since most of its traditional roles are cut off. The side effect is that the Bank lost much of its appeal as a centre coveted in the struggle for political power. In a way, this is the epilogue of the fierce debate on the autonomy of the Central bank that started in 1879 and lasted almost 120 years.

In a broader outlook, the CBA is the adequate response to the recurrent monetization/demonetization cycles in Bulgarian monetary history. The incipient monetization in 1879–

1914 was followed by inflationary demonetization during WWI. The advances with remonetization achieved in the 1920ies were obliterated during the Depression. Further on, the communist regime was characterized by a combination of almost total demonetization with futile efforts to create monetary enclaves. Finally, remonetization attempts in the early 1990ies ended with the 1996/1997 hyperinflation. The CBA opened the path for the irreversible monetization of the economy.

The current monetary standard provides a clear direction, as well. It is a particularly suitable starting point for accession to the EMU. CBA incorporates *ex ante* many of the essential requirements for the members of the European System of Central Banks. More important, the Eurozone constitutes the credible exit option. As the 2001 experience of Argentina demonstrated, a Currency board without a convincing exit strategy is intrinsically unstable. Thanks to this monetary regime, Bulgaria's path to the Euro is no longer a strategic dilemma, but rather a tactical issue.

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Greek Monetary Economics in Retrospect: History and Data

Sophia Lazaretou*

1. Introduction

The currency is one of the most important of social and economic institutions. From the emergence of what we understand today as a national civilian state, the currency (along with the army) has been the cornerstone of every national civilian state. The interrelation between monetary and economic power and stability is reciprocal. A strong and stable economy facilitates the achievement and maintenance of monetary stability; conversely, monetary stability contributes to the smooth operation of markets and transactions and promotes savings, investment and eventually economic growth.

The international monetary history offers many examples of various countries that have made numerous efforts (in different historical time periods and with varying degree of success) to link their currencies with the currency of the strongest economy in their region. The literature is full of multi-country or country case evidence, both theoretical and empirical, on what determines a country's choice of monetary regime (see Bordo *et al.* 1999, Flandreau and Maurel 2001, Meissner 2005). Country's willingness to participate in a monetary union or a fixed rate regime has always been dictated by the need to reduce the exchange risk, the credit risk and to ensure credibility in pursuing an anti-inflationary policy.

The main purpose of the paper is to draw an outline of the monetary history of pre-WWII Greece. I think that it is useful to go back to the events that characterized the behaviour of the monetary and fiscal policies pursued so as to derive some lessons of historical experience. To this end, I bring together historical events and data (some simple stylized facts) to answer two closely interrelated questions: first, what determined the country's choice of a monetary regime and, second, which were the benefits that the country derived from her adherence to the gold convertibility rule.

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The sample period of this historical exercise extends from 1833 till the outbreak of WWII in Europe in 1939.[1] During this long-lasting period, the country experienced times of war and peace; periods of excess government spending, inflation and currency's devaluations that alternated with periods of monetary restraint and exchange rate stability; episodes of adherence to or suspension of metallic convertibility; times of economic growth and times of recession.

Two are the key characteristics of the Greek monetary history. First, a simple inspection of the country' historical monetary events reveals a frequent alternation of periods of flexible and fixed rates. They were nine historical episodes of suspension of and adherence to convertibility. And, second, both domestic fiscal disturbances and international monetary developments affected the evolution of the Greek monetary system. In periods of smooth and efficient functioning of the economy, the domestic monetary system did not face any problem. But whenever substantial fiscal disturbances occurred – often caused by military conflicts – the monetary system suffered adverse consequences, resulting in monetary destabilization which in turn caused economic instability.

The paper proceeds as follows. Section 2 concerns the pre-1880 period; it examines the main features of the domestic economy. Section 3 views Greece in the classical gold standard period; it studies the interplay between government spending, foreign borrowing and fiat money. Section 4 extends this analysis to cover the war and the interwar periods. Section 5 concludes; it presents the policy implications of this historical exercise and discusses some interesting topics for further research.

2. The pre-1880 period

The main features of pre-1880 Greece can be summarized as follows:

(i) *Economic growth.* Greece suffered by economic stagnation till the middle of the 19th century. The domestic economy was a poor agricultural economy extremely low in efficiency, with lack of private investment capital, no industrial development, few money and banking transactions, the absence of a national issuing foundation and few capital inflows (mainly from shipping and rich Greek emigrants).

(ii) *Monetary policy.* The governments had striven hard efforts to sign the LMU agreement accepting the principle of bimetallism and the equivalence of the drachma to the French franc (parity 1:1).[2] However, the poor public finances did not allow making these efforts credible and, thus, forced the government to postpone the adoption of the LMU system.

[1] In 1827 the modern Greek state was created and in 1830 it was recognized as an independent state with the London Protocol. In 1828–29, for the first time, a national monetary standard was introduced based on silver, while in 1833 bimetallism was adopted.

[2] See the law on Currency (10 April 1867) and the accession declaration (26 September 1868). The new system was to become effective from 1 January 1869.

(iii) *Fiscal policy.* Greece was in financial difficulties throughout the 19th century. She had encountered a weak governmental financial system, namely persistent budget deficits and a high debt to GDP ratio. Public expenditures (overwhelming government consumption and military spending) were financed by domestic borrowing contracted on poor terms, resulting in an excessive burdening of the budget. As seen in Figure 1, which depicts government spending to total tax revenues as a proxy for budget deficits, the budget was in deficit almost every year.

(iv) *Foreign borrowing.* Due to her default on previous foreign loans of 1824–25 and 1832, the country's reputation was destroyed and thus was unable to have access to the international capital markets.

(v) *Domestic borrowing.* Borrowing from the National Bank of Greece[3] was the usual practice for covering public expenditures. The Bank lent to the government short-term advances at a rate double the international lending rate (8–9 per cent compared to 2.5–4.5 per cent). In exchange, the Bank demanded the exclusive privilege of issuing banknotes. Figure 2 plots total liabilities of the Bank as a percentage of the Bank's total assets. It is used as a proxy for domestic public debt. We note that domestic debt exhibits an upward trend during the second half of the 19th century. From the turn of the century and after the great debt default in 1893 and the change in 1898 in the stance of the economic policy pursued towards fiscal prudence and monetary austerity – consequent upon the debt crisis – domestic debt was rapidly decreasing. However, it was increasing again during the war years (1917–1923).

3. Greece in the classical gold-standard period

The key characteristic in this period was the interplay between government spending, foreign borrowing and fiat monetary standards. The main features of the domestic economy were:

(i) *Economic growth.* Systematic attempts to industrialise the country can be dated to the last quarter of the 19th century (implementation of large public works to create infrastructure, introduction of industry and rapid growth of credit). Figures 3a and 3b show the development over time of the real per capita income and its main components. Despite the significant increase in the size of the population, owning to the gradual territorial enlargement of the country, real per capita income shows an upward trend in the long run, mainly as a result of an increase in real GDP. Moreover, Figure 4 depicts real output fluctuations due to permanent and temporary "disturbances". The long term trend in the real output growth reflects the permanent "disturbances" associated, among other things, with technological advances. Whereas, the cyclical component reflects temporary "disturbances" stemming from the total

[3] The National Bank of Greece was founded in 1841. It was created as a "universal bank"; it had also the exclusive privilege of issuing and circulating banknotes convertible into metallic. The National Bank kept this privilege till the establishment of the Bank of Greece as a pure central bank in 1928.

demand side. As is evident in the figure, the upward trend in real output intensified during the 1880s and the first decade of the 20th century, a reflection of the benefits accruing from the technological advances (i.e. infrastructure works) which marked this period.

(ii) *Funding.* Due to scarce domestic savings, public investment and economic development were funded by capital inflows. The only available sources of money inflows were private foreign investment inflows – usually from rich Greek emigrants – and mainly large long term public foreign loans. Government bonds were issued in specie or in hard currency and were traded on the international capital markets of Paris and London.[4]

(iii) *Monetary policy.* Gold in flowed the country and Greece was able to join the gold standard in 1885. However, the episode with gold lasted for less than a year. It was an unsuccessful experiment due to the inertia of inflationary expectations and poor public finances. From 1886 to 1909 the country was on a fiat money standard. Figure 5 plots the time series of banknote circulation during the period of fiat money, from 1877 to 1909. The figure also depicts the evolution over time of its two main components, namely the government's floating debt to the National Bank and the "uncovered" note circulation outside the banking system. We note that from 1883 floating debt had been rapidly reducing and in conjunction with a large scale cheap foreign borrowing in 1881 and 1884 that increased the country's foreign reserves (see Figure 6), the government decided to adopt the gold convertibility rule. However, as history and data reveal, poor public finances made the 1885 experiment incredible and thus short-lived.[5] From 1886 onwards, the government floating debt was sharply increasing, indicating the use of seigniorage as a financing instrument of the public sector borrowing requirements.

(iv) *Fiscal policy.* Till 1898, when major institutional changes concerning public finances started to be effected, fiscal excess was the key characteristic of the budget. None government undertook a large scale budget reform, both in the side of taxes and spending, so as a sound financial system to be established.

(v) *How the budget deficits were covering?* According to the optimal seigniorage theory (Barro 1979, 1987; Mankiw 1987; Grilli 1989), if spending is a random walk, then there is no debt creation. Using the standard unit root tests for stationarity, we have found that the governing spending rate (defined as the ratio of spending to total tax revenues) is stationary in levels. This means that current spending does not equal permanent spending. Therefore, one might expect that temporary increases in spending are financed by issuing debt. Based on the historical evidence concerning the fiscal policy pursued during the last quarter of the 19th century, we conclude that

[4] After her compromise in 1879 on the outstanding foreign debt and the efforts of the government to join gold, the country re-built her reputation as a borrower in the international capital markets.

[5] While in 1882 and 1883 the budget was almost in balance, in 1884 expenditures increased sharply. Government spending was one time and half the total tax revenues. In 1885 and 1886 it was more than two times the tax revenues.

the Greek governments considered the shocks to spending as temporary and they tried to finance them by issuing foreign debt.[6] Indeed, the seigniorage rate as well as the inflation rate displays no evidence of persistence. Both historical time series are stationary and the first-order serial autocorrelation coefficient for the pre-1914 period is very low or even negative: 0.10 and -0.01. The negative sign shows some evidence of long term price reversion. Figure 7 plots the seigniorage rate and Figure 8 the inflation rate. From 1877 to 1884 seigniorage was on average 14% of total tax revenues and no more than 10% of spending. The sharp reduction in seigniorage in 1884, a pre-supposition of joining the gold standard, did not continue the next year. This suggests that the imposition of an inflation tax to finance fiscal excess made incredible and thus unsuccessful any attempt of the government to maintain gold convertibility. From 1886 to 1909 seigniorage was on average 2.7% of tax revenues and 1.5% of spending, and never rose above 26% of total tax revenues and 14% of spending, compared with 64% and 41% respectively for the former floating period of 1877–1884. Moreover, food price inflation[7] was –3.8 and 1 per cent per annum, respectively, in the first (1878–1884) and the second (1886–1909) floating periods. The lack of evidence of inflation persistence might be explained by two factors: first, food prices are extremely volatile and, second, the governments did not consider seigniorage as the optimal financial instrument to cover permanent shocks to spending. Moreover, regressing the seigniorage rate (or the inflation rate) on the permanent spending rate, we found that shocks to spending affected positively and statistically significantly seigniorage (or inflation) (Lazaretou 1995). Therefore, the main policy implication of these simple stylized facts is that the commitment to restore metallic convertibility, once the country had switched to flexible rates, prevented the governments from following a seigniorage smoothing policy as it would under a "pure" fiat money standard. Rather, as the historical evidence reveals, they relied heavily on foreign borrowing to finance increased spending.

(vi) From state bankruptcy towards monetary and fiscal discipline. The high level of primary expenditures and, more importantly, of expenditures for the repayment of the outstanding domestic debt, and their financing through foreign borrowing, created high interest payments, which perpetuated fiscal deficits. In the 1880s, the ratio of spending to tax revenues ranges from a low value of 112.5 per cent to a high value of 243.3 per cent, around a mean of 172.3 per cent. Soon, the country became over-indebted and in 1893 the government suspended payments on servicing the external debt. There was a necessity for the country to effect, before joining gold, major institutional changes concerning public finances. Therefore, in 1898 the govern-

[6] For an exploration of the history of Greek foreign borrowing, see Lazaretou (2005a).

[7] Pre-1914 official data for a price index do not exist. A food price index has been constructed as a simple geometric average of the relative prices of five traded food products. Inflation measures the rate of change of these food prices. Since data on quantities consumed are not available, a Laspeyres index cannot be calculated. Moreover, as Fisher (1927) and Mitchell (1938) had pointed out, the simple geometric average has the advantage of smoothing the time series of prices with regard to extreme values.

ment first came to a final foreign debt compromise and then started to implement a long term stabilization programme with the assistance of foreign creditors. The adjustment period lasted for almost 10 years. A change in the stance of the monetary and fiscal policies pursued occurred towards monetary restraint and fiscal consolidation. A rapid deflation was in process and the currency started to suffer from strong revaluation pressures. In 1910 the country joined the classical gold standard by linking the drachma to the French franc at the initial parity (1:1). A simple stylized fact is to examine the cross-regime effect of shocks to spending not only on seigniorage or inflation but directly on the exchange rate changes. According to the theory of optimal public finance, permanent shocks to spending can be financed by seigniorage, while temporary shocks are covered by issuing debt. Therefore, one can expect that permanent changes in government expenditures should be the main underlying determinant of monetary policy pursued. Regressing the rate of change of the nominal exchange rate of the drachma against the French franc on the ratio of permanent spending to total tax revenues for the pre-WWI flexible and fixed rate periods[8], it was found that under both regimes permanent spending had a significant positive effect on the drachma exchange rate changes (see Lazaretou, 1995). This means that in floating periods the governments were used to finance permanent shocks to spending *via* inflation. However, under fixed rates, an increase in spending induced a depreciating effect that caused an exchange rate regime later, as it had been done in 1885 and 1914. It becomes apparent that the convertibility rule imposed a constraint on the use of inflation as an optimal financial instrument. Historically, the results suggest that the drachma exchange rate crises might be explained by the connection between inflation (seigniorage) and the government financing decisions.

4. WWI and the interwar period

With the outbreak of the Great War in Europe in 1914, the "gold window" was closed. Even though Greece involved in the war as late as in 1917, the "golden era" of the drachma ended *de facto* in 1914, when all European countries imposed controls on capital outflows, and *de jure* in 1919, when the drachma reverted again to flexible rates.

Within the span of twenty years the entire cycle of monetary instability and discipline that had characterised the second half of the 19th century, was repeated. As in the pre-war period, Greece again experienced the abandonment of, and return to, the gold standard, and made efforts to credibly adhere to a convertibility rule.

Wartime emergencies (1917–1922) were financed by large monetary expansions which caused severe inflation and heavy devaluation pressures till the mid of the 1920s. Figure 9 depicts the "covered" note circulation (backed by precious metal or gold-based foreign exchange) and paper money ("uncovered") for the period 1910–1927. As can be seen,

[8] Flexible-rate periods: 1877–1884, 1886–1909; fixed-rate periods: 1885, 1910–1914.

from 1918 onwards, the government raised revenues by borrowing from the National Bank. The latter simply rolled the printing press. As a consequence, strong inflationary and devaluation pressures appeared in the domestic economy. As seen in Figure 10, inflation (measured as the rate of change of a cost-of-living index) was 11.5 per cent in 1915. Then, it climbed reaching a peak of 66 per cent in 1922. The high inflation rates were matched by high devaluation rates of the drachma against the British pound during the first half of the 1920s. Afterwards, inflation fell to moderate levels and eventually was stabilized close to 1 per cent in the eve of the country's entrance to the interwar gold exchange standard in 1928.

However, the incentive to follow international monetary developments was strong. Thus, in 1927–28 the government implemented a successful stabilization programme. In 1928 an independent central bank was first established according to the orthodoxy of central banking of the time. In May 1928 the drachma was first devalued and then joined the interwar gold-exchange standard. Greece kept the link with gold till 1936.

A simple stylized fact is first, to examine the evolution over time of the money multiplier and, second, to examine the existence of a link between shocks to spending and money creation across regimes. Money multiplier is defined as the ratio of money supply to the monetary base. It can be considered as an index reflecting the confidence of the public in the domestic banking system and therefore, in the currency. High values indicate an increased confidence of the public in the banking system as a larger proportion of money balances is kept with banks. Thus, a high value of the money multiplier implies that public confidence in the domestic currency has been promoted. Figure 11 plots the money multiplier for the period under study. The time series denote two episodes of rapid increase. During the adjustment period, before the country's entrance to the gold standard in 1910, the ratio was rapidly increasing, and again in 1927 onwards. These increases reflect a promotion in the public confidence in the currency.

As far as regards the cross-regime spending effect, we can regress the rate of change of money supply on the ratio of military expenditures to total government spending. On the basis of Wald tests, we cannot reject the hypothesis that the effect of wartime emergencies does not differ across regimes (see Lazaretou 1996). This means that under fixed rates, excess spending and its financing through money creation perturbed the currency's convertibility.

5. Policy implications and topics for further research

The main purpose of the paper is to draw an outline of the monetary history of pre-WWII Greece. It aims at evoking from the past the memories of previous episodes of the country's entrance to a currency union or a fixed-rate regime. The study of the events that characterized the behaviour of the monetary and fiscal policies pursued gives us the possibility to derive some lessons of historical experience. Bringing together suggestive evidence (based on historical events) and empirical evidence (based on historical

macoeconomic time series), we are interested in determining the driving forces behind the country's choice of a monetary regime.

Stylized facts allow us to numerate the benefits in terms of macroeconomic performance, enjoyed by a small open developing country in the south-east European periphery under fixed rates. First, the country was benefited by enjoying macroeconomic stability. The mean values and the standard deviation of key macroeconomic variables (see Table 1) were significantly lower under fixed rates. Second, real exchange rate changes exhibited lower volatility under fixed rates. Third, inflation was less persistent and more predictable during the periods of gold convertibility.[9] Finally, the country enjoyed cheap foreign borrowing every time the government made credible efforts to adhere to the convertibility rule. On the basis of an AR(1) specification of the Greek bond spreads, we found that the risk premium on Greek bonds was considerably lower and less persistent when the country was on gold (see Lazaretou 2005a). Moreover, a sound financial system was a prerequisite for keeping fixed rates. Excess spending (temporary or permanent shocks to government spending) and the way to finance it (through seigniorage or/and debt creation) weakened the credibility of the government's commitment to sustain fixed rates and, thus, threatened the viability of a fixed rate regime.

An interesting topic for further research is to exploit the monetary history of the countries in the south east European periphery. An emphasis should be placed upon the determinants of the choice of the nominal exchange rate regime. South east European countries gradually adopted metallic regimes; some nations were waiting for a long time to adopt metallic convertibility, while others had joined quicker. All countries suffered by fiscal inefficiencies that led to long-lived fiat money standards, whereas governments made efforts to restore metallic flows. What explains the timing of an exchange rate regime adoption? How the diffusion of metallic standards in that particular region of Europe can be explained? The gold standard literature on core and peripheral countries provides abundant evidence that factors such as trade channels, borrowing costs, economic growth associated with long run price stability might drive a country's incentive to adhere to the gold convertibility rule. Which of these factors had a significant effect on why these countries adopted a fixed rate regime, when they did so, would be very interesting questions for further quantitative research. Moreover, the compilation of a comparable and reliable data set of historical time series of the countries' main macroeconomic aggregates gives us the opportunity to estimate the effect of all these determinants.

[9] Persistence is measured as the first-order serial autocorrelation coefficient of an AR(1) scheme of annual price changes. Plotting the actual and predicted out-of-sample values of the inflation rate from a forecasting AR(1) equation, we find that under the pre-WWI gold standard (1910–1914) and the interwar gold standard (1928–1936) inflation is over-predicted by the model. This signifies a downward shift in inflation expectations.

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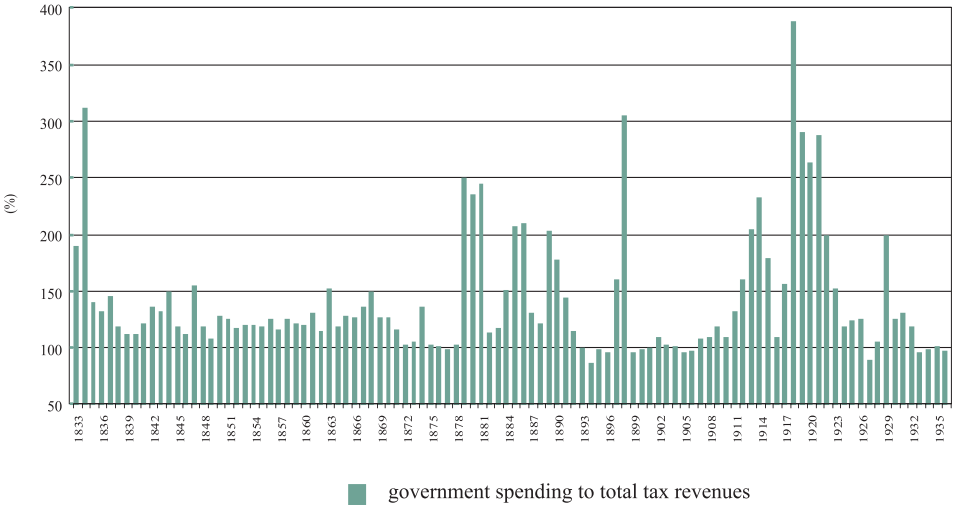
Figure 1

Budget Deficits (1833–1936)

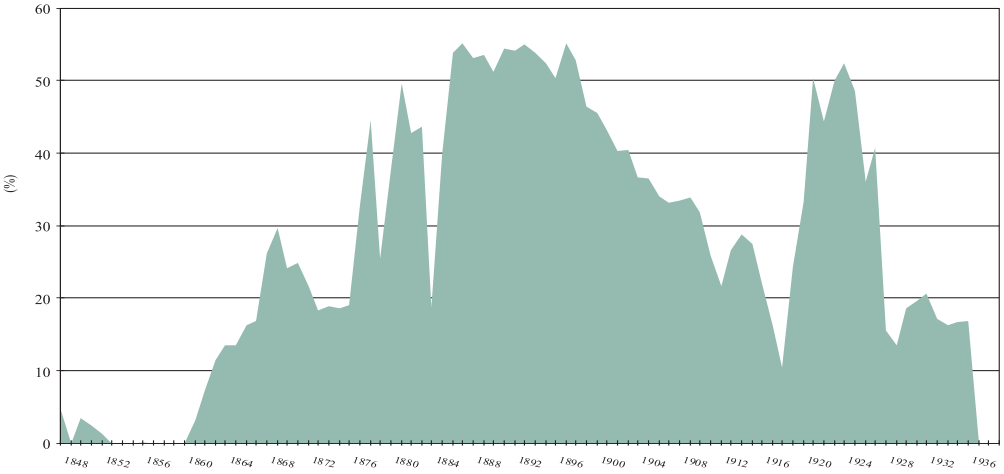


Notes: Government spending concerns central government expenditures, including interest payments. Total tax revenues are total revenues from direct and indirect taxation. End-of-year data.

Source: Greek Government Budget *Annual Report*, various issues.

Figure 2

Domestic Debt, 1848–1939



Notes: Total liabilities of the Greek state (including interest payments and amortization) to the National Bank in gold, foreign exchange and banknotes as a percentage of the Bank's total assets. It is used as a proxy for domestic debt. Before 1848, the State owned nothing to the Bank, as was also the case in 1849, 1853–55, 1857–60. When the Bank of Greece was established in 1928, the State's debt to the National Bank was reduced to less than half the original figure and the government securities were transferred to the new central bank. End-of-year data.

Source: National Bank of Greece and Bank of Greece, *Balance Sheets*, various issues, own calculations.

Figure 3a

Per Capita GDP, 1833–1938

(in drachmas at 1914 contant prices)

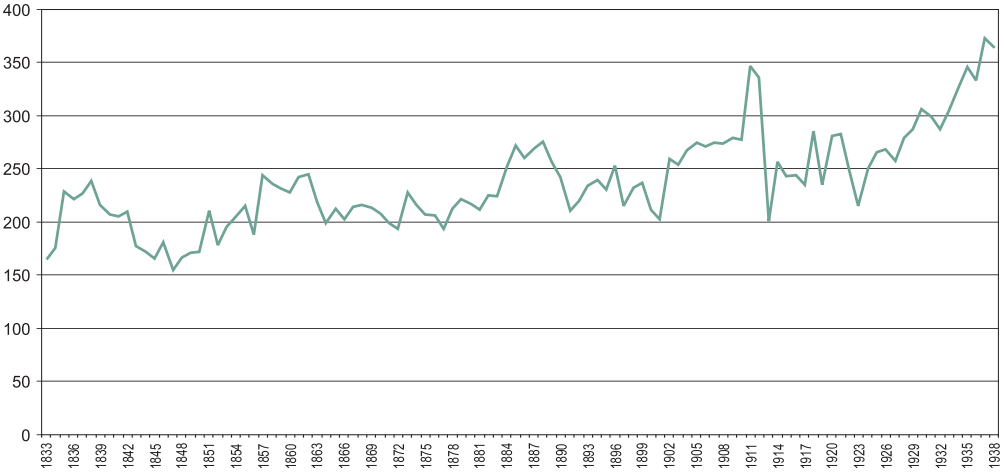
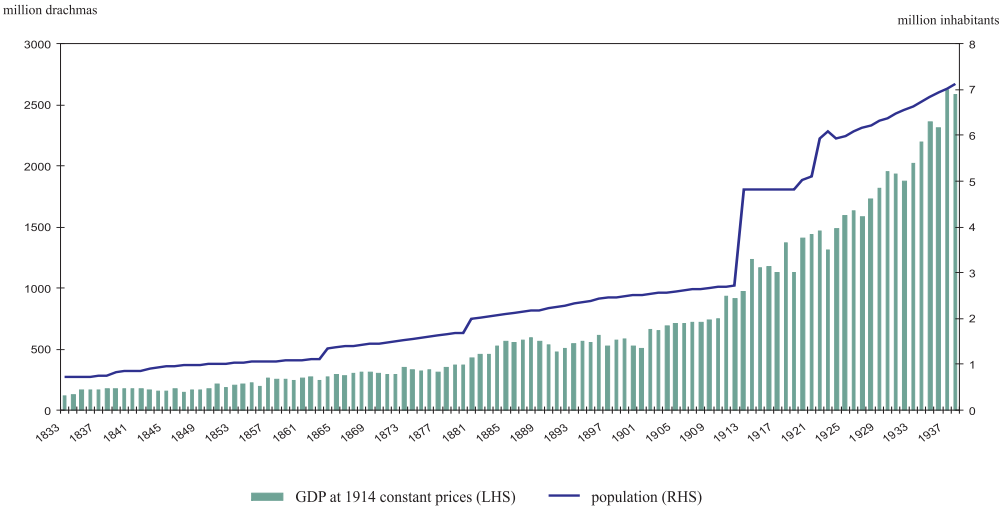


Figure 3b

GDP and Population, 1833–1938

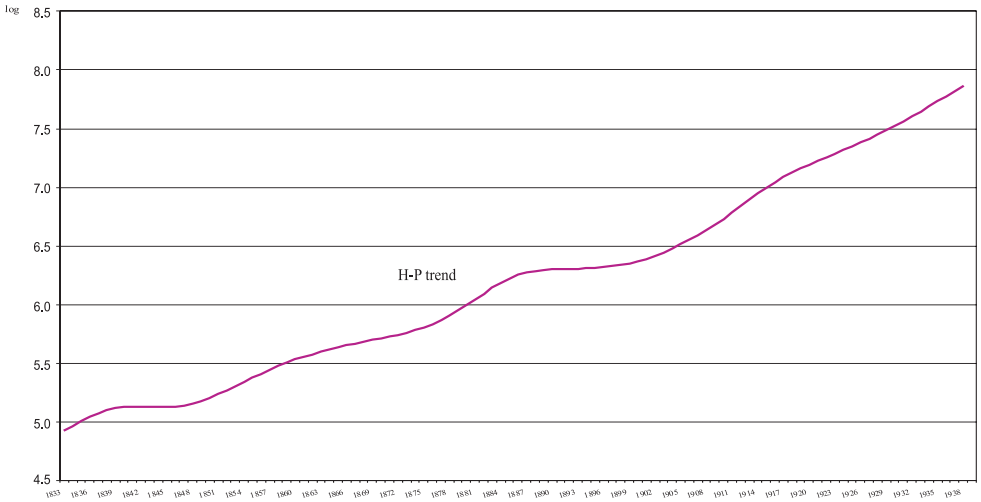


Source: The data for GDP at constant prices are from Kostelenos and Petmezas (2002).

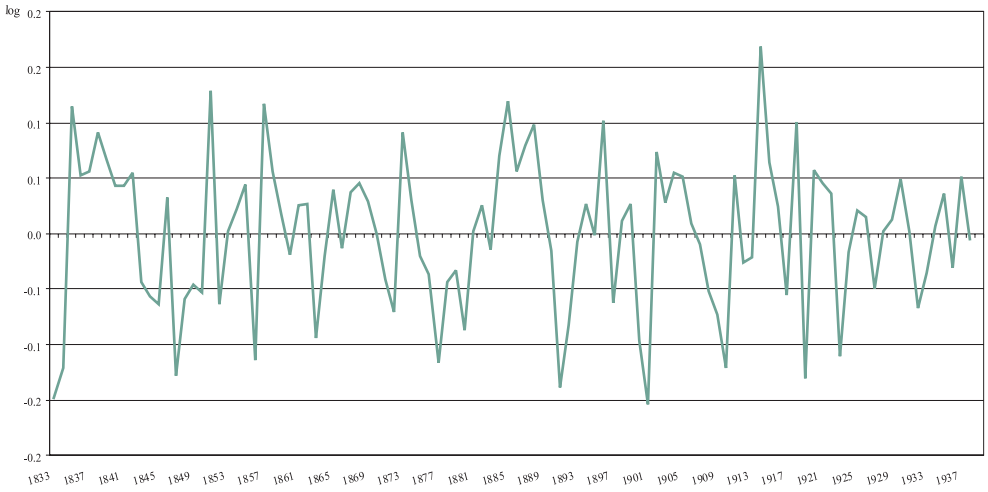
Figure 4

Output fluctuations due to permanent and temporary disturbances, 1833–1938

(a) long-term trend



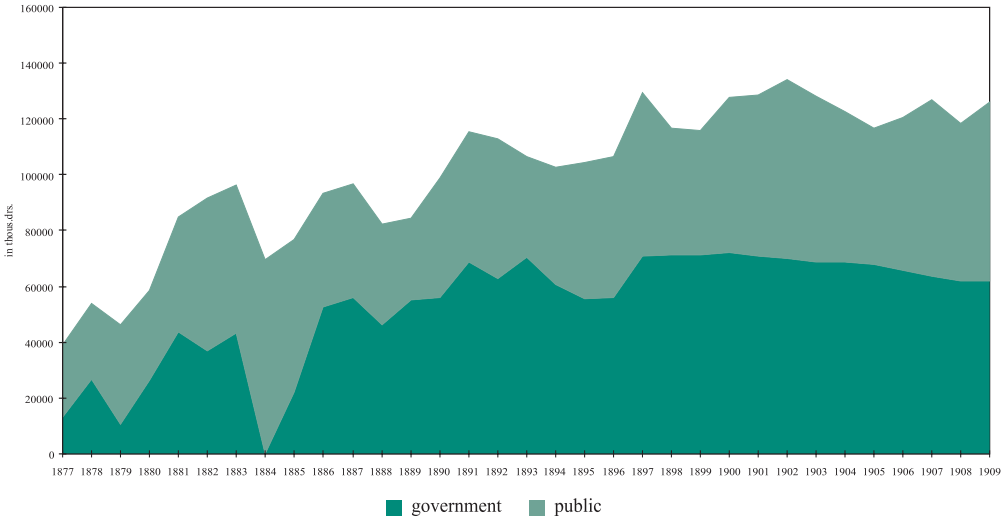
(b) cyclical component



Source: own calculations.

Figure 5

Banknote Circulation, 1877–1909

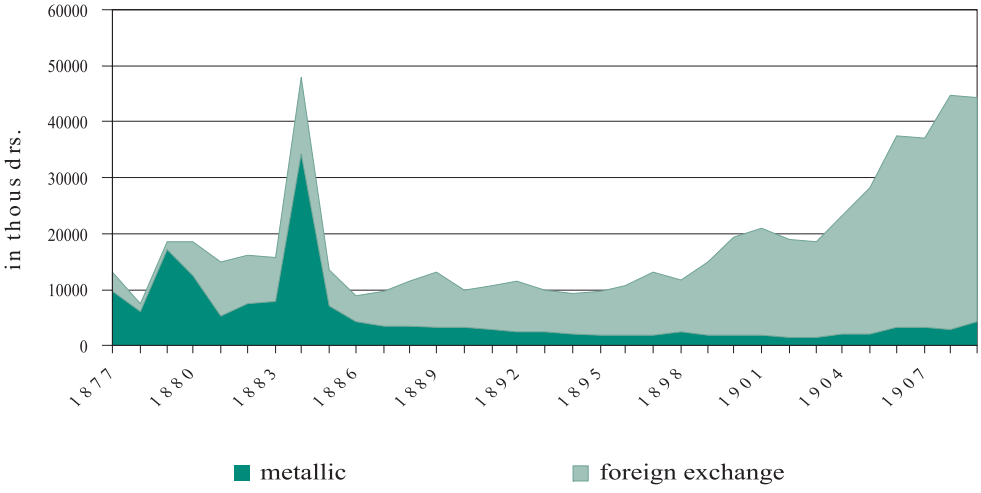


Notes: "government" is the government's floating debt to the Bank, "public" is the "uncovered" note circulation outside the banking system. End-of-year data.

Source: National Bank of Greece, *Annual Reports*, various issues.

Figure 6

Total reserves, 1877-1909

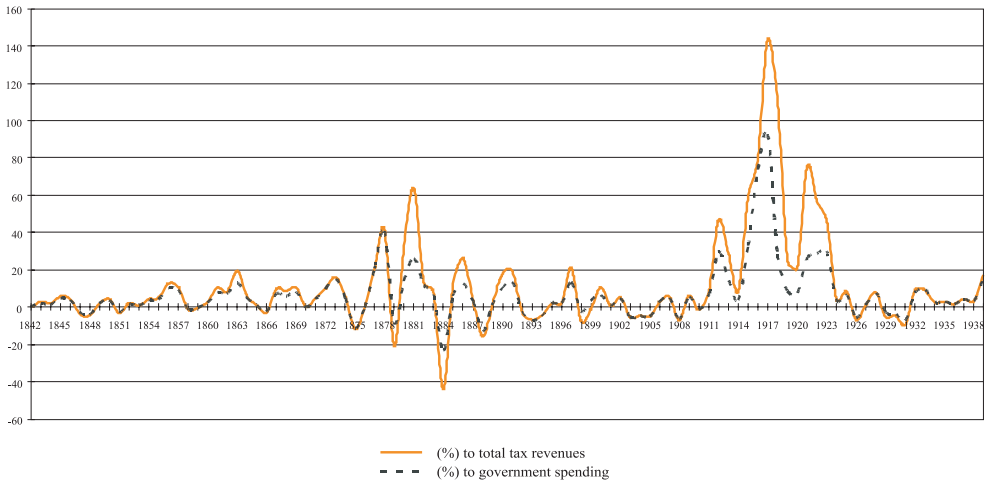


Notes: "metallic": gold or/and silver reserves, "foreign exchange": interest-bearing deposits in foreign exchange directly convertible into metal. End-of-year data.

Source: National Bank of Greece, *Annual Report*, various issues.

Figure 7

Seigniorage (1842–1939)

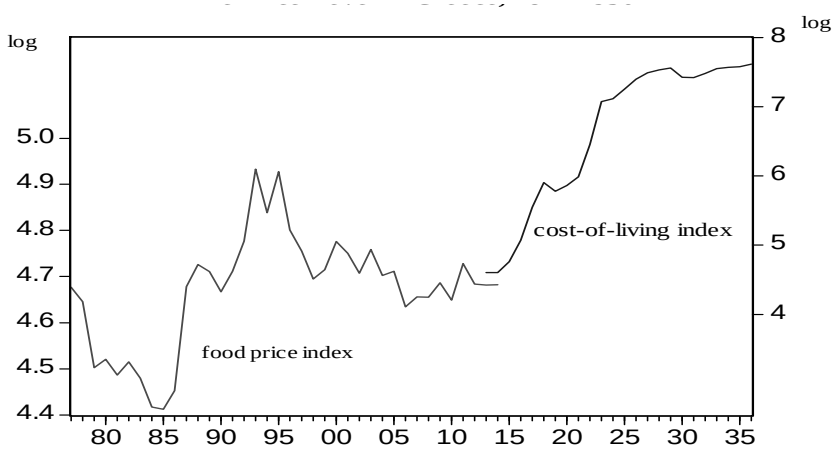


Notes: Seigniorage revenues have been computed as the change in banknotes in circulation divided by total tax revenues or total government spending. Total tax revenues are the total revenues from direct and indirect taxation, while government spending concerns central government expenditures inclusive of interest payments. Banknote circulation was issued solely by the National Bank of Greece till 1927 and the Bank of Greece from 1928 onwards. End-of-year data.

Sources: National Bank of Greece, *Annual Report*, Bank of Greece, *Monthly Statistical Bulletin*, Greek Government Budget, *Annual Report*, various issues.

Figure 8

The Price Level in Greece (1877–1936)

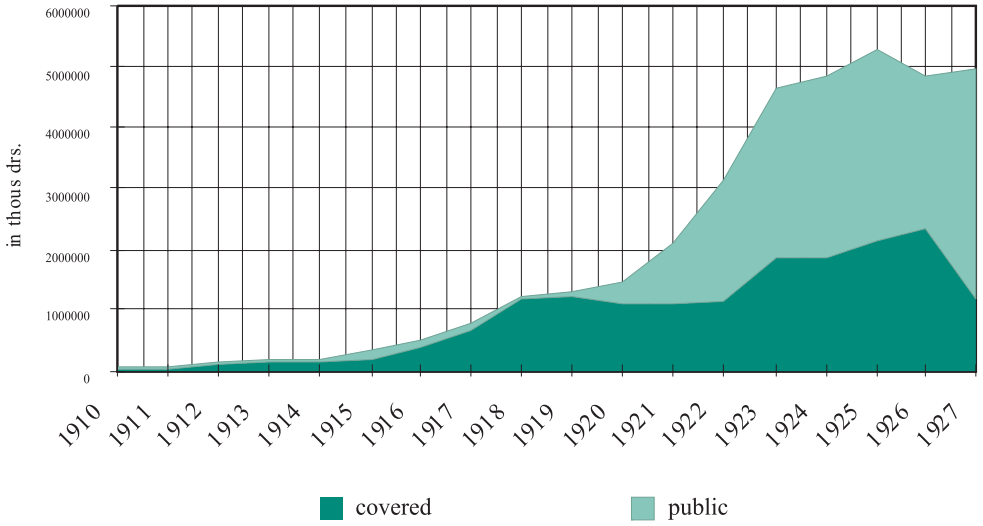


Notes: food price index (1867–77=100), cost-of-living index (1914=100), year averages.

Source: The data for food prices are from Mitrophanis and Pizanias (1991). The data for the cost-of-living index are from the Bank of Greece.

Figure 9

Banknote Circulation, 1910-1927

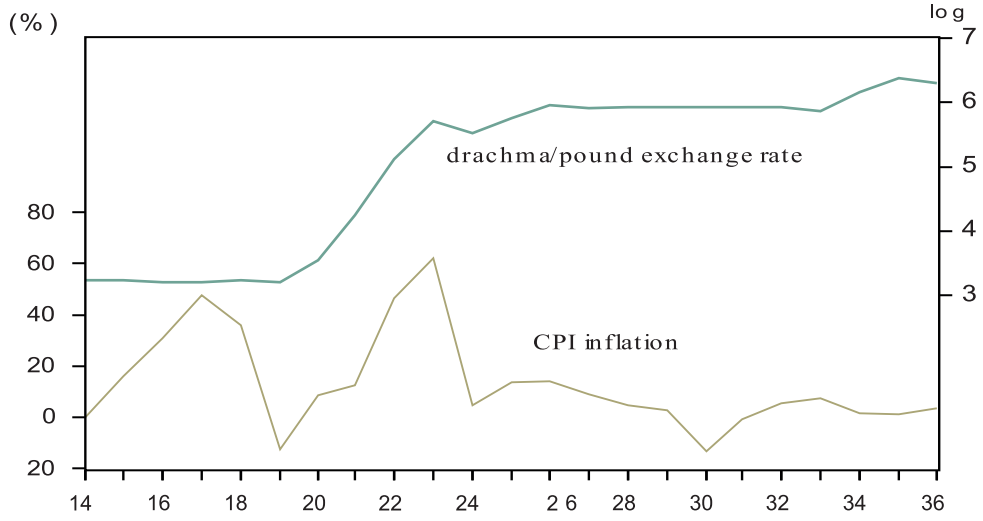


Notes: "covered" is backed by precious metal or gold-based foreign exchange, "public" is the "uncovered" paper money. End-of-year data.

Source: National Bank of Greece, *Annual Report*, various issues.

Figure 10

Inflation and the drachma/British pound exchange rate, 1914–1936

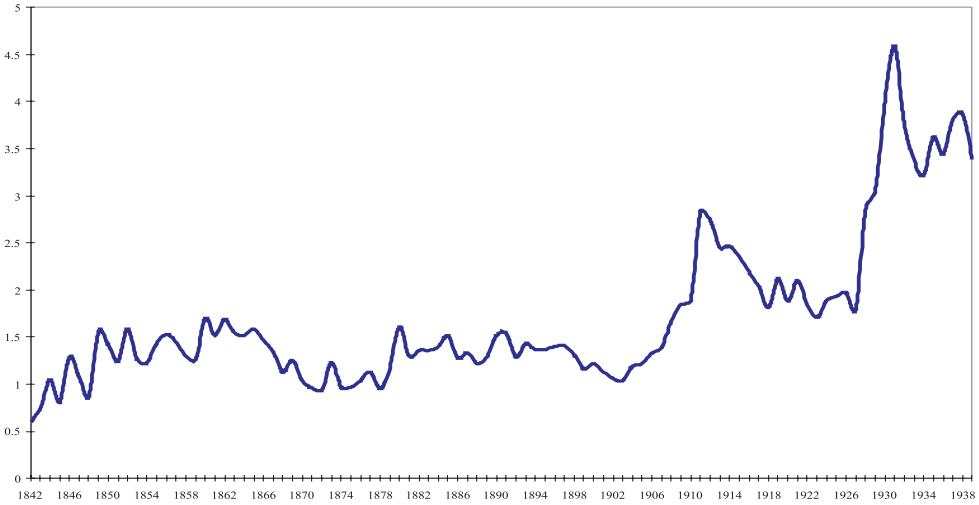


Notes: LHS: annual percentage changes of a cost-of-living index (1913–14=100). RHS: annual averages (spot rates) in natural logarithms. Year averages.

Source: Bank of Greece and National Statistical Service of Greece.

Figure 11

Money Multiplier (1842–1939)



Notes: Money multiplier is defined as the ratio of money supply to the monetary base. End-of-year data.
Source: National Bank of Greece and Bank of Greece. Own calculations.

Table 1

Descriptive Statistics of Selected Macroeconomic Variables for Greece, annual data, 1878–1936

A. Pre-WWI period

Variables	First pre-WWI floating, 1878-1884	Second pre-WWI floating, 1886-1909	Pre-WWI gold standard, 1910-1914
Food price inflation[1]			
mean	-3.810	1.017	-0.082
st.dev.	6.203	8.027	4.910
kurtosis	2.051	3.553	1.987
skewness	-0.587	0.747	0.794
ρ^*	-0.333		0.206
	(-4.169)		(0.981)
Money growth[2]			
mean	8.290	1.300	13.906
st.dev.	25.706	7.912	14.788
kurtosis	1.634	2.761	1.910
skewness	-0.384	0.230	0.687
Real exchange rate changes			
mean		-0.844	1.798
st.dev.		5.936	2.455
kurtosis		2.289	1.970
skewness		0.383	0.695

B. Pre-WWII period

Variables	Interwar floating, 1915-1927	Interwar gold standard, 1928-1936
CPI inflation[1]		
mean	21.404	1.385
st.dev.	20.992	6.023
kurtosis	2.394	1.607
skewness	1.119	-1.645
ρ^*	0.406	0.089
	(1.587)	(0.137)
WPI inflation[1]		
mean	20.685	-5.614**
st.dev.	28.007	13.288
kurtosis	2.712	1.756
skewness	0.971	-0.466
ρ^*	0.363	0.287
	(1.124)	(0.401)
Money growth[2]		
mean	16.050	2.470
st.dev.	18.892	11.941
kurtosis	1.303	1.757
skewness	0.204	-0.418
Nominal interest rate[3]		
mean	8.188	8.333
st.dev.	1.850	1.414
kurtosis	1.327	1.999
skewness	0.430	0.471
Real interest rate[4]		
mean	-13.216	6.948
st.dev.	21.597	6.579
kurtosis	2.340	3.963
skewness	-1.121	1.439
Real exchange rate changes[5]		
mean	6.799	-0.794***
st.dev.	15.596	8.620
kurtosis	2.901	1.422
skewness	0.824	0.626
Real output growth[6]		
mean	7.196****	4.513
st.dev.	13.399	6.030
kurtosis	1.603	1.979
skewness	-0.193	-0.141

Notes: 1. Inflation is measured as the first differences of the natural logarithms of a food price index (1867–77=1) for the pre-WWI period, a cost-of-living index or wholesale price index (1913–14=1) for the WWI and the interwar periods (year averages).

2. The narrow money supply is measured by the quantity of banknote issued solely by the National Bank of Greece until 1927 and the new established central bank, the Bank of Greece, from 1928 onwards (end-of-year data).

3. The discount rate is expressed in a decimal form (end-of-year data).

4. The *ex post* real interest rate is computed as the difference between the nominal rate and the percentage change in the cost-of-living index ($r_t = i_t - \Delta \ln P_t$).

5. The data refer to the drachma/pound exchange rate (spot rates, year averages).

6. Industrial production index (1928=1). Kurtosis is measured by $b_2=\mu_4/\sigma^4$ where $\mu_4=1/T\ \Sigma(x_t-\bar{x})^4$, $\sigma=(\Sigma(x_t-\bar{x})^2/(T-1))^{1/2}$. Kurtosis measures the peakedness or flatness of the distribution of a series. If the kurtosis exceeds 3 is peaked relative to the normal; if the kurtosis is less than 3, the distribution is flat relative to the normal. Skewness is computed as $\sqrt{b_1}=\mu_3/\sigma^3$ where $\mu_3=1/T\ \Sigma(x_t-\bar{x})^3$. It is a measure of asymmetry of the distribution of the series around its mean. The skewness of a symmetric distribution is zero. Positive (negative) skweness means that the distribution has a long right (left) tail.

(*) estimate of a first-order serial autocorrelation coefficient.

(**) the sample period is 1928–1932.

(***) the sample period is 1928–1931,

(****) the sample period is 1921–1927.

The Evolution of Central Banking in Turkey

Yuksel Gormez*

1. Introduction

Sometimes, it is argued that central banking is among the most important innovations with fire and wheel. It was not Minor Asians that has innovated it but the opposite is true for the invention of money itself. It is generally agreed that by 700 BC, a group of seafaring people called the Lydians became the first in the Western world to make coins. The Lydians used coins to expand their vast trading empire[1].

Invention of money has led to capital accumulation, which created a demand for banking services. It was soon realised that banks needed a taken-career as a last resort during turbulent times and a bank for all banks started to emerge from Sweden to England. Because of seigniorage revenues, central banks around the world as banker's bank turned out to be a fast developing phenomenon. At the beginning, most of them have began operations as private enterprises. However, a nationalisation trend began with the support of the increasing influence of nationalism.

After the collapse of Ottoman Empire, Turkey declared independence and from the early years of the young Republic, establishing the central bank of the Republic was a priority. In the 1930's, the First Act was enacted. Early years, especially up-to the Second World War, great achievement was reached even though capital formation of the young Republic was limited and external debt burden from the collapsed Ottoman Empire was limiting growth prospects.

During the Second World War, there has been limited success both in the inflation and growth fronts due the destructive and contagious consequences of the War. As the turbulence was in global scale, there was no potential for success as well. However, after the

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[1] http://woodrow.mpls.frb.fed.us/econed/curric/history.cfm

War, the monetary policy was not good enough to adapt itself to the new local and global order. As a result, experimental central banking started to emerge.

In the 1950's, the economy has enjoyed foreign capital through borrowing but in the following decades, external debts turned out to be a major issue and in every balance of payment crises, another step has taken to support additional experiments in central banking. Most of these came as temporary solutions, even if they have lasted for decades in the following terms.

After the oil crises of the 1970's, the vicious circle of high and volatile inflation became a permanent monetary phenomenon in Turkey. During 1980's, the economy has been opened to the world markets and convertibility has been declared in 1990. On the other hand, 1994 came as a crises year, leading a negative growth rate. Another crisis followed in 2001 and the following stabilisation programme became successful to decrease inflation to single-digits after thirty years.

Recently, Central Bank of Turkey (TCMB) is an implicitly mature and explicitly maturing central bank fully dedicated to fight with high and volatile inflation. The new Law enacted in 2001 defines its main function to sustain price stability. Until the full membership to the European Union becomes a reality, the main mission seems to be evolving even further to the boundaries of a rational central bank. The last four years has proven that lessons have been learned from the mistakes of experimental central banking for more than half a century and monetary policy will be formed to reach price stability sustainably.

2. Central Banking in General

Central banks have become mainstream financial institutions quite after the innovation of money and banking. Without any systemic financial stress or heightened borrowing requirements of warlords, probably the world would have survived longer without a bank for all banks.

The need for debasement and a tool to sustain financial stability created a natural environment for the emergence of central banks around the world. The first one came from Sweden as of Swerige Riksbank in 1668. Within 26 years, another central has appeared in the United Kingdom as the Bank of England. It took more than hundred years before Banque de France came to existence in 1800.

Table 1

Central Banks	Law Enactment	Banknote Issue Right	LOLR
Sverige Riksbank	1668	1897	1890
Bank of England	1694	1844	1870
Banque de France	1800	1848	1880
Bank of Finland	1811	1886	1890
Nederlandsche Bank	1814	1863	1870
Austrian National Bank	1816	1816	1870
Noerges Bank	1816	1818	1890
Danmarks Nationalbank	1818	1818	1880
Banco de Portugal	1846	1888	1870
Belgian National Bank	1850	1850	1850
Banco de Espana	1874	1874	1910
Reichsbank	1876	1876	1880
Bank of Japan	1882	1883	1880
Banca D'Italia	1893	1926	1900
TCMB	1930	1930	2002

Source: BoE

It may be argued that central banks became a great fashion after the emergence of nationalism in the 19th century. As the number of nation states increased sharply, so did the number of central banks.

Table 2

Number of Central Banks

1890	18
1910	20
1920	23
1930	34
1940	41
1950	59
1960	80
1970	108
1980	137
1990	161

Source: BoE

Recently, even though multi-national central banks such as European Central Bank seems to gain increasing interest as an alternative monetary structure, having a national central bank has been perceived as a common and normal national requirement.

On the other hand, up-to the beginning of 19th century most of the central banks were private financial institutions with issuing licences. However, most of them have been taken over from their owners to be nationalised. Private central bank is no more a common practice.

Ottoman Bank was a good example from the final years of the Ottoman Empire. It was owned by French entrepreneurs and had a licence to issue legal tender in Ottoman Land. After the collapse of the Empire, the Bank survived as a private bank even if it lost its issuing licence. Just after the 2001 crises, the owners of the Ottoman Bank have merged it with another private bank.

With a historical perspective, 1668 – 1863 may well be defined as the emergence period of central banks. 1873–1914 period was covered by gold standard and central banks were not a determinant of monetary policy other than adjusting to gold movements. During World Wars from 1914 to1945, central banking has behaved accommodative to war conditions. Restructuring period of 1945–1971 has been shaped by fixed exchange rates and semi-active monetary policies under Bretton-Woods agreement. USD was the anchor currency for all the others.

Oil crises from 1971 to 1980 shaped an inflationary environment and central banks looked desperately for an anchor to sustain price stability. Between 1980 and 1990, monetary targeting emerged as an alternative monetary policy framework. However, because of financial innovation and deepening, most central banks failed to reach their main goal. From 1990s, inflation targeting has been preferred as the most effective regime to stop inflationary pressures.

From now on, the influence of globalisation, monetary unions and emergence of technologies such as electronic money may play critical roles in shaping the future of central banking. Even if it is very difficult to predict the future, one may expect that the number of central banks in the world peaked in the 1990s and we may expect a decreasing trend.

3. Central Banking in Turkey

The Ottoman Empire has never had a national central bank. Due to increasing debt burden, the banknote issuing licence has been given to French entities in 1863. Bank-i Osman-i Sahane was the central bank of the Ottoman Empire, which emerged from Bank-i Osman-i that was founded by British and French joint ventures. The bank kept the licence legally until the collapse of the Empire.

After the Republic of Turkey has declared independence, preparations for a new Central Bank has began in 1926. The Central Bank of Turkey (TCMB) Law was enacted in 1930 and banknote issue right has been given to the new central bank. In 1932, The Central Bank of the Republic of Turkey became fully operational.

4. Evolution of Central Banking in Turkey

It was not surprising that the basic aim of the new central bank was to create credibility on the new money that has been defined as legal tender in Turkey. It was not an easy task for a new Republic without any serious infrastructure and capital accumulation that has been inherited from the Ottoman Empire. Still, early years have been very successful both for price stability and sustainable growth.

A. 1932 – 1940: In early years, initial conditions were really very poor. Formation of the new Republic has prioritised serving the basic needs of the society and agriculture dominated production structure. There was no serious wealth transfer from the Ottoman Empire and national capital formation was insufficient. The economy in early years had not much to offer for foreign trade and hard currency inflows were quite limited even if the trade balance was in surplus with very low level of import. Institutional building was a dominant preference in order to support law and order. Public sector tried to lead industrial development. Worse than that, global disorder emerged because of war remunerations and Second World War began.

Monetary policy during this period was based on a discount facility towards public credits. As the central government was trying to lead industrialisation, money supply has been accommodative. Unbelievably, there has been no short-term advances to the Treasury; even public finances were almost the most reliable part for fiscal indicators. Price stability has been respected at most during Ataturk's, the founder of the Republic, lifetime. Reel interest rates have stayed in positive territories and money creation was through public bonds and bills. Period end balance sheet in million New Turkish lira is provided below[3].

Table 3

THE CENTRAL BANK OF THE REPUBLIC OF TURKEY

Assets	Balance Sheet 1940		Liabilities
Gold and Coins	119,8	Capital	15,0
Foreing Corres	34,9	Currency Issued	418,8
Gov Bonds	138,8	Deposits	79,5
Securities	263,7	Gold Advances	78,1
Advances	122,4	FX liabilities	32,0
Bills	55,2	Miscellaneous	115,2
	739,4		739,4

[3] Historical Balance Sheets have been taken from Onder, 2005.

B. 1941 – 1950: The new Republic did not take a part in the Second World War but still has been affected badly from scarcity of basic needs. Even bread was distributed with limited amounts. With agriculture dominated production structure, distribution cost and defence measures created financial stress leading to lower growth and higher levels of inflation. Insufficient national capital formation has taken some blame for the lack of resistance to this global shock.

In 1946, there was a preparative devaluation of 113 % under fixed FX regime and its aim was to adjust to new Bretton Woods institutions such as the International Monetary Fund and the World Bank. A competitive level of exchange rate has been preferred. During the decade, public sector was still leading industrial development. Truman Doctrine and Marshall Program have helped to solve structural capital inadequacy problems. On the other hand, Divided Europe became the new order and Turkey stayed in the liberal camp.

Monetary policy was based on a discount facility towards public credits. There was still no short term advances to the Treasury even fiscal deficits has begun to be a serious issue. External debt accumulation was a result of foreign borrowing and external pressure for liberal economic policies begun with Marshall Aid Program. End-period balance sheet is exhibited below:

Table 4

THE CENTRAL BANK OF THE REPUBLIC OF TURKEY

Assets	Balance Sheet 1950		Liabilities
Gold and Coins	220,0	Capital	15,0
Foreing Corres	199,4	Currency Issued	961,7
Gov Bonds	1,8	Deposits	458,8
Securities	1.132,3	FX liabilities	203,6
Advances	7,4	Miscellaneous	140,4
Bills	18,3		
FX lending	127,9		
Miscellaneous	68,1		
	1.779,5		1.779,5

C. 1951 – 1960: This decade was mainly shaped with a restructuring phase with regards main preferences for economic policies. Public sector as the leading engine of the economy has been given a secondary place in mainstream policies and private sector has openly been supported with different tools. Liberal approach has taken over the main development strategy and heavy infrastructure investment increased borrowing requirements. Agricultural expansion and productivity gains were supportive for high growth

rates. On the other hand, lack of planning and coordination, rising budget deficits and balance of payments problems accumulated a base for high inflation in the second half of the decade. In order to support agriculture sector, experimental central banking tools appeared for the first time: Reserve requirements were being distributed as incentive credits and are being used to finance government deficits. Credits to State Soil Office (TMO), Sugar Company, Fish and Meat Company (EBK) were all subsidised through central bank sources. A second extreme example of experimental central banking came in effect: First short term advances to the Treasury emerged with a 15 % maximum level of total budget expenditures.

Price controls have been imposed and sourced with reserve requirement balances as well. Selective credit growth was a strategy to induce growth and a Credit Committee at the TCMB was evaluating the applications for credit and deciding whether the credit should be used or not.

The negative reel interest rates were a common feature of this decade. However, currency misalignment in 1958 has led devaluation and new measures were put in place including decreasing the amount of short-term advances to the Treasury to 5 % and limiting credit ceilings to the public sector. The period end balance sheet is as follows:

Table 5

THE CENTRAL BANK OF THE REPUBLIC OF TURKEY

Assets	Balance Sheet 1960	Liabilities	
Gold and Coins	1.207,9	Capital	15,00
Foreing Corres	0,0	Currency Issued	4.452,5
Gov Bonds	0,0	Deposits	1,721,2
Securities	4.839,9	FX liabilities	1.963,1
Advances	1.283,9	Miscellaneous	861.6
Bills	41,8	Lended Gold	160,4
FX lending	1.039,7		
Miscellaneous	322,7		
Revaluation +	428,9		
	9.174,0		9.174,0

D. 1961 – 1969: The liberalisation trials of the earlier decade have failed and a new approach to economic policies have been developed during this period. Turkey was still a closed economy with heavy trade restrictions. A new institution has been created as State Planning Organisation in order to centralise development strategies. Additionally, industrialization was believed to be served best with import substitution based solutions. Popu-

lation growth was putting pressure on domestic demand boom and all these measures were believed as the main cure for eliminating scarcity dangers for the main needs of the society.

Fixed exchange rate (FX) regime was still in force and reel interest rate stayed in positive territory. With certain reforms, Public debt to the TCMB because of advances was postponed with no cash paybacks. Reserve requirement balances were taken from Credit Committee and given to the TCMB. In order to control import boom, import license deposits are ordered to be open at the TCMB. Credits went to the public sector, especially agriculture credits. The measures have produced better results and fast track growth and relatively low inflation levels were the economic consequences. The decade witnessed one of the best performances of the Turkish economy until the first oil crises shock had a direct impact. One of the Macro Plans has even mentioned the importance of "price stability". End-term balance sheet is provided below:

Table 6

THE CENTRAL BANK OF THE REPUBLIC OF TURKEY

Assets	**Balance Sheet 1969**		**Liabilities**
Gold and Coins	1.173,6	Capital	15.0
Advan on Securities	9.421,1	Currency Issued	10.974,2
Other Advances	4.145,7	Deposits	6.181,3
Redeemable Acc's	5.388,2	FX liabilities	496,4
Bills	71,7	Miscellaneous	6.196,0
FX lending	908,1	Lended Gold	62,5
Miscellaneous	2.516,2		
	23.925,4		23.925,4

E. 1970 – 1980: This decade was shaped by destructive impacts of the global financial turmoil led by the first and second oil shocks. Turkey has enjoyed a good performance of non-inflationary growth in the early years of Ataturk's times and during 1960s. However, oil shocks created balance of payment difficulties and because of import substitution based economic policies, a scarcity of basic needs such as food products like cooking oil and sugar emerged for a couple of times.

The decade came with a major surprise: End of Bretton Woods. As the USD peg failed, floating rates all around has added to FX risk. Worse than that, double oil shocks increased volatility in a global scale. With limited external financing opportunities for Turkey, balance of payment problems has led to a default at the end of the decade. After a serious depreciation of the national currency, a new policy design was put in place with

an IMF program and external debt stock was re-structured.

In the 1970's, the TCMB Law was changed and the Bank was fully nationalised as the share of the Treasury was set as no less than 50 %. Determination of required reserves was left to the TCMB but 20 % of the balance went to public credits. Money and credit policy was forced to be consistent with the "plans". Medium term (more than 3 months) TCMB credits were allocated to support export, in order to lessen hard currency shortage burdens. The right to determine deposit rates transferred solely to the TCMB, with a licence for Open Market Operations. On the other hand advances to the Treasury increased to 15 % of the annual budget expenditures.

Double-digit inflation rates became a persistent issue in this decade. Fix but often-deflated FX rates with hard currency shortages created parallel (black) markets. Instead of finding a credible solution to the problem, another experimental central banking record came into effect with the creation of FX accounts at the TCMB for the workers living abroad. This has kept away the dream of a credibly central bank for some years to come.

Most of the problems of the decade were global in nature. However, the import-substitution based industrialisation strategy has come out to be quite a big mistake and necessary structural reforms have been delayed for long periods. As a result, the cost of global turbulence was heavier compared to many other countries. End-decade balance sheet is exhibited below with three zeros dropped compared to earlier tables.

Table 7

THE CENTRAL BANK OF THE REPUBLIC OF TURKEY

Balance Sheet 1980

Assets		**Liabilities**	
Gold and Coins	13,8	Capital	0,025
Credits	655,2	Currency Issued	278,6
Redeemable Acc's	331,0	Deposits	266,9
Bills	0,1	FX liabilities	22,7
FX lending	96,2	Miscellaneous	817,6
Miscellaneous	289,4		
	1.385,8		1.385,8

F. 1981 – 1990: After a turbulent decade, 1980's became recovery term for the economy. In order to get rid of black FX banknote markets, daily settlement of FX rates begun. For a disciplinary monetary policy, required reserve distribution as credit has been stopped. The TCMB was given further say on credit and deposit rate settlement and allowed open market operations and discount window. Flexible FX rate regime was preferred. To fund

external debt payments, compulsory FX transfers to the TCMB was put in place in order to prevent default risk. International Monetary Fund (IMF) has signed Stand-By Agreements to take an accommodative role for the reform calendar. Those were the beginning of a very long way towards creating a market economy. Eliminating barriers (price controls) that limit the power of "invisible hand", trade liberalization and export-led growth preference were all new measures to support the reform process. Public investment shifted towards infrastructure and financial liberalisation was supported with banking reforms. Incentives for capital inflows and external borrowing, securitisation and early trials of privatisation were tried in the first half of the decade. High and volatile inflation was still the main issue for monetary policy. Surprisingly, hyperinflation has never been a serious issue. One of the reasons may be listed as the emergence of FX deposits in the financial system.

Liberalisation initiatives have accelerated through the middle of the decade. Capital Markets Board and Istanbul Stock Exchange have been established to induce marketisation. A scheme for domestic borrowing has been introduced to help Treasury's Debt management. Interbank Money Markets and Open Market Operations have begun for liquidity management purposes. FX and Banknote Markets under the supervision of the TCMB started. An interesting trial was in 1986 when TCMB tried an implicit monetary targeting, which was announced to the Public in 1990 when explicit monetary targeting regime was implemented. Capital account liberalization was realised in 1989 and Turkey became a small open economy.

A major financial turmoil was in 1982 when Banker's crises had almost led to a bank run. In the following years, interest rate controls have been imposed again. Negative net FX position of the TCMB has never turned to positive territory because of postponing elimination of worker's accounts. The balance sheet for the end-decade is given below:

Table 8

THE CENTRAL BANK OF THE REPUBLIC OF TURKEY

Balance Sheet 1990

Assets		**Liabilities**	
Gold and Coins	4.467,5	Capital	25,0
Domestic Credits	8.294,4	Currency Issued	14.074,0
External Credits	3.274,0	Deposits	42.173,2
OMO	1.811,3	FX liabilities	3.111,0
Securities Portfolio	1.724,1	OMO	1,604,4
Redeemable Acc's	26.394,3	Miscellaneous	2.385,3
FX lending	17.517,8	Others	1.245,6
Miscellaneous	1.140,3		
	64.618,6		64.618,6

G. 1991 – 2000: Sometimes, 1990's have been recalled as 'lost years'. It may not be totally wrong. The decade started with another global disturbance: Gulf War. Already fragile Turkish economy has badly been effected by the invasion of Kuwait and First Iraqi War.

Managing risks of financial liberalisation was not strong and current account has peaked. Customs union with Europe was declared without convergence process that should bring funds to finance the cost. Lack of structural reforms became a permanent issue and most believed that misuse of public banks was a critically bad choice for the long-term stability. Export incentive related mismanagements to increase hard currency revenues has perceived as common and fiscal discipline has never been regarded as serious because of missing fiscal targets almost every year. Infrastructural investments like highways financed by external debt with lack of privatisation willingness to keep the state ownership of not Telecom only but everything from milk to shoes production. A critical mistake came from social security policies when early retirement was allowed at the age of 38 years. Turbulent years caused IMF to come and go with incomplete Stand-by agreements. Global risks such as Tekila, Far East, Russian and Exchange Rate Mechanism crises did not help the local markets at all.

Monetary policy was trying to sustain financial and monetary stability during the decade. Lack of price stability instincts was a reason for the failure in sustainable growth. Extreme public sector borrowing requirement above 10 % and extremely high reel interest rates with increased volatility was a common practice. Expectation mismanagement and increased hot money pressures has led to FX interventions as a monetary policy instrument. High and volatile inflation since 1970's stayed above 20 % but below 150 %.

Under these conditions, there was still no serious debt burden. But very short-term maturity created liquidity problems. In the 1994 Crises, financial markets became an important element of the economy. After the crises, a diminishing scheme for advances to the Treasury was set from 15% to 3% after 1998. Credits to public enterprises have been banned. Another agreement with the IMF has fallen apart within a year. Super Worker's FX accounts have been invented as another experimental central banking tool. Rating Agencies came into the scene. After the Earthquake through the end of the decade, a dedication to price stability is declared with another IMF Program, which was based in a FX rate scenario. The program has collapsed with another financial crises. End decade balance sheet was looking like: (Another three zeros dropped)

It may be argued that the 1990's would be registered as worst years of financial and monetary stability. The next section will summarise the recovery.

Table 9

THE CENTRAL BANK OF THE REPUBLIC OF TURKEY

Assets	Balance Sheet 2000	Liabilities	
Gold and Coins	967.9	Capital	0,025
Domestic Credits	501,7	Currency Issued	3.772,4
External Credits	139,7	Deposits	17.247,1
OMO	5.218,6	FX liabilities	
Securities Portfolio	6.488,8	OMO	4.973,9
Dom Correspondents	1.469,4	Miscellaneous	1.600,4
FX lending	14.995,1	Others	2.207,1
Miscellaneous	390,7		
	29.801,0		29.801,0

H. 2001 – 2005: The crises in the 2001 was the end of the road for financial and monetary instability as the total cost went above 10 % of gross domestic product. Bank run and default risk climbed to serious levels and a fully structural reform dedicated program supported by the IMF has been announced. The most important of them was the independence of the TCMB with a mission of price stability. Some other steps may be listed as follows:

- A clear preference for floating exchange rate regime after all the alternatives failed.
- Full dedication to price stability and only price stability.
- TCMB independence (instrument, not goal).
- Monetary Policy Committee to target inflation explicitly with transparency, credibility, accountability.
- No direct credits to the Treasury and other public institutions. No more advances.
- Active monetary policy respecting impossible trinity.
- Reforms from banking to social security and independent institutions.
- Heightened privatisation including public banks.
- After more than 10 failures, complete an IMF agreement fully.
- Primary surplus targets to end fiscal dominance.

It may be argued that stabilisation program after 2001 has been one of the most successful achievements of the monetary and financial stability in Turkey. The fight against high and volatile inflation has been partially won with less than 8 % in 2005 and sustainable price stability with a target in 2008 of 4 % is still within reach. The last three years' growth performance is encouraging and as the credibility increases foreigners showed interest for mergers and acquisitions activity especially for the financial sector companies. Recent balance sheet in million New Turkish lira is exhibited below, which was taken from the TCMB web site:

Table 10

THE CENTRAL BANK OF THE REPUBLIC OF TURKEY

Assets	Balance Sheet 7/4/2006	Liabilities	
A. ASSET	101.681,9	P. LIABILITY	101.681,9
A.1-FOREIGN ASSETS	83.189,0	P.1-TOTAL FOREIGN LIABILITIES	51.484,2
A.2-DOMESTIC ASSETS	18.493,0	P.1-a-Liabilities to Non-Residents	22.958,6
A.2-a-Cash Operations	16.970,0	P.1-b-Liabilities to Residents	28.525,6
A.2-aa-Treasury Dept	19.471,6	P.1-ba-FX Deposits of Non-Bank Sector	14.598,8
A.2-aa-i-CBRT Portfolio	19.523,3	P.1-bb-FX Deposits of Banking Sector	13.926,8
A.2-ab-Credits to Banking Sector	2,0	P.2-CENTRAL BANK MONEY	50.197,7
A.2-ad-Other Items	2.503,9	P.2-A-RESERVE MONEY	32.007,8
A.2-b-FX Revaluation Account	1.523,3	P.2-Aa-Currency Issued	20.810,3
		P.2-Ab-Deposits of Banking Sector	11.084,8
		P.2-B-OTHER CENTRAL BANK MONEY	18.189,8
		P.2-Ba-Open Market Operations	19.139,1
		P.2-Bb-YTL Deposits of Public Sector	2.050,6

The success of the latest stability program has accumulated a serious amount of credibility for the monetary authority. However, Turkish economy is still far away from a fully acceptable price stability level. As more than 4 % inflation is regarded as unacceptable by many developed countries' central banks, current level of inflation in Turkey is still one of the highest in the world. The job is still not done perfectly. In the following years, there might be many challenges ahead.

The first one would be diagnosed easily as current account deficit jumped below 7 % to gross national product. The puzzle is that when monetary stability is achieved, capital inflows increases to lead appreciation, which will lower inflation expectations. EU anchor can only support this process further. Appreciation decreases the cost of imports whereas discourages exports. All in all, further current account deficit accumulates. As far as expectations do not deteriorate, the circle can only be reversed with structural reforms to fulfil trade gap.

Another challenge will be global turbulences. Resilience of the economy to the global liquidity conditions and risk aversion should be strengthened by all means, because once the wave comes around, the worst effected economies may be expected as those with incomplete structural problems such as social security deficits, fragile financial sectors or high debt burdens.

5. Conclusion and Recommendations

Central banking and monetary policy implementation has been a tough job in Turkey since the early years of the declaration of independence. This is not surprising at all, as it has been a difficult job for every nation. However, the respect for the sustainability of the

purchasing power of the national currency is critically important. Backing of a national currency can only be a profitability generating productivity for the overall corporate sector so that current spending could be financed through tax revenues without fiscal risks. When public expenditures are not financed through tax revenues, creative central banking starts to emerge and soon becomes general practice. Shortsighted monetary and fiscal policies lead to high and volatile inflation with low growth rates. Printing money for public credits may not allow wealth accumulation or capital formation as most of the times, those credits are corrupted in one way or another. Inflation does not create welfare but full commitment for price stability limits inflation to a certain extent. Money as good as gold is not an easy target without strong dedication to fiscal discipline.

Income distribution may not be re-organised by experimental central banking as well. Strong fiscal performances are needed for a non-inflationary income distribution. National money should be able to fulfil all the functions and no alternatives such as gold or dollars should be able to find a circulation zone within national boundaries. Monetisation of economic relations and activities is necessary for financial deepening. Private ownership with legal base and full property rights are necessary institutional requirements for an efficient and effective allocation of division of labour. Maastrict Criteria's has played a certain role for the convergence of European countries to each other and those rules may be applied to individual countries as well. Otherwise, global imbalances may put extra pressure for financial and monetary stability. Risk management seems to gain increasing importance on the conduct of monetary policy and risks are most of the time global, if not local.

The evolution of central banking in Turkey may be regarded as a good case study both to analyse how to differentiate an inflation creating and inflation controlling central bank within different time horizons. The evolution still continues, and should continue until the sustainable price stability target has been fully achieved.

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National Bank of Serbia 1884 – 2006. Establishment and Beginning of Operation

Milan Sojic*, Ljiljana Djurdjevic**

1. Historical Background for the Establishment of Central Bank

The establishment of the Privileged National Bank of the Kingdom of Serbia coincides with events of paramount importance for the development of the young Serbian state. The official international recognition of Serbia's sovereignty and its entry into the European state system came in 1878 at the Berlin Congress. Four years later, Serbia was proclaimed Kingdom[1].

1.1. Monetary System before the Establishment of the National Bank

The "Serbian dinar" was minted for the first time in 1214 during the rule of King Stefan Prvovencani. As of that time the dinar was minted by nearly all Serbian rulers until the fall of the Despotate in 1459. Money of the Serbian medieval state – the dinar minted in copper and silver – represented one of the most important features of its independence and sovereignty.

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[1] "The sovereignty gained in 1878, as a fundamentally important event, made Serbia a part of the global history, and the founding of the National Bank (1884) established a bridge between Serbia and the process of deep economic and social changes attributable to the modern world. The institution, with its significant role, became a part of historical developments which experienced both the times of peace and prosperity, as well as the years of crisis and delayed progress due to the world wars coupled with dramatic creation, defence and disintegration of the Yugoslav state and, finally, the challenges of the revolutionary experiment.

However, the historical core quality of the Bank, which actually identified its historical position, resulted from two different processes – the national and the world one. It came as the result of the middle class, or rather the modern society created in Serbia and reflected a global breakthrough made by an important financial institution with the role deeply built in the transformation processes faced by the modern world", Academician Andrej Mitrovic, Chairman of the Board of Editors of the *"National Bank 1884–2004"* and *"National Bank Notes 1884–2004"* monographs.

Copper coin issued by King Stefan Radoslav (1228-1233)

Dinar issued by King Stefan Uroš (1243-1276)

Dinar issued by Emperor Stefan Dušan (1345-1355)

Forty-three foreign currencies were used in Serbia after its loss of independence until 1868: 10 types of gold, 28 types of silver and 5 types of copper coins. All currencies were divided into two main groups: the Cesarean (European) and Turkish group. The Cesarean money, especially Austrian money, was deemed better and "cleaner", which is why the Austrian ducats and forints were in the most frequent use. Hence, the perennial strivings of the Otoman Porta (Turkish government) to suppress it, and vice versa. This is why money tariffs, predecessors of today's exchange rate lists, often changed, which additionally impeded the flow of economic activities and money circulation. Apart from this, a kind of customs duty called "cumruk" was charged on certain types of coins on border crossing to and from the country. A plethora of foreign money and frequent changes in their rates of exchange represented such a hindrance that business transactions were concluded with a special clause determining the type of money to be used. Original tax groschen and later on bazaar groschen complicated the matter still further.

The first coinage in the liberated Serbia was minted in 1868. It featured the portrait of Prince Mihailo and was released with a view to replacing the then circulating money by the Serbian currency. In order to dispose of large quantities of foreign copper coinage, money was made of copper in denominations of 10, 5 and 1-tax paras. The Law on the Minting of Silver Currency dated 1873, stipulated the dinar as the principal unit of money ("srbljak" according to the first draft of the Law) and full implementation of the principles of Latin Monetary Union. For the first time after the restoration of independence, the monetary system was regulated by law in the not yet entirely liberated Serbia. The new silver Serbian dinar comprised 100 paras (of the then tax rate). In accordance with the provisions of the Latin Union, it was envisaged that coins be minted in denominations of 2, 1 and 0.50 dinars in total nominal amount of 6,000,000 dinars with the fineness of 835/1000 and weight of 10.5 and 2.5 g. The year 1875 was imprinted on coins as the year of issue i.e. the year when the money was placed into circulation.

However, it was not until 1878 that the principal law on money was enacted. It laid down gold backing, but at the same time allowed the minting of silver coinage in smaller de-

nominations, which was detrimental to the intention to introduce a gold-based monetary system. The disproportion between gold money as the currency base and money made of other metals, to be used only for debt settlements, caused the introduction of premium on gold and further complicated currency relations. Such state of currency relations called for prompt establishment of an issuing bank that would resolve the currency problem in a radical way and at the same time provide for greater elasticity in money circulation.

1.2. Money Bureaus and Savings Banks

In mid 19th century Serbia loans were not ready at hand. The need for loans was met by mutual lending between craftsmen and traders; regular interest rate went beyond 12% p.a. (at times even 50%). With the aim of precluding excessive hike in the cost of borrowing, the state itself began extending them from widow and school funds that it disposed with and from the caretaker funds which were under the purview of courts (up to three years, with the annual interest of 6%). Notwithstanding these efforts, the need for the establishment of an institution that would collect uncommitted money and upgrade trade and entrepreneurship by loan approval remained paramount.

The first bank in Serbia was founded with private capital in 1869 under the name of the "First Serbian Bank". Mishaps in the stock exchange operations, and still more in the construction of railway abroad (Rijeka-Karlovac) and loan approval, brought it to financial ruin in 1871. Members of management, most renowned traders, suffered bankruptcy. This had a negative impact on the further development of banking and acted in fact as a deterrent to initiatives to establish new banks in the several years ahead.

The year 1871 also saw the establishment of first money bureaus: Beogradski kreditni zavod (Belgrade Credit Bureau), Smederevska kreditna banka (Smederevo Credit Bank) and Valjevska Stedionica (Valjevo Savings Bank) that extended loans to traders and craftsmen. These bureaus were founded with private capital. In a similar vein, the state started establishing district savings banks for lending to agricultural producers (up to three years, with the annual interest rate of 7%). The founding of the National Bank was also spurred by the establishment of a large number of banking institutions throughout Serbia.

1.3. Initiatives to Establish the National Bank

The entire eighth decade of the 19th century was replete with wishes to establish the National Bank of Serbia; it was desired by both more erudite citizens and the state administration itself. The article "*Present Monetary Crisis*", published in 1854 in *Srbske novine (Serbian Newspapers)* talks about the necessity to establish a central bank. Still, another three decades were to pass before its actual establishment, as some of the initiatives taken during that period fell through.

Namely, when asked by the Ministry of Finance for opinion in the matter of founding the national bank back in 1858, the Merchants' Board pointed out in its reply that "it would not only be good, but imperative to establish a national bank in our country as soon as

possible". Its task would be to issue banknotes that would be valid in the entire territory of Serbia.

Three years later, Constantin de Vaux addressed the Ministry of Finance on behalf of Banque de Commerce de France with a proposal of setting up a French-Serbian bank, with an equity capital worth 4–5 million francs, which would, inter alia, have the privilege to issue banknotes in the territory of Serbia.

Writing a series of articles about state reforms, Svetozar Markovic published in 1873 an article entitled "Finance" where he gave proposals of reforms in the area of finance, which included the establishment of a national bank by domestic, state-owned capital**.**

In 1875, the "Proposal of Statutes of the Privileged Bank of the Serbian Principality" was submitted to the National Assembly. It was requested thereby that the concession for the establishment of the National Bank be given to "any company founded in or out of the country, to any company incorporated with the national and foreign capital".

Four years later, in 1879, Vladimir Jovanovic, minister of finance submitted to the National Assembly a proposal for the establishment of the Serbian National Bank, known as "Bukieu's Statute" ("Statut Bukijev"), based on the officially concluded contract between him and Belgian banker Bukieu. This too was turned down.

The main characteristic of most proposals was to establishment the National Bank with predominantly foreign capital. It was believed, at the highest state level, that the bank cannot be established with domestic capital. True, some of the more affluent merchants endeavored to convince the government of the feasibility of establishing the National Bank with domestic assets only. The 1881 offer of the General Union, which at the time was building the Belgrade-Nis railway, was considered particularly detrimental to the national interests. The Bank went bust before the Assembly had time to debate on its offer. The bankruptcy of this bank fostered negative attitudes towards foreign capital. Protests against foreign capital were voiced in the domestic press throughout 1882; this came as a result of rather costly experience with Bontoux, representative of the General Union, and his financial affairs.

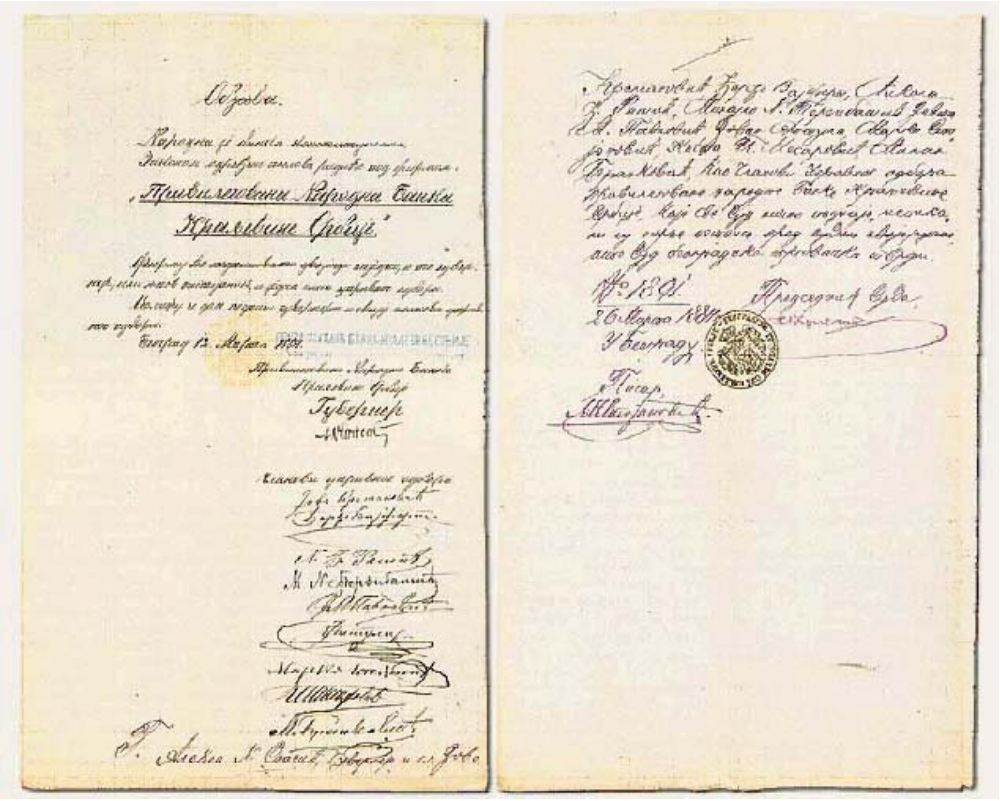
2. Establishment of the Privileged National Bank of the Kingdom of Serbia

Late in 1882, the Assembly of the Kingdom of Serbia adopted **the Law on the National Bank**, subject to which the National Bank was to be established as a privileged private institution, in the form of a joint-stock company and under strict government supervision.

The prevalent view was that the National Bank should be **established with private capital**, but the issue of whether this capital should be domestic, foreign or mixed remained outstanding.

In order to resolve this issue, a conference was organized on May 20, **1883** ("May Conference"). **The May Conference** was attended by approximately 150 most reputable merchants and entrepreneurs from entire Serbia. After a long debate, on May 24 the Confer-

ence decided on the wording of the Statute, which included a provision that bank's primary stock should consist of domestic capital only. The subscription of National Bank's shares was beyond all expectations.



Following the successful subscription of primary stock on **March 16, 1884, the Managing Board was established.** This date is therefore considered as the day of establishing the National Bank. The Managing Board proposed three candidates for the first National Bank Governor. **Aleksa Spasic**, the then Government Minister without portfolio, was appointed **Governor** subject to King's Decree. After completing all preparatory activities, the Privileged National Bank of the Kingdom of Serbia opened its doors to the public and started working on July 2, 1884.

In the early days, the National Bank of the Kingdom of Serbia was located in the very heart of Belgrade, in Knez-Mihailova Street. In 1890, it moved into a representative, purpose-built building in Kralja Petra Street, in which it has remained to this day. The National Bank building was designed in the style of neorenaissance academism by the acclaimed Viennese architect Konstantin Jovanovic, son of Anastas Jovanovic, the first Serbian lithographer and majordomo in the court of Prince Mihailo Obrenovic.

2.1. Organization of the National Bank

The National Bank was originally organized after the model of the Belgian National Bank, which, at that time, was considered to be one of the best-organized institutions of the kind in Europe. Namely, as Serbia did not have enough experts for running issuing bank operations, it requested assistance from the Belgian National Bank, which sent Charles Boschman, Head of Accounting, to Serbia. It is Mr. Boschman who laid down a solid foundation of National Bank's organization.

The bank had 19 employees of which 14 clerks, 3 assistant clerks, a government commissioner and a governor. As in Serbia there were not enough people qualified to work in an issuing institution, 9 of a total of 14 clerks came from the Austro-Hungarian Empire, i.e. from the Serbian population that inhabited Vojvodina.

When it began its operations, the National Bank used a ceded spare 100-frank banknote of the Belgian National Bank, in order not to lose time with preparing banknote form, type and manner of printing. This was the first Serbian banknote of 100 dinars in gold. Banknote design was printed in the Belgian National Bank in Brussels, on watermark paper that Serbia had previously prepared for printing banknotes in 1976, whereas serial numbers, date of issue and control numbers were printed in Belgrade. The banknote was signed by the Governor and one member of the Managing Board, in the presence of the government commissioner.

The initial organizational structure of the National Bank remained unchanged until the end of World War I, when the issuing institution was reconstructed to become the central bank of the newly formed state.

2.2. Management

According to the Belgian form of organization, Shareholders Meeting that elected both Managing and Supervisory Boards was the principal body in the Bank. As Governor was at the same time chairman of all management bodies, it was him that interpreted Managing Board's stance to the Shareholders Meeting and vice versa.

In accordance with the 1883 Law and Statutes, as amended until 1920, the National Bank had the following management bodies:

1. **Governor** represented the link between government interests, Bank's management bodies and shareholders. He was Chairman of the Shareholders' Meeting, Senior Board and Managing Board. Governor was appointed subject to King's Decree, at the proposal of the Minister of National Economy, and was selected from three candidates, proposed by the Managing Board. Candidates had to be members of the Managing Board, Serbian nationals with permanent residence in Belgrade, and could not be members of the managing board of a joint-stock company.
2. Until 1920, there was also one **Vice Governor**, employee of the bank, who substituted for the Governor in Governor's absence. This employee had to be member of the Managing Board, and as such had to meet the requirements that applied to those members.

3. **Senior Board** comprised members of Managing and Supervisory Boards. It designed proposals of profit distribution, which it then submitted to the Shareholder's Meeting. Its remit included all questions related to money issuing, selection of Discount Board members and decisions on the establishing of branches and agencies.
4. **Managing Board** was the principal management and executive body at the Bank. Until 1920, it comprised 12 members that had to have permanent residence in Belgrade and had to hold Serbian citizenship (for at least seven years). The Managing Board set interest rates, determined quotas of funds necessary for the Bank's operations, employed and dismissed staff, prepared final reports on Bank's operations and on annual accounts for the Shareholders' Meeting.
5. **Supervisory Board** was constituted in 1885 and had 7 members, selected by the Shareholders' Meeting each five years. This board was in charge of supervising overall operations of the National Bank: review of business books and cash vault, approving budget and balance sheet, review of decisions on changes in interest rates.
6. **Shareholders' Meeting** was the principal body of the Bank. Regular meetings were held annually. In these meetings, annual report on Bank's operations and the proposal on profit distribution were adopted, and members of Managing and Supervisory Boards selected.
7. **Discount Board** was constituted in 1885 for the purpose of evaluating the value of bills of exchange and issued securities (warrants) submitted for discount to the Bank. It had 9 members, selected by the Senior Board each three years.
8. Government supervision was exercised in part by appointing Governor by means of King's Decree, at the proposal of the Minister of National Economy, but mainly through the institution of **government commissioner**. The Law on the National Bank prescribed that government commissioner be appointed at the proposal of the Minister of National Economy. This commissioner had full authorizations in controlling all operations of the Bank. As specific form of supervision meant that before making certain decisions it was necessary to obtain approval of government authorities. Government approval was most often requested with respect to issuing activities.

2.3. National Bank's Task and Scope of Activity

From the day when the bank was incorporated until the end of World War I, the Bank operated primarily as a credit bank that also engaged in issuing paper banknotes. Subject to the Law from 1883, the objective of the National Bank was to "upgrade trade and economic activity in the Kingdom of Serbia by means of inexpensive capital and well-regulated credit". This legal definition of the National Bank's objective was included in all laws on the National Bank until the enactment of the Law from 1920.

As, according to the original Law on the National Bank, central bank's remit included many banking activities that clashed somewhat with the nature of the issuing business, some of the old activities were abolished, and new ones introduced in their place through subsequent regulatory amendments. Efforts were invested in protecting the Bank's liquidity and the security of its investments. Until 1920, all laws specified that the Bank should perform the following activities:

1. banknote issuance;
2. purchase and sale of silver and gold;
3. discount and rediscount of bills of exchange and warrants;
4. extending loans against collateral in gold, silver and securities;
5. extending current account loans to money bureaus (starting with the 1893 Law);
6. discount of government loan or government-guaranteed loan coupons;
7. receiving money (deposits) to current account without interest, and issuing cheques and money orders in that respect;
8. collections in the country and abroad;
9. making payments and enforcing claims for the account of the government;
10. mediation at the time when government and other public institutions conclude loans, and
11. purchase and sale of gold, silver, stock exchange papers and other trade valuables for the account of third persons (the regulation on commission operations remained valid until the Law from 1931, when these operations were significantly narrowed to include only operations for the account of banks in the country and abroad).

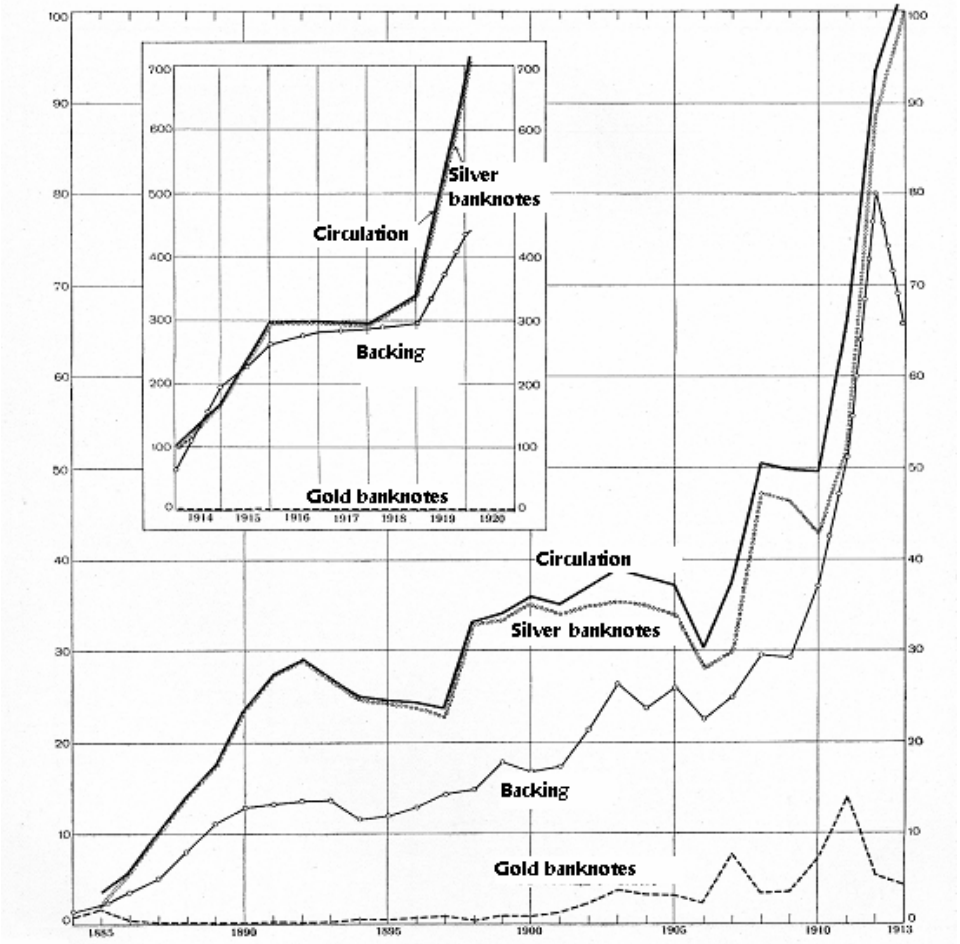
2.4. Issuing Activity

Principles of safety and liquidity, coupled with consistent compliance with legal obligations in issuing banknotes, occupied center stage in the conduct of money issuing. After certain teething troubles, related to lack of confidence in paper money and the value of the first banknote, Bank's operations stabilized already at the end of 1885. The legally defined minimum coverage for banknotes in circulation, which amounted to 40% in gold, was invariably observed. In unstable and bad agricultural years, dinar coverage was much higher than prescribed in the Law (after the customs war with the Austro-Hungarian Empire, gold backing at the end of 1906 stood at 74%, during the First Balkan War in 1912 at 86%, and in the first year of World War I at even 116%).

Figure 1

Backing and Banknotes in circulation (1884–1920)

(in million dinars)



Source: NBS Archive.

Intensified money circulation in early 1890s gave a boost to all operations of the Bank: lending to economic sector and government, interventions in the gold market, and strengthening of the metal base. Monay circulation was, as a rule, highest in autumn, at the peak of agricultural activities. However, the surge in circulation was attended by an increase in the premium on gold (*agio*)[2]. This was the result of a range of bad years, high external borrowing, unregulated finance and adverse political conditions. The Bank tried to prevent such premium growth by selling gold in exchange for silver banknotes, but it was blamed for provoking a sudden surge in circulation that was not used for crediting the economy. Moreover, such intervention led to a situation where metal backing and money circulation stood in inverse proportion: gold was dominant in the structure of metal backing, while there were around 95% of silver banknotes in circulation.

The Government believed that gold backing could only serve for issuing gold banknotes, whereas the issue of silver banknotes must be based on silver backing. It consequently ordered that banknotes be withdrawn over the period of five years, after which only one third would remain in circulation. This entailed that credits be reduced by 20% each year, which the National Bank did, along with the warning that such "deflation will have extremely adverse consequences on the national economy". This was the beginning of state interventionism in National Bank's operations.

Such deflationary policy had adverse consequences on lending by money bureaus and economic life was practically stifled. In spite of permanent sale of gold, premium reached a record level of 19%. The Government realized its mistake and restored the earlier practice according to which metal backing for banknotes in silver could be in silver or gold, or both metals. At the same time, the amount of banknotes in silver was maximized, regardless of the level of backing.

As the National Bank had warned, limiting total circulation of banknotes in silver proved to be a bad solution. The halt in economic activity led to a slowdown in budget inflows, whereas foreign debt obligations kept maturing. The solution was found in the contractual regulation of the relations between the Bank and the state, which was confirmed in the Law from 1904. This gave government a possibility to borrow temporarily in respect of state coupons for working capital, while all previously extended government credits were consolidated. As a result, over the next several years, economic conditions were stabilized, and there was a strong upswing in the economy.

[2] Premium represented an additional payment in silver amounting to the difference between the nominal values of gold and the national unit of money. It can therefore be said to represent an indicator of depreciation of the national currency against gold, as the internationally recognized legal tender.

2.5. Credit Policy

Until 1920, organizing credits in the Kingdom of Serbia was the principal task of the National Bank. That is why it can be said that the central bank was as a credit, rather than issuing, institution in this period.

At the time when the National Bank was founded, credits in Serbia were costly: interest rate on first-rate bills of exchange ranged from 9% to 11%; in the years to come it gradually declined**,** in order to reach 6–8% in Belgrade and 8–10% in provincial Serbia in 1892. Before the outbreak of World War I, per annum interest moved in the above range, with minor deviations.

Until 1920, lending agencies had a privileged status with the National Bank, and were approved credits at the interest rate which was 0.5%, 1% or 1.5% lower than the general interest rate. In this way, the National Bank stimulated the development of commercial banking, creating conditions for country's economic prosperity.

The annexation of Bosnia and Herzegovina in 1908 brought about a range of disruptions in the then Serbia. Fears of a possible war led to large outflow of gold and withdrawal of savings deposits, resulting in a complete suspension of lending. A similar situation happened before the Balkan Wars.

The Privileged National Bank of the Kingdom of Serbia channeled lending activities in two directions: it granted credits to economy and government**.** As budget expenditures almost invariably exceeded budget revenues, the government was compelled to seek additional funds.

The budget deficit was financed by external borrowing and by obtaining funds in the country, via borrowing with the National Bank and launching public loans.

2.6. Country's External Debt

It was in 1862 that Serbia addressed foreign countries with a loan request for the first time. Until then, it had no internal or external debts, which made it unique in all of Europe. However, accelerated preparations and the need to arm its forces for final liberation put a large financial strain on Serbia, and notwithstanding the attempts of Prince Mihailo Obrenovic, there were still no real conditions for launching a public loan.

It is for this reason that Serbia, based on a Russian guarantee, requested a loan abroad. On September 12, 1862, in London, it was granted a 150,000-ducat loan with the maturity of 50 years, interest rate of 6% and 2% to be paid in respect of repayment. Only six months later, Serbia repaid the debt. Serbia's next loan was approved on same terms, based on a Russian guarantee, in London in 1867, only this time it amounted to 200,000 ducats.

During final preparations for liberation war against Turkey, Serbia again addressed the international community with a loan request. However, as creditors were not confident about the final outcome of the war, all attempts at obtaining a loan fell through. As, in the meantime, the dinar was established as the national currency, Vladimir Jovanovic, Minis-

ter of Finance, tried to obtain funds by launching a loan and issuing government bonds, with the maturity of five years and interest rate of 8%. The loan had to be compulsory in character: "All persons are required to give as much as the municipal council orders them to." However, as it turned out, funds collected from this internal loan were not sufficient, as trade and "economic activity" in the then Serbia were in initial stages of development, and there was no industrial production whatsoever. The necessary money was obtained in 1876, when, after numerous difficulties, the Russian government ordered three of its banks to approve a loan to Serbia.

After the liberation war, when Serbia's independence was formally recognized in the Berlin Congress, total external debt reached 39.5 million dinars, with internal debt at 24.7 million dinars.

As government finances were in some disorder, since 1880 the government was forced to look for new sources of income in order to set off the budget shortfall. The obtaining of state independence in July 1878 enabled Serbia to appear in Paris and Berlin markets, and in the Viennese market, which at first was somewhat weaker. After borrowing small amounts abroad during the 1860s, in 1881 Serbia took its first foreign loan in the modern sense of the word. This loan, earmarked for railway construction (railway lines along the Morava River), was granted by the chief charge d'affaires of the General Union from Paris. In addition to railway constructions, these external loans were also used for mining development, introduction of modern weaponry and intensified foreign trade. Serbia itself offered an increasing number of possibilities, as domestic capital was gradually being generated, primarily through trade activities.

A crucial turning point in running government finances occurred in 1902**,** when the Law on Budget was enacted at the insistence of Dr. Laza Pacu. This law proscribed the entry of any unrealistic items in the revenues account. Although budget deficit was recorded next year as well, this was followed by a period of a balanced budget or even budget surplus**.** Owing to such budget policy, external debt consolidation and good agricultural years which led to a positive trade balance, Serbia recorded a strong economic upswing. Since 1906 until 1910, budget revenues exceeded budget expenditures, and the position of the National Bank improved significantly: a large part of its credit potential could now be directed to lending to economy. Premium on gold practically disappeared, and prices were stable.

The National Bank of Serbia was incorporated and started its operations against a background of difficult, but successful establishing of economic ties between the newly recognized Serbian state and the world. The Balkan wars (1912 – 1913) and then World War I disrupted strong economic growth that gathered momentum in the first decade of the 20th century. However, in spite of war difficulties, the National Bank's operations were not discontinued.

3. Two Decades of Success Against A Background of Political Crises

The only year in which the National Bank operated at a loss, although this loss was insignificant, was the year of its establishment. Loss was due mainly to a lack of trust in paper banknotes and the size of the first 100-dinar banknote. After it placed ten-dinar silver coins in circulation in 1885, the Bank's revenues began rising and profit was recorded. The share of expenditures in gross revenues of the Bank ranged from 23.7% (1885) to 54.6% (1887). A turning point in business success occurred in 1903 when the issue of government borrowing was regulated and the Bank was able to channel more funds into lending to economy.

As the National Bank was a successful joint-stock company, since the formation of money stock exchange, the price of its shares grew constantly and was well above par. Average annual yield on its shares was higher than that of other companies, and most frequently ranged between 8 and 12%, or 5.5% on average, relative to the par value of shares. The lowest percentage was recorded in 1914 (2%).

Business success of the National Bank in the above period resulted exclusively from the expansion of its regular activities. By pursuing a policy of low and stable interest rates, the National Bank gave up the possibility to boost its earnings by raising interest rates. The fact that the discount rate of the National Bank stood at 6% and remained unchanged for 38 years**,** and that Bank's other interest rate were constantly below price growth rates and roughly 5% lower than in other money bureaus and banks, demonstrates the Bank's commitment to accomplishing its principal task: "to upgrade trade and economic activity by means of inexpensive credits".

4. Seven Names for One Institution

The National Bank has managed to preserve its 122-year continuity, although it had to be evacuated from the country during both world wars and although its name changed seven times to reflect changes in the names of the country, its territories, regimes and ideologies:

1884 Privileged National Bank of the Kingdom of Serbia;

1920 National Bank of the Kingdom of Serbs, Croats, and Slovenians;

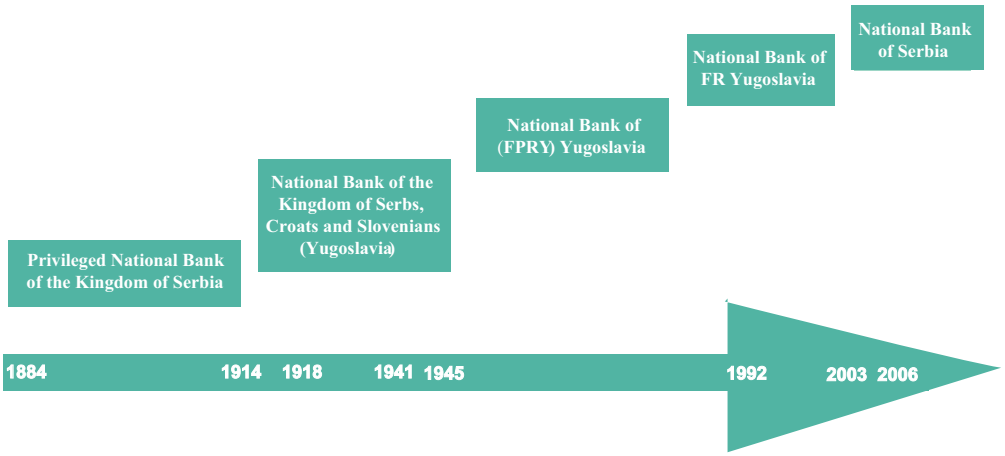
1929 National Bank of the Kingdom of Yugoslavia;

1946 National Bank of the Federal People's Republic of Yugoslavia;

1963 National Bank of Yugoslavia;

1992 National Bank of the Federal Republic of Yugoslavia;

2003 National Bank of Serbia.



After World War I and the union of South Slavs, the Privileged National Bank of the Kingdom of Serbia became the National Bank of the Kingdom of Serbs, Croats and Slovenians and was in charge of operations on the entire territory of the Kingdom. In 1931 monetary policy became its primary function, with credit policy coming second. The first and foremost task of the Bank, whose name changed to National Bank of the Kingdom of Yugoslavia in 1929, was to safeguard money and maintain its stability.

During World War II, the Bank operated from its representative office in London. In September 1946, the Bank was nationalized and its name was changed to the National Bank of Yugoslavia. Although the Yugoslav Republic succeeded to the Yugoslav Kingdom, these two forms of state organization were completely different, both ideologically and politically; for the National Bank, this meant that its operations had to be adapted, but also that it needed to observe the operating principles arising from the purpose and practice of a central issuing institution.

Subject to the Law on the Implementation of the Constitutional Charter of the State Union Serbia and Montenegro (2003), the National Bank of Yugoslavia was designated as the organization of the member state of Serbia. The Law on the National Bank of Serbia (2003) prescribed its position, organization, authorizations and functions.

Today, the National Bank of Serbia is organized as any other modern central bank. Its principal objective is to achieve price stability. Its additional objective is to preserve financial stability. The principal functions of the National Bank of Serbia include deciding on and conducting monetary policy, conducting dinar exchange rate policy, safeguarding and managing foreign exchange reserves, issuing banknotes and coins and supervising payment and financial systems. Its supervisory function includes supervision of banks and other financial organizations, insurance supervision, supervision of voluntary pension fund management companies and financial leasing supervision.

The history of the National Bank is that of constant efforts to ensure necessary economic and financial progress, and it is the basis of National Bank's present commitment to cre-

ating a modern and efficient financial sector, as support to economic development in the transition period.

For each country in transition, the central bank plays a key role in providing a solid basis for accelerated economic development. The National Bank of Serbia is aware of this role and will not only give support but will also forefront reform processes that should contribute to efficiently bridging the gap between Serbia and the European Union that has been formed over the past decades.

"At present, the National Bank of Serbia will reaffirm the role it has had throughout its history – to suggest and launch necessary processes and undertake unpopular measures, but always exclusively with a view to achieving long-term sustainable economic growth and development of the country, drawing on its 120-year long tradition".[3]

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The Monetary Institute of Slovenia (A resistance movement's attempt to establish a bank of issue in occupied Europe)

Zarko Lazarevic*

The tradition of currency reforms in Slovenia is a long one. Actually, it was a constant of the twentieth century. In 1918, on joining the state of Yugoslavia, the Slovenes abandoned the crown and adopted the Yugoslav dinar. The occupation during the Second World War brought with it a great number of different currencies. After the war, under the new socialist/communist system, a further change of currency could not be avoided, although at least there was continuity as far as the name was concerned. Despite great waves of inflation and a variety of forms, the dinar survived as a means of payment right up until the break-up of the Yugoslav state in the early 1990s. This was when Slovenes obtained their own currency for the first time, along with an independent state. In the autumn of 1991 the tolar entered into circulation in the territory of Slovenia. In the course of just one century, the inhabitants of Slovenia experienced and used no fewer than seven currencies or nine if we include their derivatives.[1]

Such a variety of currencies speaks volumes. It is evidence of a long period of instability with great national upheavals that were the result of political processes. And within this variety of currencies I would like to continue by describing the situation in Slovenia during the Second World War. A slightly greater emphasis will be placed on the brief existence of the unique bank of issue that operated in a part of Slovenia's territory during the Second World War. This was the Monetary Institute of Slovenia, a bank of issue founded in 1944 by the Slovene resistance movement. Before this, however, we need to give a basic outline of the situation in Slovenia during the Second World War.

The war began on Yugoslav soil on 6 April 1941 with the bombing of Belgrade. Simultaneously, the military forces of the neighbouring countries – Italy, Germany, Hungary and Bulgaria – crossed the national borders. Following the capitulation, the occupying forces divided up the country. Slovene territory was divided among the Italians, the Germans and the Hungarians, who incorporated these areas into their own states. The majority of Slovene territory fell to Germany, while a small part of eastern Slovenia (the Prekmurje

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[1] Slovenska novejsa zgodovina. Od programa Zedinjena Slovenija do mednarodnega priznanja Republike Slovenije 1848–1992. Ljubljana, 2005.

region) was seized by Hungary. The Italian-occupied area was known as the Ljubljana Province and included the area south-west of Ljubljana in the direction of the former Yugoslav-Italian border. The Italians and the Hungarians retained the existing administrative divisions. The Germans, on other hand, carried out an extensive administrative reorganisation in their area. At the same time, all three occupying forces removed Slovene personnel from the higher administrative bodies.[2]

Following the occupation, the territory of Yugoslavia was divided into seven currency zones. Slovenia, for its part, was divided into three currency zones matching the three occupation zones. In the part of Slovenia occupied by the Italians, the Italian lira was in circulation. The exchange rate for Yugoslav dinars was set at 100 lire to 260 dinars. The Italian occupying authorities set a temporary exchange rate during the very first days of the occupation. Within fourteen days of the occupation the lira was introduced as legal currency but its use was not yet compulsory. On 26 April, taking dinars into or out of the occupied zone was prohibited. Later, a three-currency system was introduced, the three currencies being the lira, the Albanian franc and the dinar. Dinar transactions were only permitted in the occupied areas. Although the Italians had hastened to set a temporary exchange rate, they were the last of the powers occupying Slovene territory to tackle the actual abolition of the dinar as a means of payment. The change in currency was implemented by the Italian central bank, the Banca d'Italia. The replacement of the dinar was achieved relatively quickly, in the space of a week. Individuals and institutions were also obliged to exchange securities issued in dinars. The exchange rate used was over twenty-five percent more favourable for the holders of dinars than it would have been under the rate originally set. In the part of Slovenia occupied by the Italians, the lira remained valid even after the capitulation of Italy. This zone, called the Ljubljana Province, remained part of the Italian monetary system despite the German occupation and shared with it the fate of the devaluation of the lira.

Those in the greatest hurry to replace the Yugoslav dinar were the Hungarians: by the second half of May 1941 they had already introduced their own currency, the pengö, as the only legal tender. The German occupying forces proceeded slightly differently with the replacement of the dinar, opting for a staggered changeover. An interesting situation existed in the German-occupied area during the interim period before the final changeover, with three currencies in circulation at the same time: dinars could continue to circulate until further notice, but meanwhile 'Reichskreditkassenschein' (vouchers) and Reichsmarks were introduced, but only in the form of small change: the circulation of higher-denomination coins and notes was not yet permitted in Slovene territory. This transitional situation lasted for two months. On 15 June, the German authorities began to implement the definitive monetary changeover. The dinar was abolished as a means of payment, as were the Reichskreditkassenschein used by the German army. The Reichsmark

[2] Arhiv Slovenije, Ministrstvo za finance LRS, fasc. 152; Lazarevic Zarko– Princic Joze, Zgodovina slovenskega bancnistva. Ljubljana, 2000, p. 165–173.

became the only legal tender in the occupied territories. The replacement of currency at an exchange rate of twenty dinars to one mark continued until the end of June 1941. All pre-war dinar claims were also converted to Reichsmarks, provided they related to the German-occupied zone. At the same time, the German foreign exchange regime began to apply, with the dinar also subject to it from the day of changeover.[3]

The role of the bank of issue was taken over by the central banks of Germany, Italy and Hungary. The issuing part of banking operations was adapted to the needs of the occupying authorities. This applied both to credit activities and to payment transactions with other countries. The central German clearing bank deliberately drained the commodities resources of the occupied territories and increased their surplus of claims against Germany. The replacement of dinars with the currencies of the occupying forces caused a depreciation of Slovenia's monetary wealth.[4] The changeover of legal tender undervalued the Yugoslav dinar (by 12 to 15 percent), with the temporary Italian exchange rate being particularly low and undervaluing the dinar by as much as 45 percent.[5]

Under the 1942 Rome and Berlin agreements, the occupying powers were compelled to assume, in addition to claims, Yugoslavia's internal and external debts. They were obliged to settle these debts, including those relating to Slovenia, by means of bonds. In the four months following the concluding of the agreements, they had to replace all Yugoslav state bonds with their own bonds. For the implementation of the agreement, a special offset office was set up in Belgrade at the Yugoslav central bank, which was in the process of being liquidated. The office was run by the Germans, but the Italian state had the right of inspection and participation. The office's job was to keep records and to carry out all functions relating to the division and paying-off of obligations assumed.[6]

During the Second World War, a civil war was fought in part of Slovene territory. Facing each other were the irreconcilable worlds of the resistance movement, headed by the communists, and the units opposing them who, in their fight against the communists, relied on the occupying forces. First the Italians and then the Germans. Funding the Slovene collaborationist units took place within the context of – and with the help of – the financial system of the occupying authorities. The situation became slightly more complicated following the capitulation of Italy. The Ljubljana Province, i.e. that part of Slovene territory occupied by the Italians, remained part of the Italian monetary system even after September 1943. This meant that the Italian central bank was responsible for ensuring that there was a sufficient quantity of money in the Ljubljana Province. Until Rome fell

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[3] Gustin Damijan, Financni viri in denarnistvo narodnoosvobodilnega gibanja na Slovenskem 1941–1945. Zgodovina denarnistva in bancnistva na Slovenskem, Ljubljana, 1987, p. 85- 87

[4] Ugricic Miodrag, Novac u Jugoslaviji za vreme drugog svetskog rata. Beograd, 2000, p. 248.

[5] Gustin, quoted work, p. 86–87; Ugricic, quoted work, p. 248.

[6] Zakon z dne 14. decembra 1942-XXI, st. 1828: Odobritev dogovorov, sklenjenih dne 22. junija 1942, v Berlinu med Italijo, Nemcijo, Bolgarsko, Hrvatsko in Madzarsko, o likvidaciji imovine bivse jugoslovanske drzave in o nekaterih drugih, s tem spojenih financnih vprasanjih. Bullettino Ufficiale per la provincia di Lubiana/Sluzbeni list za Ljubljansko pokrajino, st. 26/1943.

into the hands of the Allies, there were no difficulties. Despite the German occupation, the Italian central bank delivered the necessary quantities of cash in liras to the Ljubljana Province once a month, usually on around the first of the month. It was from this source that the local administration and the services subject to it, including the collaborationist units, were then funded.[7]

Once Rome had fallen into Allied hands, a different period began for the Ljubljana Province. The consignments of lire from Italy first became irregular and then dried up altogether. The local administration and the collaborationist units found themselves in a quandary. They had practically no revenue of their own. Nor could they have, both because of the economic stagnation and because of the ongoing military operations against the liberation movement which controlled a not inconsiderable part of the Ljubljana Province. For a while, in order to settle their obligations, the representatives of the local administration ran up debts with local financial institutions. This source of funds was however soon exhausted. There was a risk that the local administration would be utterly unable to pay off its obligations owing to the great shortage of ready money. Such a situation would represent a major political and social burden. They managed to escape this dilemma by beginning to issue lira vouchers. The lira vouchers were at first issued by the Provincial Savings Bank, the largest bank in the province, authorised to carry out all financial and accounting transactions with other provinces. Before printing substitute lire or a monetary substitute, the representatives of the local administration and the Provincial Savings Bank would also have had to obtain the consent of the Italian central bank. In the area controlled by the local (provincial) government, the inhabitants and businesses were obliged to accept lira vouchers as well as ordinary lira banknotes as legal tender in all transactions.[8]

The resistance movement had its own difficulties because of the currency situation and the lack of cash. For the resistance movement, the question of funding its units and supplying the population in the areas they controlled was especially important. Since it was difficult to get hold of cash, they too soon turned to other means of payment in order to supplement the missing lire. They began issuing bonds as a parallel means of payment, with the promise that after the war the new authorities would recognise these and disburse the equivalent amount in whatever currency was then valid. These actions had their basis in the resolutions taken by the highest representative bodies of the resistance movement.

The capitulation of Italy also brought new challenges for the resistance movement. The amount of territory they controlled increased. In the economic sense, this area was completely cut off from the other areas, and the influx of funds had stopped. The first measure was to try to collect all available lire by force, but this did not bring tangible results. The amount of cash they succeeded in amassing was insignificant. For this reason, the

[7] Arhiv Slovenije, 1643 SNOS, fasc. 521.

[8] Arhiv Slovenije, 1643 SNOS, fasc. 521; Ugricic, quoted work, p. 249–250.

next logical step soon followed. They decided to introduce a parallel monetary substitute.[9]

They began using bonds, known as 'freedom loans'.[10] This monetary substitute was used for transactions within the area under the control of the resistance movement. Lire were still used to pay for supplies from areas outside their control. Towards the end of 1943, the organs of the liberation movement also floated a 'national liberation loan' in order to obtain the necessary cash. The interest rate was set at 3 percent and the repayment period was a maximum of one year after the end of the war or the liberation of the country. Interest was to be paid simultaneously with the payment of the principal, which would be revalued in accordance with inflationary depreciation. The bonds were issued in both Italian lire and German marks so as to cover the majority of Slovene territory. And the result? It was not encouraging. They only managed to get around a tenth of the advertised amount into circulation. Various circumstances had conspired to cause this situation, but two elements in particular were responsible: the real lack of cash and, of course, the lack of confidence.[11]

Parallel to these campaigns designed to obtain funds, the Slovene resistance movement began thinking about issuing its own money – particularly since at the beginning of 1944 they were still expecting the war to end relatively quickly. Additionally, the liberated territory, though small, was cohesive, and thus it enabled the leaders to simulate statehood. One of the constituent elements of this statehood was a currency of their own. There is no doubt that the confusion of currencies and the shortage of cash had prevented the establishing of at least basic economic flows in this territory. For this reason, the leaders of the resistance movement decided, in the spring of 1944, to shift monetary transactions to another, more solid and systematic basis.[12]

They founded the Monetary Institute of Slovenia. Its functions were defined very broadly: it would issue lira payment vouchers, keep records of freedom loan bonds, acquire foreign currency for the supply of goods from other parts of Yugoslavia and abroad, buy and sell other currencies, give loans to banks and other commercial entities, regulate monetary and payment transactions, accept savings deposits and operate current accounts, provide a statistical service and prepare a plan for post-war monetary reform.[13] The Monetary Institute of Slovenia therefore combined the functions of a commercial bank and a central bank.

Most interesting for our purposes is its function as a bank of issue. In its founding charter, the Monetary Institute of Slovenia was authorised to issue lira vouchers to the value

[9] Gustin, quoted work, p. 92.

[10] Kopac Vlasto, Obveznice 5% posojila svobode leta 1942; Skerlevaj Milan, Bancne denarne vrednote med ljubljansko ilegalo 1941–1943. Denarno gospodarstvo v Sloveniji med narodnoosvobodilno vojno. Borec, 1969, Vol. 5, p. 403–406, 410–413.

[11] Gustin, quoted work, p. 93–94; Lazarevic-Princic, quoted work, 175–176.

[12] Dolinsek Lavoslav – Ogrin Anton, Denarni zavod Slovenije pri predsedstvu SNOS, Ljubljana, 1954, p. 5.

[13] Ibid., p. 9.

of 20 million lire (10 million 1-lira vouchers, 1 million 5-lira vouchers and 500,000 10-lira vouchers).[14] It is interesting that even the resistance movement opted to continue the validity of the lira, or at least of its name.

It was easier for the resistance movement to take the decision to issue its own money than to put it into practice in everyday life. The Slovene resistance movement did not have the technology available to issue permanent banknotes. Nevertheless, through willpower and a good deal of technical inventiveness, they finally managed to print a modest – though respectable given the wartime conditions – first series of lira vouchers.[15] The first issue began to enter into circulation in June 1944. It was stated on the vouchers that 'the Monetary Institute of Slovenia promises to pay the bearer of this voucher its equivalent in post-war currency'.

The political and monetary authorities of the resistance movement set themselves the goal of entirely removing the Italian lira from circulation. For this reason, from as early as the autumn of 1944 they persisted with an exchange rate that valued their currency at 10% more than the lira,[16] since they were convinced that their money, their lira, had a significantly stronger basis than the occupier's currency. By way of illustration of this conviction, we can draw attention to the revealing words of the director of the Monetary Institute of Slovenia. This is what he wrote: "*It is clear to every reasonable person that our vouchers are better money than the other currencies circulating here, for the simple fact that they are guaranteed by the Slovene national authority with all the property of the state, a victorious state, while the lira, mark and pengö are guaranteed by the banks of issue of states whose military defeat is imminent and whose currencies will as a result be less valuable*".[17]

Nevertheless, the ambition of replacing with lira vouchers the other currencies in circulation in Slovenia was not achieved: by the end of 1944 a total of just over 14 percent of the original issue of lira vouchers had entered circulation. This was undoubtedly partly due to the delay in further issues. The eagerness to issue money cooled somewhat as a result of disputes with the Yugoslav central leadership over Slovene competences in the issuing of money. The fact that the end of the war seemed ever more distant was certainly a contributing factor. Subsequent issues of lira vouchers were printed in Slovenia in the case of the smaller denominations, while higher-denomination banknotes were printed at the beginning of 1945 in Belgrade, which had already been liberated.[18]

By the time the war ended the lira vouchers of the Monetary Institute of Slovenia had not become the predominant means of payment even in the territory controlled by the resistance movement. The issue was too small to be able to cover real needs and gradually sup-

[14] Gustin, quoted work, 98; Lazarevic-Princic, quoted work, 178–179.

[15] Jordan Vlado, Kako smo tiskali partizanski denar; Simcic Branko, Kako smo risali partizanski denar. Denarno gospodarstvo v Sloveniji med narodnoosvobodilno vojno. Borec, 1969, Vol. 5, p. 426–432.

[16] Gustin, quoted work, p. 99.

[17] Arhiv Slovenije, 1643 SNOS, fasc. 521.

[18] Gustin, quoted work, p. 99.

plant the Italian lira as a means of payment. It was even less successful in the areas of Slovenia that were controlled by German occupying forces. Willpower and boldness could not make up for the absence of real strength.

Within the context of the studies[19] on post-war monetary reform that were carried out at the Monetary Institute of Slovenia, it is worth highlighting two positions that were very characteristic of that period – not only in Slovenia but also elsewhere in Yugoslavia. According to the first proposal, all the occupation money would be declared invalid after the end of the war. New money would be placed into circulation, via the purchase of goods, services and the payment of income. This position was justified by the argument that it corresponded to the conditions surrounding the military and political defeat of the occupying powers. The bearers of this money were presumed to be, for the most part, collaborators with the occupying powers or members of the wealthier classes of the population, who would simply have to accept this loss. The other position was based rather more closely on the reality of the situation. It took into account the wider economic, social and political aspects. Its proponents claimed that the new state had to recognise the value of the occupation currency and remove it from circulation by exchanging it for the new money. At the end of the war it was the second position that prevailed.[20]

After the end of the Second World War the Monetary Institute of Slovenia understandably lost the right to issue money. All rights of this kind were transferred to the Yugoslav central bank and even the Monetary Institute of Slovenia itself became more and more like a mere branch of the central institution in Belgrade. The Monetary Institute of Slovenia ceased to exist before the end of 1946, when it was incorporated into the Yugoslav central bank.[21] Thus ended the story of a unique institution that in wartime conditions had attempted to issue money for a resistance movement which had neither a clearly or firmly defined territory nor the material conditions to run its own monetary and issuing policy.

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Constructing Historical National Accounts for Greece (1833–1939): Sources and Methods

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1. Introduction

One of the first contentions that was proven wrong when systematic research into the subject of estimating National Accounts magnitudes for Greece commenced, was the widely held view that there was a complete lack of relevant data for the period in question. Based on this contention, initial aspirations were low, the original plan being to make estimates for certain benchmark years and extrapolate for the periods in-between by using indicators[1]. In this context, monetary data, which was expected to be available, were contemplated as the best possible basis upon which to build the desired indicator. Other magnitudes for which data were expected to be available and were therefore considered for similar use, were public expenditure and foreign trade. Naturally, when the existence of adequate production data, sufficient to make annual estimates of relevant magnitudes in a proper manner, was established, the original plan was abandoned.

In retrospect, referring to pre-WWII Greece, it appears difficult to understand why the widely held conviction that there were not enough data for such a projects to be undertaken, came to be considered "common sense" among Greek economic historians and economists[2]. It was always known that the Department of Statistics was established, as a Service of the Office of Public Finance, in the very early days of the new State's existence and operated continually throughout the period. The fact that it conducted the first population Census in 1828 and continued to conduct such censuses on a regular basis was also pretty well known[3]. What was probably less known, although this obviously cannot apply to the experts, was that it conducted the first full scale Census of Agricultural Production in 1860 and published annual Commercial Tables, reporting on the country's Imports and Exports, since 1851.

Furthermore, the National Bank of Greece (NBG), which was founded in 1841 and func-

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[1] The original goal being to make some improvements over the estimates of Bairoch (1976).

[2] These comments refer to the early-1980s.

[3] Population censuses have been conducted regularly on ten year intervals since 1828.

tioned until 1928 as a quasi-central bank, also operated a supplementary data collecting mechanism. This too was known, as the NBG continues to exist up to present day and its archives, although not organized until recently, have been preserved and were available to the public. The signs were therefore there that useful data were collected in the 19th century.

Having established that a decent data collecting mechanism did exist, the question became whether these data were published and, more importantly, to what extent had the publications survived the passage of time. The commonly held view that no data existed may be explained by assuming that everyone was convinced that this was not the case.

The extensive and careful research undertaken, albeit extremely laborious and time consuming, revealed that the answer is, in both cases, affirmative. True enough, as the results eventually achieved confirm[4], sufficient data, adequate to use in the context of the task of making decent annual estimates of basic macroeconomic magnitudes, were published and did exist. Furthermore, in spite of the shortcomings of the basic data collecting mechanism, i.e. the Statistical Service[5], the quality of these data can be considered adequately satisfactory.

Finding these publications was not easy. Although quite a few were located at the places one would expect them to be, i.e. the National Library of Greece, the library of the Parliament, the archives of the NBG or the Gennadeios Library (of the American Archaeological Mission), others were found at places one would not have suspected. These range from small specialized philological libraries, some outside Athens, to bookshops selling old books, this including even flea market shops. Finally, access to British Parliamentary Papers was obtained at the British Museum, whereas some publications were found through interlibrary loans by use of the Library of the University of Kent at Canterbury.

From this account it should be obvious that the process of discovering these publications was not only time consuming but also quite costly in financial terms and, at times, a frustrating experience.

2. The Sources

One can classify the sources by using two alternative criteria[6]. The first regards the nature of the author or the publisher. In this respect, the sources in which the author has an official capacity or the text is published by a government or quasi-government agency are grouped in the first category. Those in which neither the author nor the publisher is associated with the government, in the second.

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[4] Two attempts to estimate the GDP of pre-WWII Greece have been completed: Kostelenos (1995) and Kostelenos et al (forthcoming).

[5] In reviewing the operation of the Statistical Service since its establishment and up to his time, Kladas (1932) notes that the Service's main problems were a chronic shortage of funds and administrative shortcomings stemming from the fact that it was not independent. According to the author, these may have resulted in some limitations as regards to the extent of its coverage, but did not affect the accuracy of the figures reported.

[6] See table 1 in the Appendix.

The second criterion used is that of the nationality of the author or the organization publishing the information. Here one discerns Greek and non-Greek authors or publishers.

In general one would tend, off hand, to say that official publications are more reliable than unofficial ones. As regards the nationality criterion, for reasons that will become apparent later on, reliability might be a little more difficult to gauge.

2.1. Official & Unofficial Sources vs Greek & Non-Greek Sources

Sources are classified as official when published by a Greek or non-Greek government department or agency (e.g., the General Statistical Service of Greece, British Parliamentary Papers) or an international organization (e.g., the League of Nations). In addition one can classify here publications of semi-official or quasi-official organizations such as the National Bank of Greece[7]. A publication is also classified in this category when the author has some form of an official capacity (i.e., a minister, an ambassador).

Starting with **Greek official sources**, the most important are those published by the General Statistical Service which, as already noted, was established as a special service of the Ministry of Public Finance. Referring to the earlier years of the period, one must note the importance of the Agricultural Census of 1860[8], which for quite a few products, also included production data (values and quantities) for 1858 and 1859. In addition, for the same period one is compelled to stress the work of one of the agency's earliest directors, A. Mansolas, who published reports regarding various aspects of the Greek Economy in 1867 (Statistics of Greece), 1872 (Rapport sur l' état de la Statistique en Grèce)[9], 1876 (1. Statistical Information about Greek Agriculture in 1875, 2. Rapport sur l' état de la Statistique en Grèce[10] and 3. Statistical Information about Greek steam powered industrial establishments) and 1878 (La Grèce à l' Exposition Universelle de Paris en 1878 – Notions Statistiques).

After Mansolas retired, the publishing activities of the Statistical Office ceased for a considerable period, a fact that appears to reflect a drop in the overall efficiency of the agency's operation[11]. Whether this can be attributed to the inefficiency of the successors of Mansolas, to the general political turmoil in the country or to deliberate government policy is not clear. More specifically, from the early 1880s and up to 1910 the only publications of the Statistical Service detected in our research were three population censuses, those of 1889 and 1896, which Kladas considers unsuccessful, and that of 1907. In fact, even the publication of the annual Commercial Tables was interrupted in the 1880s. In spite of the resumption of the publication of the Commercial Tables in the 1890s, the bad period, as regards the publication of Statistics, appears to have ended in the early years of

[7] As noted the NBG operated as a quasi-central bank from its establishment, in 1841, until the date of the foundation of the Bank of Greece in 1928.

[8] Published in 1864.

[9] Presented at the International Statistical Congress of St. Petersbourgh.

[10] Presented at the International Statistical Congress of Budapest.

[11] See Kladas (1932).

the 20th century with and the results of the 1911 agricultural census published in 1914 being an important effect.

After 1910, the Statistical Service published ample works containing production data from various sectors (agriculture, mining & quarrying, forests, manufacturing etc.). Some of these were periodical (e.g. annual statistics of agricultural and agricultural & livestock production, annual statistics of mining & quarrying etc) while others referred to censuses (census of industry for the year 1920). During the inter-war period, the Statistical Office published a great array of statistics ranging from retail prices to fishing, whereas starting in the early 1930s annual yearbooks[12] were published.

As regards the latter part of the period, the publications of the Statistical Service provided the bulk of the data used, at least for most of the sectors of the economy. However, a lack of necessary information in regard to some activities, particularly of the tertiary sector, still remained, even in these later years.

For the period up to the inter war years, the data provided directly by the Statistical Office, i.e. by means of its own publications, was not enough for the needs of the task on hand. The lack of data was more acute for two parts of the period: that of the earliest years, i.e. up to the early 1850s[13], and that between 1880 and 1910. It is for these years that the search turned to other official and non-official sources.

Sticking with the Greek government, one must also note the existence of certain publications of some of the Ministries. In this context, useful data are included both in Government Budgets as well as in Accounts of Government Expenses, which have been constructed and published since the early 1830s. In addition there exist various other works, mostly published by the Ministries in the early part of the 20th century which provide data for the period after the 1890s. Among these one can note the Bulletins of the Ministries of Agriculture, Finance and National Economy (late 1880s -early 1900s) containing data on various activities ranging from agricultural products to emery production. These include the works of Hasiotis & Iasemides (Agricultural Bulletin, data on agriculture), Koronis (Bulletin of Commerce and Industry, data on railroads), Gounaris (Bulletin of Mines, Saltpans and Fishing, data on salt production and Bulletin of Mines, Saltpans and Fishing, data on mining and quarrying), Panagiotopoulos (Bulletin of Mines, Saltpans and Fishing, data on Fishing).

The next group of official sources consists of **foreign publications**. These are of added importance in those parts of the period for which information from Greek official sources is meager. Here one includes various diplomatic reports of the consulars of the European Powers[14], especially of the United Kingdom and, to a lesser extent, France. These contained quite useful data regarding the economy. The question relevant here is how these figures were collected.

[12] The 1930 Yearbook also includes “retrospective” tables containing data referring to as back as to 1860.

[13] 1850 is considered important because it marks the commencement of the regular publication of the Commercial Tables.

[14]These obviously fall in to the category of non-Greek sources.

From the viewpoint of the Powers, the rationale for this interest, besides the political angle, was to ascertain whether the country's financial situation would allow it to service its foreign debt[15]. There is no doubt that pressure would be exerted for the provision of accurate data. From the point of view of the country, it appears reasonable to expect that, given its political dependence on the Powers, it would make available all the information it collected through normal channels while going out of its way to collect any additional information requested. Figures would be provided by the data collecting mechanism of the Greek State, i.e. the Statistical Service, the Ministries and possibly, to a small extent, by local authorities. At this point one can note that some Ministries (e.g. tax collecting officials) and, to a small extent, Local Authorities, did operate an official data collecting mechanism, albeit inefficient, parallel to that of the Statistical Service.

In general, one would expect most of the information provided to the consulars to paint a more optimistic picture than what was true. Setting the subject of accuracy aside, one would tend to accept that, as a rule, the Greek authorities provided the foreign consular with as much as possible of the information requested, which, on some occasions, may have been supplemented by some data collected by the staffs of the foreign embassies.

As regards the UK, these reports were often published as small pamphlets or books[16]. On some occasions such pamphlets were found while, in others use was made of the British Parliamentary Papers. In the case of France, use was made of whatever publications could be found in the form of pamphlets or booklets[17].

Publications of various organizations are also classified as official. Here one can indicatively mention the publications of two non-Greek organizations, i.e. the League of Nations and the Near-East Foundation[18].

Finally, one can also classify as official works published by organizations that can be considered equivalent to official ones such as the National Bank of Greece. It has already been noted earlier on that the NBG operated as a a quasi central bank for most of the pre WW-II period. In this context, the annual reports of the governor often included useful comments and statistical information regarding the economy. In addition, one can note the work of Valaoritis (1902) and the existence of an annual publication, the Economic Yearbook of Greece, which was published in the 1930s and included a plethora of useful data.

Moving onto **Greek authors** having some sort of official status, one must first point out that it is not always completely clear whether the relevant publications were not actually official ones. As a rule these authors held some position either as public servants or in government, whereas the work in question does not appear to have been published directly by the agency they worked for (i.e. it was not printed by the government printing

[15] Pressure exerted by the bond holders of the debt was the main reason for this interest.

[16] One example of such work is that by E. F. G. Law (1891).

[17] Leconte being a good example in this case.

[18] See Bell-Montague (1927).

house). Here one can indicatively[19] mention Lidorikis (1875) who was associated with the Mining Department of the Ministry of National Economy, Rangabes (1867), an ambassador to the USA, Skiadas (1891), associated with the Ministry of National Economy, Tsivanopoulos (1864), whose work was printed by the National Printing House, Samios (1903, 1905, 1906), whose works refer to forestry and who was associated with the Ministry of Agriculture, Kordellas (1865, 1893, 1902), who wrote about mining & quarrying and Tsouderos (1920), who wrote about manufacturing.

Turning to **non-official sources**, one can once again make the distinction according to nationality between Greek and non-Greek. Here it should be pointed out that we are essentially talking about individual authors who appear to have no official status.

Depending upon their motives, the non-Greek authors fall into three groups, although, occasionally, one cannot be absolutely sure in which group to classify a certain author.

The clearest case is represented by Mulhall, i.e. an English statistician of the 19th century whose interest was not focused solely on Greece, as he collected data for all the countries of the world. The same can be said about Martin, as the book he wrote about Greece in 1913 was one of several he wrote about different countries. Finally, if one does not consider the Near East Foundation an official source, one can also include Bell-Montague's previously cited work in this category. The question here, especially in the case of Mulhall, is who provided the authors with the data they produce. The most reasonable hypothesis is that they got most of the figures from official sources, but one can never be absolutely sure.

The other two groups consist of the "Philhellenes"[20], i.e., authors coming to Greece attracted by its classical heritage, writing about the country and providing all sorts of information in their books[21], and authors coming into the country on behalf of the bondholders of the Greek National Debt, in order to appraise the county's finances and ascertain its ability to pay the debt. Grouping the remaining authors in one of these categories is tricky, as their motives were not always perfectly clear.

Among these authors, some of which stayed in the country for a few years, one would include people like Strong (1842), Grenier (1863), About (1867), Sergeant (1878 & 1897), Cheston (1888), Bickford-Smith (1893), Thery (1905) and Lefeuvre-Meaulle (1916). In most cases these individuals would discuss, at some point in their books , their personal relationship with some people of authority, usually Ministers, who would facilitate their quest for data.

Finally the last group of authors consist of Greeks, whose works appear to fall in the category of non-official publications. Here one would include university professors such as

[19]This list is by no means complete. Only a few of the sources actually used are mentioned.

[20] The feeling is that this category was unique to Greece.

[21] In addition to the part that interests us here, i.e. the discussion of the "country's finances" or the appraisal of the "material progress of Greece", these authors would also include some historical notes about the country since its establishment as an independent State, describe cultural aspects and traditions of the population and occasionally include simple stories of everyday life.

Soutsos (1874), Skaltsounes (on industry,1868) and Andreades (various subjects, 1905, 1906, 1913, 1919, 1923, 1928), as well as authors with personal motivations such as Sotiropoulos (agriculture, 1861), Bikelas (1868), Demathas (industry, 1876), Digenis (1877), Moraitinis (1877), Bernardakis (1870, 1885), Georgiades (1886 1893, 1894) and Vlasis (livestock breeding 1905)[22].

Once again the question of where they obtained the data presents itself. Here, the answer varies as some appear to have made their own inquiries (e.g. Demathas, Vlasis) while others may have had access to official sources.

The question of the origin of the figures is important when it comes to appraise their reliability, a question that will be discussed in the next paragraph. Overall, the conclusion one draws from the preceding presentation is that it should be apparent that sufficient data was indeed uncovered, this facilitating the estimation of annual GDP figures for Greece for the entire period since it became an independent State up to WWII.

2.2. Reliability of the Data and of the Estimates

According to the previously cited opinion of Kladas, one has to accept that, overall, the official data are reasonably accurate, although the three distinct periods related to the efficiency of the operation of the Statistical Service are, to some extent, reflected in their quality. This means that the figures from the early 1850s to the mid–1880s are less reliable than those regarding the period after 1910 and more so than those for the period in between. Obviously, the figures for the earlier years, i.e. up to 1850, are the least reliable[23].

In this regard, it would appear that accuracy is not much affected by the methods used to collect the data but more so by extraneous factors pertaining to the overall political climate within the country. As for the methods used, it would seem that they more or less remained the same for most of the period under consideration. More specifically, the use of the questionnaire, which seems to have been the only real development in the methodology employed, became a part of the procedure only during the later years of the period.

In general, the basic manner according to which the data were collected was:

- foreign trade: at the custom's houses by custom's officials or employees of the Statistical Office
- agricultural and livestock production: at the local level by committees consisting of community officials with the frequent participation of tax collecting officials, police officers, schoolteachers and even priests; next, at a more aggregate level, the data were collected at the administrative district's (nomos) capital where personnel of the statistical service were present.
- forestry production: roughly in the same manner as agricultural production, al-

[22] One may also include here certain extensive newspaper articles.

[23] See table 2 (Appendix).

though interest was clearly much smaller.

- mining & quarrying production: in the earlier years the figures used are those collected by the extractive companies. Later on, the figures were collected by officials of the Ministry or the Statistical Office (as the largest quantities of these ores were exported, it is obvious that exports figures, collected at the custom's houses were excellent approximations of production).
- secondary production: the first real industrial census, albeit incomplete, was held in 1917 and the first complete one in 1920. Earlier figures were collected by various officials (e.g. Mansolas of the Statistical Office, Ministries) and private authors (e.g. Demathas).
- finally, prices were formally collected by the statistical office only after 1910. Relevant figures though appear in various sources.

As was briefly mentioned earlier on, one is inclined to consider figures from official sources more reliable than those from unofficial ones. Bearing this in mind one must also not forget that quite a few of the authors associated with non-official publications did actually have access to official data, even to data that were frequently not published[24]. In both cases, i.e., Greeks and non-Greeks, the authors were quite well educated. Of the non-Greeks, some stayed in the country for lengthy periods and their presence did not go unnoticed, this guaranteeing them access to official data. Furthermore, Greek authors, even those not directly possessing official status, may have had similar access to official sources. As a consequence, whereas, as a general rule, the accuracy of the official publications is considered better than that of the non-official ones, the opposite may occasionally be true.

Turning to the particular problems with the data, one must begin by noting that there are quite a few occasions in which figures from two different official publications differ. In some cases these differences can be reconciled[25]. This can be done easily when typographical errors or errors of aggregation are involved. It is a little more complicated when units of measurement are involved, i.e. when the same number is given by different sources to refer to a different unit of measurement[26]. Occasionally the figures differ completely, in which case verification from a third source may be necessary. Finally, there are instances when a choice cannot be made on the basis of the information available or when some figures make no sense whatsoever. Here, one has to use his personal judgement in appraising the reliability of the sources or of the authors involved in order to evaluate the figures and decide what to do. In this respect the use of simple averages was often opted for.

[24] A good example is the work of Tsouderos and the industrial census of 1917.

[25] See table 3 (Appendix).

[26] This was a problem that caused considerable trouble as units of weight and volume were often used in confusing manner (e.g.Kylo vs hectolitre vs some unit of weight, Venetian vs English lbs etc).

Another problem that might creep up is that of a voluntary upward bias in some of the figures. The reason officials might be inclined to overestimate has to do with the country's debt and its ability to service it. Better finances would seem to alleviate fears that the country could not pay, while improving its chances to contract a new loan. Fortunately, it seems that in general such phenomena characterize works discussing the prospects of the economy and not its actual performance (i.e. Skiadas, 1891).

Yet another type of problem has to do with the date a figure is associated. Here, a figure may be given without any indication regarding the exact year it refers to or, alternatively, may be given to refer to different years by different sources. In the first case the year of the source's publication is the starting point in solving the riddle. In the second, the solution is more complicated and factors such as the comparative reliability of sources or the consistency of the figures they cite are examined.

Finally, a fourth type of problem encountered has to do with the exact item (product) the figure refers to. This confusion may be the consequence of the following reasons:

- totals being confused with subtotals. For example the terms wheat, grain, corn, maize, barley, rye, oats, Indian corn and spring corn are often confused and used interchangeably. The same has been observed with various vegetables as well as with ores. Here it is obvious that it takes a lot of double checking and guesswork to clarify matters. Relevant is the case in which only a broader total referring to a group of products is given, whereas disaggregated figures are needed. In these cases, the total would be disaggregated on the basis of previous or latter information.
- inaccurate translation when foreign language sources are involved. Here one can get confused when the products do not have an exact translation or when the term is not known to the author. Occasionally this leads to the grouping together of different products (e.g. various types of beans, peas, lentils etc). Fortunately this is usually a problem with items of lesser importance.

On balance, when compared to similar works undertaken in certain Western European countries, it is felt that the problems regarding the accuracy of the data are similar, or a little worse in nature[27]. Actually, it appears that there are more similarities with the cases in which historical estimates of national accounts magnitudes are made for the 19th century. Overall, all indications are that the figures are reasonably accurate, more so in the latter years, less so in the very beginning of the period and in the 1880-early 1900s subperiod, and that there is no cause to consider the resulting estimates as being that far from the truth. Obviously, for some years the estimates may be less accurate than for others. This, however, is expected with historical Statistics where the margin of error that is considered acceptable is higher than that for contemporary estimates.

[27] In the case of Greece the real weakness, that differentiates her from Western European countries, is the lack of relevant complementary research regarding her economy in the 19th century.

In this respect it suffices to refer to two scales[28] that have been suggested to gauge historical data. The first, the "standard" scale considers such figures to be "firm" (grade A), when they entail an error up to 5%, "good" (grade B), when they entail an error between 5–10%, "rough" (grade C), when they entail an error between 10–25% and "conjectures" (grade C), when they entail an error larger than 25%. By comparison Feinstein changes the limits between grades B and C in considering estimates as good ones when the error is up to 15%.

Concluding, it should be noted that the feeling is that the estimates made, at least those referring to the aggregate magnitudes, can be classified as good, especially if one uses Feinstein's version of the scale. When compared to the totals, the error might be a little larger when it comes to certain disaggregated activities, this, however, being partly a result of the methodology used, a subject which will be discussed in the next section. This feeling appears to be enhanced by the fact that the revised estimates do not differ considerably from the original ones.

Assuming that the appraisal of the accuracy of the estimates is reasonably correct, and considering that certain contemporary works, studying the underground economy in Greece , have concluded that current day national income figures underestimate the true magnitudes by as much as 60%, one can only be satisfied with the results.

3. Methodology: A Brief Overview[29]

Essentially an effort was made to adhere to standard modern day definitions. In this context, given that the limitations of the data in conjunction with the fact that the period examined was a long one and that economic life changed considerably, the concepts used were defined in an elementary way and certain fine distinctions possible where modern data are available were avoided as much as possible. In a nutshell, the effort consisted of including all productive activities of the private sector that entered the market as well as those of the State that did not. The bulk of the estimates was made by using the production or value-added method, although in some cases, especially in the tertiary sector the income method or even indirect approaches were used.

In this context, the first point noted has to do with the exclusion of transfer payments and self-consumption, although in practice considerable parts of self-consumption could not be excluded, especially in the case of the agricultural sector in the earlier years.

In principle, the exclusion of self-consumption implies that in the earlier years production is underestimated while, as time passes and the economy becomes more market oriented, part of the increase shown in the figures is, to some extent, an overestimate resulting from the fact that in the latter years people become less self-sufficient and more products enter the market.

[28] See table 4 (Appendix).
[29] See table 4 (Appendix).

The nature of the available data essentially dictated that the method chosen had to be the production or value-added method. In this context it must be noted that the exclusion of self-consumption does not appear to have a significant bearing upon the figures in the primary[30] or tertiary[31] sector but is a bit more important in the case of manufacturing. Thus, the shift from production of goods in the household (especially clothing) to purchasing them in the market would affect the production figures of the sector considerably while meaning less in terms of welfare.

The second point has to do with the production boundary, the standard conventions accepted by modern national accounts theory adhered to as much as possible. Thus, services, whether produced by the private sector and enter the market, or by the public sector and do not, are included in the totals. On the other hand, private services not entering the market such as those provided by housewives, to use the classic example, are not. In addition, illegal activities are not included, at least not conscientiously, in the totals, although the distinction between smuggling and legitimate imports is not an easy one.

A third concept that was a major consideration was that of double counting. This relates to the distinction between intermediate and final goods and to the possibility that the production of the intermediate good may be counted twice, i.e. both on its own and as a part of the corresponding final product. In this respect it was found necessary to sacrifice, in some cases, the accuracy of certain subtotals in order to assure a better estimate of the corresponding totals. Thus, in some cases for which data existed for the final product, it was impossible or inconvenient to attempt to disaggregate the various relevant components.

The most important consequence of this practice was the underestimation of the value produced in manufacturing. Thus, any value added in Mining & Quarrying inherent in processing activities that could be considered part of manufacturing was not estimated separately. This error, appears to lead to the parallel overestimation of the primary sector in which Mining & Quarrying is classified. Along the same lines, in accordance with standard practice, wine production, flour production and the like have been included in primary production.

The output estimates refer broadly to production undertaken within the boundaries of the country, i.e. the magnitude estimated is GDP and not GNP. This is useful when one considers the shipping activity, which was very important for Greece. In this respect, relevant production was estimated indirectly and the estimates can be considered only marginally satisfactory. This is an omission that should be kept in mind and can theoretically be justified, partly at least, by assuming that for the 19th century a large part of this activity was based outside Greece. This would make the relevant shipping incomes roughly equivalent to income from abroad (Net Income from Abroad) i.e. making them a part of GNP and not GDP.

[30] The procedure used in data collection means that most self-consumption is included in the totals.

[31] The magnitudes involved are not significant.

Turning to the question of gross vs net product, the convenient choice was that of the broader concept. Available data does not facilitate the estimation of depreciation magnitudes, whereas the size and complexity of the task on hand would have increased even more, not to mention the additional error involved.

As a rule, the valuation of the product is made by use of producers prices (basic prices, factor cost), in order to avoid the complications stemming from indirect taxes and, to a very small extent, subsidies. Having said this, the lack of adequate data has made it impossible, in some cases at least, to avoid using market prices. The obvious consequence here is an inconsistency as well as an overestimation in such cases in which market prices were used.

As noted above the bulk of the estimates was made by use of the production (value added) method. This is much better suited to the available data than either the expenditure or the income method. Here one must note that whereas with the data available the use of the expenditure method is totally out of the question, one could endeavor into the matter of using the income method, provided that tax figures could be trusted. This, however, is obviously a path which leads to a much higher error in the final estimates..

In the beginning of this section it was pointed out that the adoption of the production method as the basic framework does not mean that certain estimates cannot be made by using one of the other methods. Such a practice, which is, in fact, used in some instances even when contemporary estimates are made, was employed in the course of making the present estimates as well. More specifically, the production value of government services is essentially estimated on the basis of wages and salaries paid. The valuation of such services is, of course, a classic case where this approach must be used, as these services are not sold in the market.

In spite of the aberrations, the backbone of the estimates made was derived by use of the production method. This means that the value of the inputs (intermediate products) was subtracted from that of the final product to determine a figure representing the value added of the activity.

Production was classified in three basic sectors:

- Primary Sector (Agriculture, Livestock Breeding, Forestry and Fishing, Mining & Quarrying)
- Secondary Sector (Manufacturing & Industry)
- Tertiary Sector (Services: Transportation, Communication, Public Administration and Defense, Other Public Services, Banking- Insurance, Ownership of Dwellings, Trade, Miscellaneous, Construction)

Referring to the first sector, the estimates were essentially based on available production figures. In addition, exports, imports, consumption levels, tax figures, productivity estimates, capital stocks of animals, sales and various other available data were occasionally

used. These were often combined with, quite bold at times, assumptions regarding their relation with production. Finally, in a few cases even straightforward conjectures were made, most of them in cases where the importance of the item was small.

Moving to the secondary sector, one must note that in addition to the problem of estimating production figures one must also pay increased attention to determine the value added for each industry so that double counting is avoided. Once again production data, when they exist, were the basis of the estimates. When such data are lacking, magnitudes such as the number of factories or employees as well as existing qualitative information regarding the state and development of various industries and of the total of industry as a whole were invariably used[32]. Obviously in these cases, pertaining to most of the earlier years of the period, the use of such type of information, of interpolations of data existing for benchmark years, of bold assumptions regarding the relation between various magnitudes and of straightforward imputations, implies that the relevant estimates appear at best to be of grade C, the error involved in specific industries conceivably being over 20%. In general, however, the error regarding the estimate for the total of the sector appears to be smaller. Fortunately, when the significance of the sector increased so did the quantity and quality of the data. Thus, for the earlier years, i.e. when the figures are less reliable, the importance of the sector and its bearing on the GDP estimates is small, whereas when the sector's significance grew so did the accuracy of the data.

Finally, as regards the Tertiary Sector, it has already been noted that government services were estimated on the basis of wages and salaries paid. In this respect data were taken from the annual budgets and the end of the year accounts of government expenses, while on some occasions, figures pertaining to numbers of employees, their wages and salaries were used. As for the other activities in the group, the procedure differed according to the activity in question and the data available. Thus one may cite the use of annual balance sheets (Banking-Insurance, Post Office, Telegraph Office, Railroads, Air Lines), Government Accounts for rents paid, various estimates made by contemporary authors etc. Finally, an indirect approach was made for the activities for which no direct estimates were possible. This consisted of making assumptions relating the relative magnitudes of the known items of the sector with the unknown ones, on the basis of the relation between them in the years all magnitudes were known.

In general, quantities produced were estimated first while the estimation of prices followed. In the earlier years available data on prices[33] are fewer than those on quantities. However, as values and quantities of total production were often given together, it was a simple matter to derive production deflators, foreign trade deflators often being used as a basis of the estimates of production deflators. The methods used included interpolations, imputations etc.

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[32] In this context the History of Hellenic Industry by Anastasopoulos was quite helpful.

[33] G. Metrofanis has since completed his work on prices and price indexes in Greece for the period 1830–1940.

The task was simpler when it came to constructing the series in constant prices. In this case once the products that were to be included in the sample were chosen, Paasche index numbers were derived and used to deflate the series given in current prices. The three base years (1860, 1887, 1914) were chosen on the basis of data availability. The sample has its limitations, as it does not include any items from the tertiary sector. On the other hand, the value of the items chosen does represent a large percentage of the total value of GDP.

Finally, two concluding points. First, all value figures were expressed in Latin Monetary Union Drachmae. This means that all values before 1881[34] were adjusted accordingly[35]. Second, the magnitudes estimated always refer to the country's current boundaries. This means that the series exhibit discontinuities in 1864, 1881 and 1912–1913[36]. In these cases use of per capita figures is suggested[37].

Summarizing, the effort undertaken was to estimate annual figures for the GDP of Greece during the period 1833–1939. In this context, the basic approach used was the value-added method. However, due to the problems stemming from the quantity and quality of the available data, in certain instances, the income method, indirect procedures and, on a few occasions, straightforward imputations, were also used. Overall, in order to achieve the objective of the work an effort was made to utilize all kinds of available information.

4. An After view

In addition to the problems referred to in previous sections, the estimation of historical national accounts figures also faces the general problems inherent in making estimates for such a long period. Economic life changes, new products appear, older ones disappear, quality changes etc always limit the usefulness of such a series. The limitations are many, they are pretty much well known and need not be discussed here.

This, however, does not mean that such a series is useless or meaningless. On the contrary, it is quite useful as it consists the best means to gauge long run performance of the economy, to determine its growth rate and cyclical movements, to see whether it is converging or diverging in the long run with other economies, to determine changes in the level of living etc.

Assuming that the estimates are reliable, one can justify the estimation of the series and the time and effort spent. If, on the other hand one has doubts regarding their reliability, the work can be seen as a first attempt to make relevant estimates and further efforts can be undertaken to make improvements. Once one is clear about the methods and procedures used it would seem that it is better to have some reasonably reliable estimates rather than no estimates at all.

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[34] After a number of efforts Greece adopted the LMU deachma as its currency in 1881. See Pratsikas (1946).

[35] This means they were multiplied by 100/112. Pratsikas (ibid).

[36] The territorial changes in 1897 and between 1918 and 1922 were either small or small and temporary and have been ignored.

[37] Which does imply other complications that are not going to be discussed in the present work.

APPENDIX

Table 1

Sources Classified by the Function (Attribute) of the Publisher and Nationality

Classification According to Nationality	Classification According to Function	
	(A) Official & Quasi Official	(B) Unofficial
(I) Greek	(1) Greek Government (Ministries, Statistical Office)	(1) Single Authors (e.g. Demathas, Bernardakis, Andreades)
	(2) National Bank of Greece	(2) Newspaper Articles
	(3) Single Authors (e.g. Rangabes, Samios, Tsouderos)	
(II) Non-Greek	(1) Foreign Governments (Consular's Reports- BPPs)	(1) Single Authors: Phillellenes and Others (e.g. Strong, Sergeant, Bickford-Smith, Thery)
	(2) International Organizations (League of Nations, Near East Foundation)	
	(3) Single Authors (e.g. Law)	

Table 2

Sources Existing Per Period

Sources		Periods			
		1833-1850	1851-1880	1880-1910	1910-1939
(A) Official	(I) Greek				
	(1)Greek Government	Yes	Yes	Yes	Yes
	(2)National Bank of Greece	Yes (since 1841)	Yes	Yes	Yes
	(II)Non-Greek				
	(1)Foreign Governments	Yes	Yes	Yes	Yes (not used)
	(2)International Organisations				Yes
	(3)Single Authors	Yes	Yes	Yes	Yes
(B) Unofficial					
	(I) Greek				
	(1)Single Authors	Yes	Yes	Yes	Yes
	(II) Non Greek				
	(1)Single Authors	Yes	Yes	Yes	Yes (not used)

Table 3

Common Errors Encountered

Differences Between Sources
Typographical (or fading script – old scriptures)
Errors in Aggregations
Units of Measurement (especially volumes)
Voluntary Bias ("politics")
Date of Reference
Precise Item Figure Refers to (unknown products – aggregates of products)

Table 4

Reliabilty Scales

Reliability	Percentage Error Involved	
	Standard Scale	Feinstein Scale
Firm (grade A)	0% - 5%	0% - 5%
Good (grade B)	5% - 10%	5% - 15%
Rough (grade C)	10% - 25%	15% - 25%
Conjectures (grade D)	25% +	25% +

Table 5

Definitions – Characteristics of the Estimates

Production (Value Added) Method
Income Method
Expenditure Method
Transfer Payments
Self-Consumption
Double Counting (intermediate vs final goods)
GDP vs GNP
Gross vs Net Product (depreciation)
Basic (Producer's) Prices (Factor Cost) vs Market Prices
Primary Sector (Agriculture, Livestock, Forestry & Fishing, Mining & Quarrying)
Secondary Sector (Manufacturing – Industry)
Tertiary Sector (Transportation, Communication, Public Administration and Defense, Other Public Services) Banking - Insurance, Ownershiop of Dwellings, Trade, Miscellaneous, Construction
Current vs Constant Prices (deflators: basis Years 1860, 1887, 1914)
Latin Monetary Union Drachmas

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Long-Run Bulgarian Economic Development 1892–1945: GNP Estimates, Methods, and Data Sources

Martin Ivanov*

For more than a century Bulgarian economic historiography successfully "resisted" any quantitive research temptations. Under these circumstances it is hardly surprising that cliometrics is not yet recognized as a legitimate member of the Olympic family of sports. Attempts for quantifications of history are scarce. The few exceptions are both done as well as used only within a purely economic domain, thus preserving the rigid profile of the traditionalist historiography. An institutional incentive was to be expected during the era of centrally planned economy for promotion of quantitive research. However, neither the Central Planning Agency nor other institutions have come with any estimates on national income, NMP, GNP or GDP for the period before World War II. Due to informational limitations Western colleagues also often omit Bulgaria (and most of what is now called South Eastern Europe) when compiling GDP sets for the pre-World War II period.

This grim situation force historians to speak mainly by intuition about Bulgarian history converting into myths different historical episodes of the country's resent past. Furthermore, they are deprived of proper tools for unbiased comparisons between various spots of Bulgarian economic development (not to mention cross-country comparisons). We still do not really know whether the "Golden Decade" (actually less than 6 prosperous years 1905–1912) was as successful in economic terms as the second half of 1930s. Whether the exogenous shock of the 3 consecutive wars (1912–1919) retarded Bulgarian modernization condemning it to a slow and painful reconstruction or the War of Independence (1877–1878) inhibited the growth potential of the economy detaching it from the vast Ottoman market.

The current research is not as ambitious as to pretend that could offer the answer of all pending questions. However, it bears the conviction that through the constructed GNP estimates (1892–1924) we would be better equipped to create more plausible hypothesis on Bulgarian modernization endeavour. It should also be noted that this essay has no any

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intention to engage into detailed analysis of Bulgarian economic development during the period in review, even though a brief presentation of the conclusions would be given in its final part. It has the sole objective to offer a short description of how national income estimates have been calculated. As far as the applied methodology and the results' analysis were presented in two other publications[1] here I would limit myself to the "technology" chosen for the compilation of the GNP estimates, thus enabling their future examination and corrections.

The following paper is divided into seven sections. Section one reviews the previous estimates of Bulgarian national accounts. The next two parts (two and three) are intended to describe the methodology and to give a short definition of the calculated economic aggregate. Sections four and five provide details on sources and the actual calculations by sectors of economy both at current and at constant 1911 prices and territory. The brief analysis of results and the conclusions drawn are presented in the final two sections.

1. Available GNP Estimates

1.1. Domestic Estimates

Kiril Popov [1915], chief of General Directorate of Statistics, compiled the first two spot estimates (for 1892 and 1911). They, however, are not fully documented and we know very little about the way he came up with them. In his "Economic Bulgaria" Popov published only the final results excusing with space limitation for not providing the calculations proper. His aggregates are presented as nominal estimates, at a time of considerable price movements. And these technical deficiencies matter because if we take Popov's figures at face value they would have dramatic implications for the narrative of Bulgaria's economic development. For 1892 Popov claimed a total national income of 1109 million leva. For 1911 he put the figure at 1647 million leva. This gives nominal income growth of just short of 50 percent. Popov did not say so. But the implication of these numbers allowing for retail price inflation of 41.3 percent and population growth of 32 percent is that real per capita incomes in Bulgaria in the generation prior to World War I may have fallen, perhaps by as much as 20 percent. Asen Chakalov [1946] constructed a national income series for the period 1924–1945. He had in the Great Britain and was familiar with Western debates on national income accounting. His estimates stand as a major contribution to the development of national income accounting in the interwar period. No wonder, they were the only one to carry the authoritative "seal of approval" of Angus Maddison.

[1] The applied methodology and sources were presented in: Ivanov, M. (2006) 'Bulgarian National Income between 1892 and 1924', *Bulgarian National Bank Discussion Papers*, 2006: 54. For a detailed analysis of Bulgarian economic development cf. Ivanov, M. and Tooze, J. 'Preparing for Take-off: Agriculture, Population and GNP in Bulgaria 1892–1945', *Journal of Economic History* (forthcoming).

1.2. Foreign Estimates

Paul Bairoch [1976] was among the first foreign economic historians to give an estimate of the Bulgarian national income. The source for his numbers is obscure, however. What is now obvious he was using a several proxies as to compile his Bulgarian GNP series. Similar technique was later applied by Good and Ma [1999] who have produced their index numbers for Eastern European growth prior to 1914 by deriving proxy relationships between national income and variables such as the crude birth rate, letters posted per capita and the share of non agricultural employment in the total workforce. Maddison reluctantly incorporated these index numbers into his system on the basis of their "general plausibility", pending the availability of direct estimates.

Maddison's [2001 and 2003] own per capita figures for 1870, 1890 and 1900 presented in his latest dataset would appear to be the product of *a priori* assumptions about "minimum per capita growth rates". As we shall see, they are seriously misleading.

Michael Palairet [1997] in his highly pessimistic study of *The Balkan economies c. 1800–1914* with the telling subtitle "evolution without development" calculates own spot estimate for 1910

2. Methodology Applied

My methodology consists in the first instance in replicating Chakalov's figure for 1924 on the basis of original sources and then using these same sources to create a series of properly documented estimates for the years between 1892 and 1924. Using that "technology" six spot estimates were compiled for the years: 1892, 1899, 1905, 1911, 1921 and 1924. The years were not chosen by random. Quite the contrary, they are selected in a way to delineate the moments that are expected to mark the beginning and the end of the different economic cycles. Only the year 1892 was chosen not following same logic but as result of availability of trustful sources. It is the first year for which Bulgarian statistics offer enough data for national income compilation.

3. GNP Definition

Chakalov's definition of what he calls "national income and outlay" is the "aggregate of all net incomes produced and derived within the national economy during a given period of time, i.e., one year". The national income thus comprises of: "incomes from newly acquired economic goods, the remuneration of all services rendered by individuals and legal entities, as well as interest on capital." It is expressed in:

- The aggregate of the incomes of all individuals and legal entities within a given territory (the national economy);
- The incomes of all individuals and legal entities resident within the country, received and derived from abroad and
- Less the incomes earned and derived within the country, but transferred abroad.

The following definition indicates, as Rangelova [2000] rightfully points out, that Chakalov's estimates actually corresponds roughly to what we now call gross national income (GNP). Chakalov excludes domestic labour. But since Bulgaria was in large part a subsistence peasant economy, he made extensive provision for the inclusion of "own consumption" of farm output.

4. Sources

Following in Chakalov's footsteps my reestimation of Bulgarian GNP prior to 1924 is compiled using four different sets of sources and methods:

1. For 47.6% of the estimate I can rely on agricultural and industrial output data multiplied by current prices with input costs deducted;

2. State budget and business account data provide direct information on salary bills (9.3 % of the total in 1911);

3. Where neither of the former is available Chakalov estimated annual incomes on the basis of employment census data multiplied by estimates for annual earnings (36.5 %);

4. Finally for the commercial sector he used a more approximate estimate, deriving incomes earned from retailing and wholesaling as a fixed percentage of total sales (6.6 %).

5. Sectoral Estimates

- Arable agriculture was calculated by the output volumes and current prices data provided by the national statistics, net of re-use within agriculture itself for seed and feed but inclusive of farmers' domestic consumption. The calculation of value added in stockbreeding rest on the number of beasts in key census years and average milk and meat yields applied by Chakalov somewhat decreased to take into account the process of slowly growing yields. For example for 1924 Chakalov reckons a 1000 litres of milk per cow while for 1892 I am assuming 900 litres. A same technique is applied also for wool and hair production. Eggs consumption is based on the transport statistics.

- The production of forestry and fishing is derived by the official figures published by General Directorate of Statistics. The output of home industry is calculated by adding the number of females, aged between 16 and 60 years and the average number of days spent for home work based on peasant account books and contemporary surveys. Similar procedure is applied for servants. Implicit rental income of both rural and urban dwellings is based on census information about the number of buildings and the yearly data on rents.

- Following Chalkalov's methodology, to reach the net value added of agriculture, seasonal migrants' remittances are also included and interests paid on agricultural credits deducted.

- Thanks to the protective policy of the Bulgarian government we possess fairly good statistical information about the production of industry and mining. Value added is arrived at in the normal fashion by deducting input costs from sales figures. Only for 1892 and 1899 I was compelled to use coal consumption and the number of factories to arrive at a reasonable estimate of the industrial output.

- For construction and crafts sectors the source situation is less good. Figures for public construction were taken from central and local government budgets. For private construction and the craft sector I follow Chakalov in relying on census figures for the number of craftsmen and builders, multiplied by figures for annual earnings for masons, masters, journeymen and apprentices.

- Due to the significant presence of the state in the transport and communication sector I have at my disposal very detailed data on their income net of working expenses. The same applies to a large extent to the financial services sector. Only for private banking and insurance institutions I was compelled to resort to their individual profit and loss statements published in the State Gazette or preserved in the archives.

- The relatively small percentage of marketization of the economy creates a serious problem for the calculation of commercial incomes. Following Chakalov's suggestion I arrive at a proxy on the basis of an estimate of the sales of agricultural goods and the value added of the various industrial branches and import trades. The flow of traded agricultural goods is approximated by summing the value of exports and the value of commodities transported by the railways. The industrial and craft figure is arrived at as for industrial production. To avoid double counting industrial output is netted of local raw material consumption and of excises and taxes paid. The income of commerce is taken to be a fixed 15 % share of this total sales figure.

- Aggregate incomes of freelance professionals and services were estimated by applying salary levels to census data. For lack of alternative information, the salary levels were derived from masons wages, adjusted for wage differentials and the longer working year of white-collar employees.

- Earnings from state employment by contrast could be taken directly from budget data for wage bills and public works of national and local government as well as autonomous state agencies.

5.1. Sectoral Calculations at Constant 1911 Prices and 1920s Territory

To provide a meaningful comparison over the long run between 1892 and 1945 I must allow for prices changes, population change and the impact of territorial redistribution in the course of the Balkan wars and World War I.

- Population data are taken from the obvious sources and can be assumed to be relatively uncontroversial.

- Instead of using retail price index to deflate the GNP in current prices I apply farm gate prices of 1911 to the physical output series for agriculture. For lack of subsectoral data, industrial output is deflated by an unweighted average of the available wholesale prices for the different lines of industrial production. To arrive at incomes from employment data I apply wage and salary figures for 1911. Deflation by means of the retail price index is therefore confined to the incomes of civil servants, financial services and commerce, or just 13.6 percent of the total estimate.

Adopting this more sophisticated deflation procedure turns out to have major implications since by comparison with the retail price index cited by Palairet, which rises by a surprising 41 percent between 1892 and 1911, my improvised "GNP deflator" increases by only 12 percent. This discrepancy is largely accounted for by the heavy weight of farm gate prices applied to agricultural output, the majority of which was directly consumed by households.

- To connect to 1924 data I must also allow for territorial changes. As a result of the two consecutive Balkan wars and World War I, Bulgaria managed by 1919 to increase its national territory as a whole by roughly 6 percent. However, at the Neuilly Peace Conference it lost *Dobrudja*, which was most fertile agricultural region. In consequence, Bulgaria ended its period of warlike activity having suffered a net loss of cultivated land of 6.81 percent. Given the importance of agriculture to the overall estimate I adjust the entire estimate of national income by this factor.

6. Brief Presentation of Results

The final results are striking. For 1924 I achieve a reassuring match with Chakalov's estimate. And using his methodology and the obvious official sources, I was also able to replicate nearly completely Popov's nominal estimates both for 1892 and 1911.

Table 1

Comparison of Ivanov's vs. Popov's GNP estimates (1892 and 1911) and Ivanov's vs. Chakalov's (1924) in Nominal Terms

Estimates	IT estimate, per cent of other estimates
1892, Kiril Popov	+0.12%
1911, Kiril Popov	-0.66%
1924, Asen Chakalov	+3.69%

Source: see the text

Dividing by figures for population and making allowances for territorial changes in the course of World War I, I arrive at the following track for GNP and GNP per capita.

Table 2

Bulgarian GNP by Sectors of Economy, 1892–1924, in Constant 1911 Prices and Territory (as of 1920s)

A. Sectors of economy, million levs	1892	1911	1921	1929	1939
Agriculture	758.3	668.5	853	955.9	935.7
Industry and crafts	120.4	124.5	118	158	177
Transport and communications	13.6	13.4	20.3	35.4	50.3
Commerce	64.5	61.1	75.7	108	95
Credit and insurance	9.6	26.7	43	67.4	34.9
Freelance professions	34.9	40.5	31.5	33.8	39
Urban dwellings	104.9	115.2	131.5	110.9	134.7
Civil servants	55.7	71.7	71.7	75	56.1
Total national income	1162.4	1122	1344.8	1544.7	1523
B. Sectors of economy, per cent of GNP					
Agriculture	65.25	59.59	63.43	61.88	61.44
Industry and crafts	10.36	11.10	8.78	10.23	11.63
Of that: industry and mining	1.03	1.18	1.49	4.12	2.18
Transport and communications	1.18	1.20	1.52	2.29	3.30
Commerce	5.55	5.45	5.62	6.99	6.24
Credit and insurance	0.83	2.38	3.20	4.37	2.30
Freelance professions	3.01	3.61	2.34	2.19	2.56
Urban dwellings	9.03	10.27	9.78	7.18	8.85
Civil servants	4.79	6.40	5.33	4.86	3.69

Source: author's calculations

The result as one can see is a substantial downward revision of the existing estimates of Bulgarian economic development.

Table 3

Different Estimates of average GNP Per Capita Growth Rate

(%)

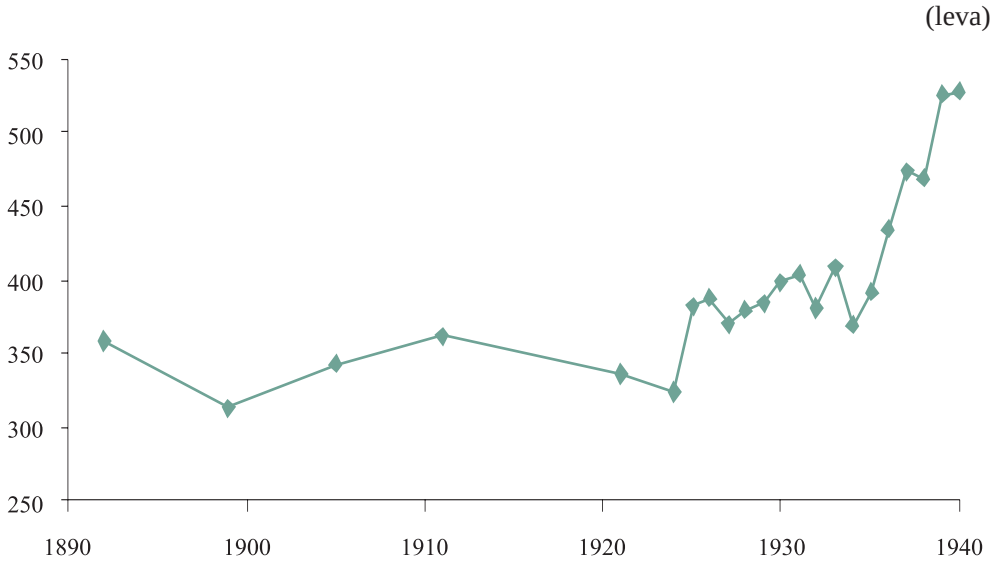
	1890–1910	1911–1924
Ivanov (1892–1911; 1911–1924)	0.02	-0.83
Good-Ma (1870–1910)	1.30	n/a
Bairoch (1880–1913; 1913–1925)	0.70	0.55
Maddison (1910–1924)	1.12	-4.30
Clark (1913–1926)	n/a	–2.26

Source: see the text

And once we link to Chakalov's figures for 1924–1945 we arrive at the following sixty-year development path for per capita real income in Bulgaria.

Figure 1

GNP Per Capita, 1892–1945, in Constant Prices and Territory



7. Conclusions

On the basis of the best available evidence we can say that there was no growth in per capita incomes in Bulgaria between the early 1890s and the mid 1920s. Actually, Bulgarian economy was decreasing by 0.32 percent per annum. Whatever growth was achieved (0.93 percent on annual basis) was "eaten" up by rapidly rising population (1.14%). Those estimates underline the minor impact that exogenous shocks (the Balkan Wars and World War I) had on Bulgarian economy. As a result of the huge contribution of arable agriculture in Bulgarian GNP, national income fell by only 1.4 % between 1911 and 1921. These findings are inconsistent with Maddison's Bulgarian GDP series.

Table 4

Different Estimates for the War Decade Impact on Bulgarian GNP Growth

(%)

	GNP Decrease 1911–1921	*GNP Per Capita Decrease 1911–1921*
Maddison (2000 and 2001)	30.17	39.32
Maddison (2003)	31.27	40.74
Ivanov (2006)	1.42	13.65

Source: Maddison (2000, 2001 and 2003) and own calculations

Maddison's 1911 estimate was based on Popov's work, while the one for 1924 was derived from Chakalov. But, it is unclear how Maddison linked his series. The interpretive consequences are serious, however. Maddison's estimates, with their exaggerated prewar growth trend, attribute a disproportionate influence to the war – especially when Bulgaria is compared to Greece. By contrast, my revised GNP figures de-emphasise the war. It was not exogenous factors, such as the war shock or even the Great Depression that retarded Bulgaria, but the failed structural transformation of agriculture.

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Balance sheets of banks as a historical accounting instrument

Damir Jelic*

National accounting historians believe that they could, with some more or less expected mistakes, reconstruct the economic life of the past. However, when obtaining such research data in the territory of South Eastern and Central Europe, national accounting historiography meets some long-term problems. The nineteenth and twentieth century, the period for which we are trying to reconstruct national accounts, were marked with territorial changes and wars. At the beginning of the nineteenth century two empires, the Habsburg and the Ottoman, were fragmented in a secular process into a number of national states, until the end of the twentieth century. This fragmentation process incorporated several political subformations and combinations, the formation and disruption of which led to wars and war damages, territorial changes, rebuilding of administrative systems etc. It had a profound impact on the quality of national accounts.

The first problem that had to be solved was the question of territorial instability. The territory of any national state in Central and South Eastern Europe has not remained the same for longer than fifty years. Every territorial change also had an impact on the economic structure. One has to keep in mind that the borderland territories could have had a different economic structure, which has certainly affected the results of this research. Those territorial changes have repeatedly pushed the analysts to run double accounts – one for the central national state territory, and a second one for the borderland regions. Statistical sources usually ran separate statistics for borderland territories for some time after the annexation, but a decade or so later, as a symbol of a "successful" integration of the borderland, there were no more separate statistics. The list of examples is a long one: Romania with and without Transylvania, Serbia with and without Vojvodina, Southern Serbia and Macedonia, Croatia with a number of borderlands (Istria, Srijem, the Military border territory...). It is much easier to make comparisons between national states at a certain point in history, rather than to observe the development of the structure in a country.[1]

The potentially arising problem of territorial instability could be resolved by reducing the

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[1] Kaser, M.C. and Radice, E.A. (eds), The Economic History of Eastern Europe 1919–1975: (Oxford 1986) were able to collect considerable amounts of comparative data for the reference year 1929 (1930).

territorial level of analysis from state level to the county or district level. In theory, we could build long term district or county economic and structure accounts. In practice, there will be problems regarding the acquisition of data. There is no doubt that national accounts are a result of the merging of data from smaller territorial units. Also, structural data could be used, when the borderland district was a part of another political formation. With a little bit of good will, even economic data could be recalculated from one country's currency to another. While all of this could work perfectly in theory, in practice it is very difficult to find district or county data. Political changes and wars have often caused loss of primary data, so we have to rely on published summaries. Such summaries usually lack detailed regional accounts. Also, even districts and counties in borderland regions often have their territorial boundaries changed after political turnovers. It is easy to understand that statistical accounts rarely took place in neighbouring countries at the same time, so data transformed from the accounts of neighbouring countries could maintain a deviation because of a time delay (of a few years) or methodological differences.

Because of political instabilities, each national account historian will encounter a multitude of other problems while trying to develop secular time serials. When dealing with economic values, which could be expressed in monetary value, there will be a number of currency related problems. Each change of currency and each period of monetary instability necessarily makes our results less reliable. It is nearly impossible to compare nominal values if there were five or six currency changes, several periods of inflation and one or two hyperinflation periods over a time span of less than fifty years – a situation which occurred in the territory of Yugoslavia between 1910 and 1960. Other countries in the region usually do not boast a much better situation. The result is that in most national accounts we have to deal with very short time periods and a number of red tapes. That is to say that we will be very limited in our attempt to reconstruct the economic life of the past.

South Eastern Europe (as well as most of East Central Europe) is a very heterogeneous territory. Geographical structure has shaped economic life in a very interesting way. Transport communications and connections to the market are different from county to county, if not from valley to valley. Climate diversity and population migrations have influenced huge variations in employment and agricultural structure. There are huge differences in economic life (subsistence versus market oriented), national structure, emigration opportunities, capital accumulation possibilities, industrial tradition etc. which are not expressed in national accounts. Regional differences are huge for the most part of the assessed region, and we have to ask ourselves to what extent national accounts display that diversity.

To conclude, our national account suffers from a number of limitations:

- limited possibility to build long time serials
- covered mistakes because of territorial and monetary instability
- limited understanding of regional differences

A long time ago, while I was developing an interest in banking history, in the back of my mind was the expectation that banking history could help surpass the above mentioned barriers in the understanding of past economies. There is no doubt that banks reflect the economic life of their respective communities. And there is no doubt that there was a huge number of banks in Central and South Eastern Europe. Banks have monitored monetary transactions in most of Eastern Europe and South Eastern Europe in the twentieth century. In some countries, banking systems have developed even earlier, so some indication could also be given for the second half of the nineteenth century. In practice, bank archives do not keep all the information about transactions, but huge amounts of data are still available. However, in order to use banking history information, we have to learn the specific language of the banks and how they can provide more insight into the economic life in the past. This paper will attempt to demonstrate the limits and opportunities of using banking history and bank balance sheets in order to understand the past.

My PhD research was focused on the banking structure and balance sheets analysis of a few thousands banks, which have operated in Czechoslovakia, Hungary and Yugoslavia before and after the First World War.[2] The research was a result of three affined interests: my personal interest in learning as much as possible about the economic history of the region, with determinate interest in the regional differences and economic development problems; the need of a banking historiography for a more profound research on provincial banking in the region; and a long-term interest of the author in the balance sheets.

To obtain research data on provincial banking I had to resolve several problems:

- to identify all banks in the region and collect their balance sheets
- to type a huge quantity of data from balance sheets into databases in the computer
- to develop a methodology of analysis and analyse the data from a database
- to interpret the results of research

1. Printed sources

My initial idea was to provide an overview of provincial banking for most of the Eastern European region. In the very beginning, my research started with the financial systems of Poland, Czechoslovakia, Hungary, Yugoslavia, Romania and Bulgaria. The financial system of inter-war Poland resulted from combining a few different banking systems, and the topic turned out to be too extensive for this limited research. Because of the limited amount of data of published balance sheets from Romania, this country was excluded.[3]

[2] Damir Jelic, Provincial banking in the Austro-Hungarian Monarchy and successor states 1913/1925, Leicester University, School of Historical Studies, 2006.

[3] 1303 banks could be identified in Romania in 1925. The main source of published information, *Finanzielles Compass*, was published for Romania as well, but the problem is that the directory usually only states the name of the bank, the name of the director and the bank's capital, without providing the complete balance sheet. Also, many of the very small provincial Romanian banks did not regularly reply to the surveys of *Finanzielles Compass* editors, so the continuity of data cannot be warranted in these cases. The lack and irregularity of information was too high to meet the minimum criteria for a statistical analysis.

Unfortunately, similar reasons also prompted me to exclude the very interesting system of Bulgarian popular banks.[4] At a very late stage of research, I have also decided to exclude Serbia, Montenegro and Macedonia, since I did not have enough data to compare the 1913/1925 situation.[5] I have decided to avoid the econometric analysis of Dalmatian banks, as they were not an integral banking system. Data on financial institutions in Czechoslovakia, Hungary and Western Yugoslavia was available, as well as relatively standardised, so that the results of the balance sheets analysis could be compared.

It would be impossible to create a database of banks from three different countries and two different political frameworks by using archival material only. Fortunately, some printed sources allowed for a broader view on provincial banking in Central Europe during the assessed period. Information about the enterprises and banks of the Austro-Hungarian Monarchy and its successor states were systematically presented in periodical directories called Compasses. These annual, biannual and sporadic publications, which are well-known to economic historians of the region, provide important information about nearly all enterprises of any significance that existed within the territory of the Austro-Hungarian Monarchy and its successor states. By collecting data from various compasses and other publications, it was possible to compile a nearly complete database of financial institutions for the assessed regions.

The best known directory of banking and enterprises for the territory of the Austro-Hungarian Monarchy is the Finanzielles Compass, Finanzielles Jahrbuch fuer Oesterreich – Ungarn, which was annually published in German by the Compass Verlag in Vienna in the period between 1868 and 1944.[6] The main advantage of the Finanzielles Compass as a historical source is its standardised financial terminology and the availability of data from a large territory. After the collapse of the Austro-Hungarian Monarchy, Finanzielles Compasses were published separately for each of the successor states Czechoslovakia, Austria, Hungary, Yugoslavia and Romania. While it was possible to identify nearly all the banks that are included in the Finanzielles Compass for Austria, Czechoslovakia and Hungary, the information concerning Yugoslavia remains incomplete.

Data from the Compass Verlag publications was supplemented with data from other compasses and directories. There are, for example, two valuable compasses, which were pub-

[4] Bulgaria had not been represented in *Finanzielles Compass* before the Second World War. In 1942 and 1944, two Compasses dedicated to Bulgaria were published. This was very helpful regarding the identification of banks, but rather useless regarding the financial data for the interwar period. The ultimate source of financial data could be "*Spisanie na sojuza na popularnite banki*", which used to be the official newsletter of the *Association of popular banks*. Anyway, one has to consider that the association did not include all of Bulgarian savings banks but only approximately half of them, because there was another (coexisting) association. In addition, not all of the popular banks that were members of the association have published their balance sheets in "*Spisanie na sojuza na popularnite banki*". Taking into account the lack of data, strengthened by the impression that balance sheets accounting was not properly standardised, we are saving research on Bulgarian popular banks for some other occasion.

[5] There were also problems concerning the accounting practices and the quality of data for Serbia. *Balkan Compass*, a small and irregular directory, published by *Compass Verlag*, provided some information about Serbia, Romania and Bulgaria, but was useless due to very incomplete data.

[6] For further information about the *Finanzielles Compass* see Mira Kolar Dimitrijevic, "Ekonomski podaci o gospodarstvu Hrvatske do 1945" in: *Acta Historico-Oeconomica*, Vl. 22 (1), Zagreb, p. 343

lished in Budapest, and which contain pieces of information about the territory of Transleithenia from the time prior to the First World War. In the post-war period, these publications were only devoted to the territory of Trianon Hungary. The Magyar Compass, a biannual directory published in Budapest from 1874, is the most important complementary research source. It was available both in German and in Hungarian and provides an even better quality of information than Vienna's Finanzielles Compass. The Magyar Compass has been very useful for analysing the situation of Hungary, Slovakia, Croatia, Vojvodina and Bosnia and Herzegovina in 1913. Another Hungarian directory, the Penzugyi Compass, was published in Budapest with content similar to the Magyar Compass. For the balance sheet database, the main source was the Magyar Compass, while occasionally falling back on the Penzugyi Compass in order to look for balance sheets that are missing in the other compass and to perform correct identifications for the database. Furthermore, the Penzugyi Compass is a useful source of information on credit cooperatives. In the years directly following the end of the War, the Penzugyi Compass included data about Slovakia and Vojvodina. By examining and compiling data from all three of these compasses, it was possible to quite accurately reconstruct the 1913 banking system of Transleithenia as well as the 1925 banking system of Trianon Hungary.

As far as the research on the territory of Yugoslavia is concerned, there are several useful publications available. Three publications are worth mentioning. The Croatian Compass[7], the Yugoslav Compass[8] and the Serbian Compass, the latter being a sporadic publication. In comparison to the Finanzielles Compass and the Magyar Compass, these sources provide only incomplete data at all levels, but they have nevertheless been crucial for identifying some minor provincial banks and for the control of missing data, as well as for verifying the printing errors. Banking associations that existed in Zagreb and in Novi Sad have published their annual reports regularly.[9] These annuals include a list of banks and the main positions from balance sheets, which have been useful additional sources for the balance sheets database. Yet another set of data sources was required for the identification of banks in Yugoslavia.[10] By combining all of these sources of information, it was possible to achieve a reasonably comprehensive set of data for banking systems in Slovenia, Croatia, Vojvodina and Bosnia and Herzegovina in the interwar years.

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[7] There were three different publications using the name Croatian Compass.

One of them is "*Hrvatski Kompas. Financijalni ljetopis za Hrvatsku, Slavoniju, Dalmaciju, Bosnu I Hercegovinu"*, published in Pozega in 1900. This publication was edited and published by Bernardo B. Schwartz. Schwarz published four issues. Another publication is *"Hrvatski Kompas za 1909–1910, Financijalni i trgovacki ljetopis"* (Zagreb 1909), edited by Daniel Hermann. A third independent edition is *"Hrvatski Kompas za 1913–1914"* (Zagreb 1913), edited by Adalbert Kunst and Donat M. Strozzi. This one was used for the analysis of the year 1913.

[8] *Jugoslavenski Kompass* (Zagreb), published in three issues in 1920, 1921 and 1922. All of them were edited by Vladimir Pavlakovic (Steiner).

[9] Izvjestaj Saveza novcanih i osiguravajucih zavoda Kraljevine Srba, Hrvata i Slovenaca (Zagreb, 1926); Izvjestaj udruzenja vojvodanskih banka Srema, Banata, Backe i Baranje (Petrovaradin, 1927).

[10] The *Spisak Novcanih zavoda Kraljevine* SHS (a list of the banks of the Kingdom SHS) published in Almanac Kraljevine SHS (Zagreb, 1921) was used for identification purposes. In general, financial magazines, such as *Bankarstvo* (Zagreb), *Jugoslavenski Lloyd* (Zagreb), *Bilanca* (Zagreb) and *Privredni Pregled* (Belgrade), are necessary for anybody who wants to understand banking practices in inter-war Yugoslavia.

As for the territory of Czechoslovakia and the time prior to the First World War, the identification of banks and the collection of balance sheets had to follow two separate strings: the situation in Slovakia on one hand, and the situation in the Czech lands on the other hand. Most of the identification data about the Czech lands were taken from the Finanzielles Compass, whereas the balance sheets data from the year 1913 were additionally combined with more reliable data from the Statistik der Sparkassen in Oesterreich.[11]

Thanks to the compasses and other sources of information listed above, it was indeed possible to create a huge database through which the banking system of the assessed territory has been accurately reconstructed.

2. Creating the database

Two databases were created. The first database contains information on all identified financial institutions and the second one contains the balance sheets. The former is an attempt to identify all banks, their branches and as many private banking houses and credit cooperatives as possible. This had to be done for the whole banking system of every assessed region, which includes metropolitan banking as well. The balance sheet database contains elements of liability, as well as the assets of provincial banks. The following sections explain the process of creating the databases in a detailed manner.

3. Regional division

The banking structures, traditions and legislations of the assessed territory differed from region to region, thus a territorial subdivision of the database was necessary. The decision about the geographical regions, which were to be analysed separately, was based on each region's political and legal tradition as well as on its economic structure. The following sub-regions were analysed:[12]

Czechoslovakia: Bohemia, Moravia and Silesia, Slovakia

Hungary: the Danube region, the Danube-Tisza region, the Tisza region

Yugoslavia: Croatia, Bosnia and Herzegovina, Vojvodina

Apart from this, the main dividing line was drawn between the Austrian and the Hungarian part of the Monarchy, because this is where the banking systems followed pre-war legal traditions. As a result, two separate econometric and methodological models were developed, one for Cisleithenia and another for Transleithenia.

[11] *Statistik der Sparkassen in Oesterreich fuer das Jahr 1913* in: Oesterreichische Statistik, Neue Folge (Vienna, 1916)

[12] Some important regions, such as Austria and Galicia, and some borderland and specific regions, such as Dalmatia, Transylvania, Ruthenia and Istria, were excluded from the analysis. It may be possible to expand the research on these regions in the future.

4. The identification of banks and towns where banks and branches existed

A first step was to identify all financial institutions that were operating on the territory of interwar Czechoslovakia, Hungary and Yugoslavia in the period from 1913 until 1925. To perform this phase of research, some specific problems had to be resolved.

Attempting to compare the years 1913 and 1925 means having to find out which financial institutions in which villages, towns and cities belonged to which successor states in the respective years. One basic technical problem occurred while trying to identify certain places that had changed their name after the First World War. Places and settlements in Slovakia and Vojvodina represented a serious problem, because pre-war issues of the Finanzielles Compass had used German names for towns in Bohemia and Slovenia, and Hungarian names for towns in Slovakia and Vojvodina. Then, after the collapse of the Monarchy, the compasses were using names in the respective languages of the successor states. These circumstances required a thorough check of various geographical maps and specialised literature in order to make sure that towns with different names before and after the First World War would not be confused. Sometimes it was even a problem to find out the exact geographical position of very small places, in particular those located in the borderland regions, because in these cases it was necessary to determine which state or region each town or village belonged to.

The next step in creating the identification database was to recognise each financial institution that existed in the assessed regions. By using compasses and other sources of information, as explained in the previous section, research was able to mark all banks, including their branches, and add them to the identification database. There is a small possibility that some very small crisis-ridden provincial banks, as well as some credit cooperatives, are not recorded in the database, because their financial and economic functions were insignificant.[13]

The main problem in the identification phase were the banks that had changed their names during the assessed period. After the First World War, banks in Slovakia often changed their names, while in Hungary this occurred occasionally. Numerous banks were liquidated or merged in the years following the First World War in Slovakia, Hungary, Vojvodina and Croatia, and this fact has caused similar difficulties.

The identification database is profoundly important for this study, because an analysis of the structure of the banking systems and consequent conclusions mainly depended on this list of banks and branches. Throughout the research, data was cross-checked with other sources, and additional or new information was added when necessary.

[13] The category of private banking houses is likely to contain some mistakes because information on private banking houses were available only in the *Bankiersbuch*, an appendix in *Finanzielles Compasses*. A cross-check was impossible, as the Bankiersbuch was the only source of information. This has, however, limited impact on the results of the research on provincial banking, since private banking houses were predominantly located in major financial centres.

5. Levels of financial importance

In order to analyse the structure of the financial system, the available data had to be grouped. Finding a criterion for the task of grouping was difficult. A common way to analyse a banking system is to group banks according to their financial strength. For the research on provincial banking, which deals with a multitude of towns and banks, it was found that grouping towns and places where those banks existed produced the best analytical results. In practice, the numerous places and towns were sorted into groups according to their level of urbanisation and financial importance.

In the analysis of banking systems, a distinction is made between metropolitan banking, regional provincial banking and local provincial banking. Regional banks have operated in economically stronger provincial towns, in a large territory, and often opted as financial connection points between metropolitan banks and provincial economy. On the other hand, local banking is restricted to a limited territory, with limited economic links outside the local economic area, characterised with the relative absence of competition and financial links to metropolitan banking. Local banking activity was limited to small urban places and a dozen or two of surrounding villages. Banking business in metropolitan towns, in big provincial towns and in small provincial towns are different from each other, thus making it necessary to identify the differences in the analysis.

Metropolises, such as Vienna, Budapest and Prague constituted the centres of financial networks. In addition, there were some other main financial centres, towns with an exceptionally high level of financial strength, for example, or other centres of regional financial networks, such as Brno, Zagreb, Bratislava, and Trieste. A few particularly important towns, such as Rijeka (Fiume), Debrecen and Subotica, have been included in the group of towns which were marked by metropolitan banking.

Several towns have been classified as regional or sub-regional centres because of their financial and economic importance. These towns functioned as an intermediate point between the provincial and metropolitan economy. The network of the branches of the Austro-Hungarian Bank has been a useful indicator of the financial and economic strength of a town. The Austro-Hungarian Bank had branches in all towns that were of real economic importance. These places were classified as regional economic centres. In addition, the Austro-Hungarian Bank had agencies in all smaller towns that were of some economic importance.[14] Towns and places with such links to the central bank were assigned to the group of sub-regional economic centres. Later on, the analysis will demonstrate that all regional and many sub-regional centres used to have a strong connection with metropolitan banking (through their branches, affiliations or by virtue of close business relations).[15]

[14] These agencies were sometimes independent institutions, but more often it occurred that some provincial bank opted as agency of the central bank.

[15] Statistical analysis in the regional chapter indicates that the criteria of the links with the central bank was the correct division criteria. Even being in the same urbanisation group, towns with links with the central banks had a stronger concentration of capital. The economically advanced position of the towns which had a branch or agency of the central bank was also highlighted by Zoltan, Gal, "The golden age of local-regional banking. The spatial structure of the Hungarian banking system at the turn of the 19/20 the century", EABH bulletin 2/2005, p. 30.

After grouping them by financial importance, it was necessary to decide on the level of urbanisation for each town with an identified bank or branches. My initial idea was to produce this important information by working with cartographic symbols from the maps of Czechoslovakia, Hungary and Yugoslavia, which have all been extracted from a very reliable source: a geographic atlas.[16] In order to compensate for some cartographic errors in the maps of the period, the data provided in atlases, information on the level of urbanisation was reassessed by using the results of 1910 Austro-Hungarian census as well as data from post-war censuses. Thus, the information about the level of urbanisation was drawn from the 1910 census and from additional data extracted from post-war sources of population data.

Against the background of the differences between metropolitan banking centres, regional centres and sub-regional centres, the classification of towns with identified local banking produced the most dilemmas. Local banking mostly occurred in small towns with a population of less than 10,000. As a result of the multitude of towns and financial institutions that belong to the category of local banking, it was necessary to make an additional distinction between very small towns (often bigger villages) with a population of less than 4,000–6,000 people and other small towns which are still considered as provincial towns, but which were too unimportant to be subregional centres.

It is obvious that the distribution of population in small towns indicates a difference between agriculturally advanced, industrialised regions and non-marketised regions with small scale properties. By trying to include approximately one third of all local banking settlements in the category "small towns" and assigning the rest to the category "very small towns", it was found that criteria for their distinction in each region were slightly different for each region.

The final step of grouping urban settlements for our analysis consisted of a combination of two criteria. On one hand, there is the level of urbanisation and on the other hand, the town's financial importance for the central bank. The data about the main financial centres (such as Prague, Budapest …), the regional economic centres and the sub-regional economic centres were analysed separately. All other places with identified provincial banks were classified as "small towns" and "very small towns". In the databases and in our financial calculations as well as in the presentation of the results in this text, the following terminology and symbols were used:

[16] Prof. Dr. H. Haack, *Stiedlers Hand-Atlas* (Gotha, 1925). The following maps were used: No. 46 (Bohemia), No. 47 (Moravia – Slovakia), No. 48 (Donaustaaten), No. 49 (Hungary) and No. 50 (Yugoslavia). Rarely enough, this atlas presents all assessed countries with the same sensitivity, with the help of its cartographic symbols for the levels of urbanisation. Compared to other atlases published in the 1920s, *Stiedlers Hand-Atlas* was the most detailed and reliable source of required information. ("*Hand-Atlas"* might be a misleading name for an almost 15-kilogram-heavy publication).

Table 1

Criteria for grouping of the towns

Type of banking	Local banking		Regional banking		Metropolitan banking
Type of Town	Very small town	Small town	Sub-regional centre	Regional centre	Main regional centre
Slovakia, Croatia, Srijem, Bosnia and Herzegovina, Danube region	Les than 4.000 people	More than 4.000 people	Agency of the Austro-Hungarian Bank	Branch of the Austro-Hungarian Bank	Bratislava, Zagreb, Sarajevo
Danube Tisza region and Tisza region in Hungary, Vojvodina	Les than 6.000 people	More than 6.000 people			Budapest, Debrecen, Subotica
Bohemia, Moravia, Silesia	Les than 4.600 people	More than 4.600 people			Prague, Brno

There is a slight possibility that some of the towns changed their level of urbanisation during the assessed period. Some major changes regarding the level of urbanisation occurred, for example, in the biggest towns. After the First World War, they grew as a result of their favourable administrative or strategic positions. However, these towns are outside the scope of our attention and interest. Further changes occurred against the background of the decline of towns in borderland regions.[17] It is, however, worth noting that it usually just appeared to be a decline compared to the growth rate of the new administrative centres. According to 1910 and 1925 population information, there was no absolute decline in the population. It was decided to use the post-War situation in cases that indicated a shift in the level of urbanisation. However, such cases were rather rare.

In many cases the financial importance of a town did not correspondent to its level of urbanisation. Consequently, the financial strength of a town was less dependant on the population figures and more on its strategic position, its economic quality and its surrounding area. Just a few industrial enterprises, a railway station or a strong marketplace can turn a very small town quickly into a very active economic and financial place. Therefore, it was sometimes necessary to switch categories when assessing the financial importance of a town and sometimes it was just excluded from the statistical analysis. Such cases were rare as well.

[17] E.g. Subotica, a town where there was no decline in population figures after the First World War, but it lost its competitiveness compared to a growing Novi Sad, whose strategic position rose up within the new borders.

Table 2

Quality of balance sheets data base

	Total number of provincial banks in analysis	Analytically useful balance sheets	Incomplete or missing balance sheets	Percentage of satisfying balance sheets
1913				
Bohemia	247	217	30	87.85 %
Moravia and Silesia	124	115	9	92.74 %
Hungary	575	568	7	98.78 %
Slovakia	223	220	3	98.65 %
Vojvodina	162	148	14	91.36 %
Croatia	195	183	12	93.85 %
Bosnia and Herzegovina	31	29	2	93.55 %
1925				
Bohemia	248	196	52	79.03 %
Moravia and Silesia	120	99	21	82.50 %
Hungary	557	519	38	93.18 %
Slovakia	80	68	12	85.00 %
Vojvodina	141	99	42	70.21 %
Croatia	123	104	19	84.55 %
Bosnia and Herzegovina	61	55	6	90.12 %

6. Elements of the identification database

In order to understand provincial banking, the research had to analyse all types of banking that existed in the assessed region. The very first step was to identify all financial institutions of each region – banks, as well as branches and agencies. The identification database includes branches of existing foreign banks and foreign branches of domestic banks. The classification of all credit cooperatives would have been an extremely difficult task, so it had to be limited to credit cooperatives in main, regional and sub-regional centres. Urban cooperatives in small towns were identified, too, while avoiding the identification of numerous credit cooperatives with a rural character. Approximately two thousand banks, savings banks, branches, private banking houses and credit cooperatives were identified in Czechoslovakia, one and a half thousand in Hungary and little less than a thousand in the assessed regions of Yugoslavia.[18] All data for the identification database were entered into EXCEL worksheets.

[18] Without credit cooperatives in Yugoslavia.

7. The balance sheets database

Since the identification database only provides broad information on the structure of the banking systems, more detailed information in the balance sheets was collected in order to better understand the operating of provincial banks and compare their financial strengths and business structures.

Balance sheets were unavailable for some of the banks that had been identified. As for very small financial institutes, for example, the compasses often published merely the name of the bank, the year of its formation, the names of some board members and/or some of the most important balance sheet figures. Most of the time, this was the case with banks in Transleithenia. For the sample year 1913, however, it was possible to use comparative printed sources, thus accessing a very high rate of analytically useful balance sheets. Regarding the situation of 1925, data collection was more complex. The Finanzielles Compass (published in Vienna) was comprehensive, but there were no locally published compasses dealing with the territory of Czechoslovakia and Yugoslavia in 1925.[19] The Magyar Compass and the Penzugyi Compass (both published in Budapest) contained almost complete data for the Hungary of 1925. It was impossible to completely reconstruct all information from the balance sheets. Nevertheless, a statistically reliable quantity of data was collected. Thus, it is possible to draw important conclusions about the business structure of provincial banking and the turbulent changes that characterised the financial sector during the assessed time period.

There were some other obstacles in this research project. It is difficult to read balance sheets from the assessed period. The main problem is the lack of an international, or at least a national, standardisation of accounting. To overcome this problem Vienna financial compasses were used as often as possible, while locally published directories were used only as complementary sources.

In order to make the database statistically reliable, it was ensured that the data comprises at least 86 percent of the total value of the balance sheets. While adding the data, it was possible to see whether the sum of compiled data on the assets and liability side corresponded to the balance sheets total. Thus, typing errors were avoided and incomplete balance sheets easily identified.[20] Most of the balance sheets used for the analysis have more than 95 percent of the balance sum calculated in the structure of the balance.

8. The statistical analysis of the identification database

The aim of the statistical analysis of the identification database was to outline the main differences in the structures of financial service providers regarding regions and levels of financial activity. Firstly, financial institutions were divided into analytical categories,

[19] Whereas the high quality data on banking in Vojvodina which had been collected by the Association of Banks in Vojvodina has to be recognized.

[20] In about 5 percent of the typed balance sheets, it was possible to recognise typing or printing errors, which were then easily corrected.

such as “banks with and without branches”, “municipal banks”, “branches of metropolitan, regional and local banks”, etc. These groups differ slightly from region to region. Secondly, the number of each type of institution in each town was calculated. Finally, the results of the second step were grouped and average values for each region and financial sub-group of the towns were calculated.

The data allowed us to perform a number of structural analyses, such as to calculate the average number of banks or branches per town (in each sub-category), the ratio between banks and branches, etc. One of the rather interesting calculations is that we can find out more about the structural integration of regional and local banking in the whole banking system.[21]

9. The statistical analysis of the balance sheet database

The aim of the statistical analysis of the balance sheets was to draw up an average balance sheets structure and calculate some average financial indicators. The categorisation of the data was performed based on the towns where the banks have operated. If there were several banks in one town, they all together constituted the financial structure of this town. Therefore, the balance sheets of all banks in one town were merged and the result was used to calculate the financial business structure of this town. Then the ratio of the main balance positions to the balance sum for each town was calculated. The next step was to find out the average ratios for the groups of towns.

Taking into account the different banking practices and the lack of an accounting standardisation, calculating each position from the balance sheet would have been superfluous. It was more useful to combine values based on similarities. For liabilities, three analytical categories were set up: own resources, deposits and borrowed resources. The category own resources is the sum of capital, reserves and pension funds. Savings and current account deposits were added up in the category deposits and the category borrowed resources comprises money from creditors and re-discounts of bills of exchange. The assets sides were more complicated and unreliable, but it was nevertheless possible to calculate the main asset indicators such as cash and giro/total, stocks and shares/total, bills of exchange/total, mortgage loans/total, property/total and other loans/total. General indicators, such as balance sum totals, profits/capital, profits/total, long term assets/total and liquidity, were very interesting and useful as analytical results.[22]

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[21] Methodology of calculation of integration indexes is based on ratios, which individual banks, branches of higher ranked banks and branches which belong to the same level of banks have against the whole number of banks and branches in some region. We can calculate coefficients of independency, horizontal integration and vertical integration. Coefficient of independent banking is calculated by dividing independent banks with total banks and branches in some region and financial level. Coefficient of horizontal integration is number of branches of the same group (regional or local banking) or lower group divided with total number of banks and branches. Vertical integration is indicated with appearance of branches of branches of distant banks or banks on higher level of urbanisation.

[22] The liquidity was calculated by dividing the assets. A bank could easily, or at least at short notice, turn to its liquidity (cash, giro resources, bills of exchange, Lombard, stocks and shares) which its liability bank could eventually pay (deposits and borrowed resources). It is not a perfect indicator, but differences on regional and financial levels are unmistakably recognizable.

Having calculated the ratio of each group value to the pure balance sum, it became easy to compare the balance structures of banks or groups of banks. Thus it is possible to produce an average value regarding the business structure and the usage of its main financial instruments by various groups in the towns. The different financial business practices of provincial banks in different regions can be compared against the background of different levels of urbanisation and financial importance.

10. Results of the analysis

The results of the analysis were numerous financial indicators on banking structures and balance sheets structures. These financial indicators could be compared regionally, locally and over a time span. Also, this comparison exceeds the country borders. Taking into account the fact that banks have published their balance sheets annually, it is possible to build annual balance sheets structure series. In that sense, such an analysis surpasses the barriers that are typical for national accounting. However, we have to find the mechanisms to transform banking structure and balance sheets data into useful indicators for understanding of past economies and societies.

First we had to find out how the banking structure has reflected the economic life of local communities. The analysis of the identification database provides a clear view of the banking structure of the assessed region. The most interesting result was, probably, the unmistakable identification of the main financial networks. This does not only include financial networks of the main financial centres, but also regional networks. As those networks were the results of real business transactions, it indicates the major business flows. Another result of the analysis of the identification database was that we were able to track the development and metamorphoses of provincial financial institutes, which indicate the shaping of economic elites on a provincial level. That is to say, we have to know enough about banking history to be able to learn about economic elites, business opportunities and crisis, etc. from the simple facts of the appearance and disappearance of provincial banks and branches.

Balance sheets analysis provides comparable economic indicators. Simple information, such as total savings in some towns, savings per head indicators, and balance sheet totals clearly indicate the level of economic activity and possibility of the accumulation of capital. The comparison of this data and their geographical display gives us the opportunity to recognise regional differences on a very detailed level, something that would not be possible through national accounting instruments. By using relative indicators such as standard deviation, we can also make comparisons over time.

The analysis of the balance sheet database provides answers to the following questions:

- To what extent does a provincial bank depend on resources from its customers? A response can be drawn from looking at the ratio savings/balance total.
- To what extent do provincial banks rely on their own capital and the capital of its shareholders? An answer is given by the ratio own capital/balance sum. If provincial

banks were unaffiliated with big banks, this value indicates the strength of a local economy and local financial elites in accumulating financial means.

- To what extent do provincial banks rely on the banking system as a source of working capital? A possible answer is indicated by the borrowed resources/balance sum ratio.
- Was provincial banking profit-oriented and to what extent? The profit/capital ratio answers this question quite emphatically. The profit/total ratio indicates to what extent a bank was expensive for their customers and to what extent a bank appeared to be an "institutionalised usurer".
- The bills of exchange/total ratio points to trade-oriented banking. A high level of long-term loans is a sign for a bank's involvement in the support of investments in the industry, buildings and the infrastructure, but it also indicates that there is financial stability in a region.
- The stocks and shares/total ratio highlights the involvement of provincial banking in broader financial networks and it points to a higher level of human resources (high-profile bankers).

The assets analysis was seriously limited. From looking at the balance sheets, it is hard to conclude who got the credit, what kind of credit it was, what other businesses the bank was involved in etc. For answers to these questions, we have to rely on case studies.

Also, some of the more sophisticated instruments related to liability and assets structure could be interesting indicators of isolation or integration of local economy in national economy. Taking into account the extreme regional differences in the level of marketisation of South Eastern European economies, those indicators have a definitive value.

The structure of the revenue of a bank could prove very useful, and it could even be statistically analysed.[23] The question whether income came from simple interest charges, provisions for banking operations, tantiems of the papers and likewise, provides strong indications about the businesses of the bank. For this research, I was not able to obtain such an analysis. The quality of income structure data was not sufficient for all the analysed banks. If research is limited to regional banking of some of the regions, there could be reliable analytical series.[24]

11. Geographical maps

A rather interesting effect of using our large database was that it provided the opportunity to produce geographical maps. In the course of this research project, a few hundred geographic maps were created. The maps were produced with the geography programme

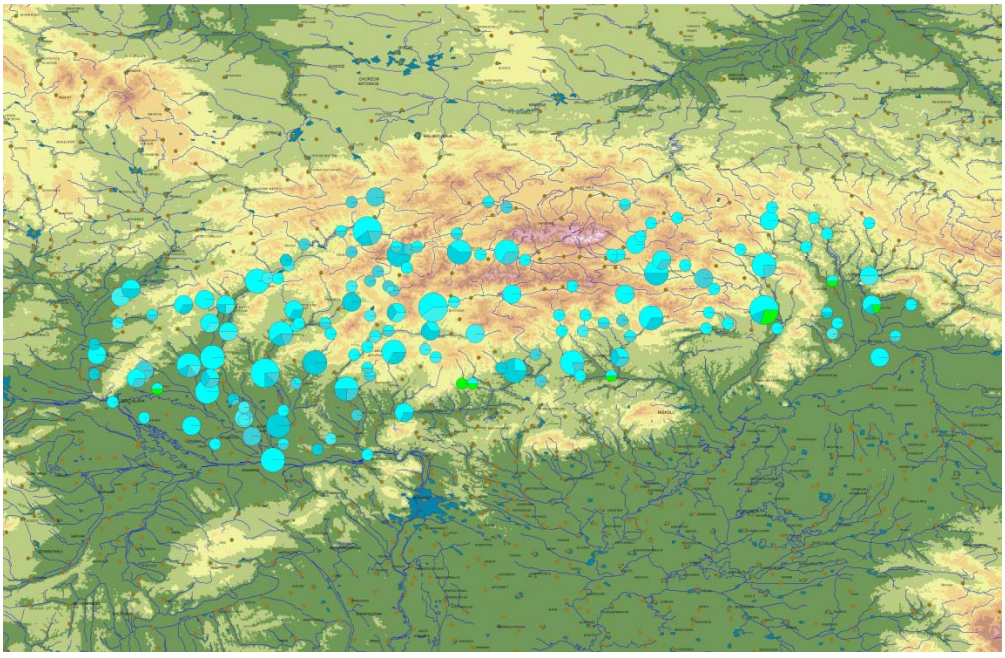
[23] Suggested by Zarko Lazarevic.

[24] Such results could be additionally strengthened with published annual reports which most of bigger banks published or by reading balance sheets analysis in contemporary literature.

ARC View 3.2. In order to produce geographical maps, data base was expanded with geographical co-ordinates of all listed towns.

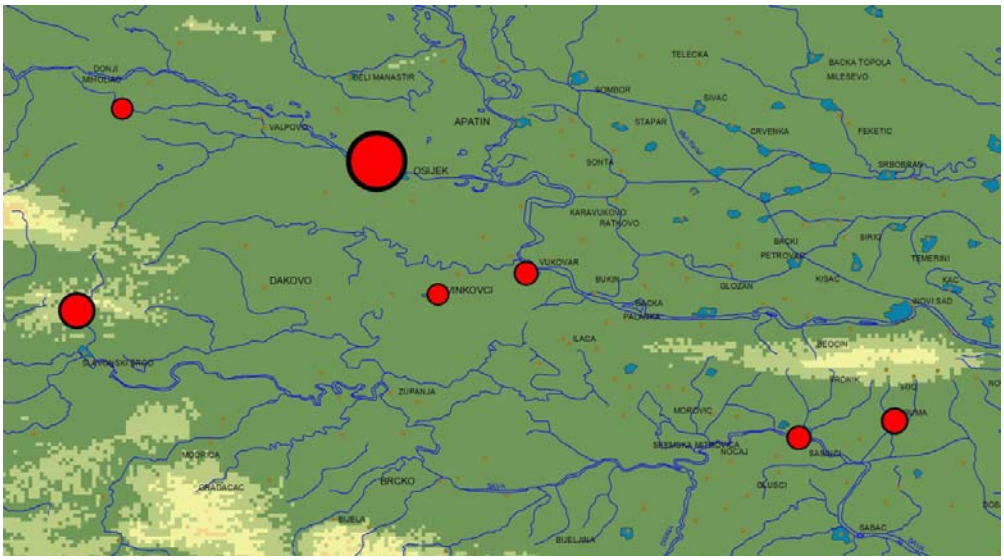
The general idea behind the creation of maps is that they make it possible to see, in a very detailed way, the spatial differences in the banking structure and balance sheets structure. Indicators such as savings per head, profit/balance sum ratio, assets and liability structures and networks of branches and agencies raise attention when presented on geographical maps. Furthermore, the possibility to compare maps of various reference years constitutes great support to future research, because it will help regional and local historians to recognise specific economic processes. Those maps could provide the interested "financial map reader" with a number of indications for future case studies problems. For example, it could be found out that some towns had a different liability structure than others, or that some town has achieved an unusual financial growth between 1913 and 1925. Only case studies could answer why it happened, but maps offer a tool that allows us to pose a number of such questions. These maps can be useful for economic history when they are combined with a background display of railway tracks, soil fertility rates, density of population, and national minorities.

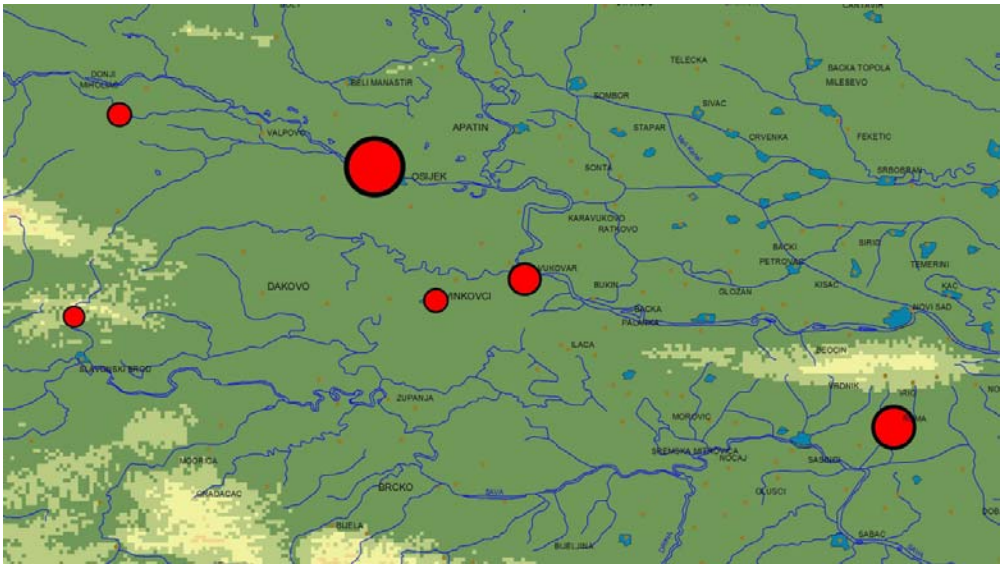
Map 1. Slovakia 1913 – provincial banking based banking system



An example map created on the basis of the identification database. Blue colour indicates provincial banks (dark blue) or branches (light blue). Green colour indicates branches of Hungarian banks. The diameter of each mark is relative to the financial level of the town. The above map indicates that the banking system of Slovakia in 1913 was based on provincial banking, with a very limited influence of Budapest. The whole territory of Slovakia was well covered with banking institutions, but they were mostly provincial banks, or branches of provincial banks.

Maps 2 and 3. Joint stock capital of banks in regional centres in Eastern Croatia and Srijem 1913/1925 (standard deviation)





While producing the 1913 and 1925 maps about financial indicators in Croatia, several interesting changes that ought to be assessed in the future were noticed. For example, the financial strength of a town named Ruma in Srijem experienced a rapid boom after the First World War, much faster than any other town in the region. At the same time financial strenght of Slavonski Brod declined. This case bears potential for serious research in the future.

12. Is it worthwhile?

The research, the methodology of which was briefly described in previous sections, took five to six years of effective work. The collecting of balance sheets and typing them into the database is an exhaustive job. Now, after all those years spent with balance sheets, I know that there is a number of possible shortcuts that can save time and energy. For future researchers, there will be no need to build the methodology up from scratch. Also, there are some sources of balance sheets and previously calculated summaries, which can be easily exploited. In the future, I will certainly use some of those items myself. However, I would not advise a young historian to undertake a similar research from scratch. There are historical topics that account for straighter results and career opportunities etc. However, if one has the patience to spend several years creating databases, as well as the adventurous spirit to journey the past by means of figures, there is a lot of work to be done.

13. Possibilities for future research

It would make sense to continue this research with several borderland regions of the Austro-Hungarian monarchy, such as Galicia and Transylvania. Similar research could be undertaken for Romania, Serbia and Bulgaria. All of these countries had a huge number of provincial banks and credit cooperatives at the beginning of the twentieth century. In Bulgaria, a number of so called "popularnite banki" is worth attending to.

Today, there is no doubt that we lack the understanding of the regional differences of many of those countries. When there is the lucky situation that statistical offices or the central bank have actually collected and preserved complete lists of provincial banks and their main accounts, it is a good basis for future research. And there is no doubt that we can occasionally find such accounts. The patient researcher, who has the luck to find such previously collected and roughly analysed data, could have the pleasure of building interesting and clear images of regional differences in economic activity, some "forgotten" economic centres, or to change some established ideas regarding the strength of one town or another.

My research did not include the huge opportunity of social network analysis, which could be done based on the membership information of boards in banks and joint stock companies. Such research would be time consuming and exhausting, but would offer interesting information and exciting findings about the shaping of economic elites.

Probably the most perspective problem to be solved in this field is to develop the connection links between banking history and national accounting. This is an almost virgin territory.[25] There is no doubt that the analysis of the banking system and balance sheets analy-

[25] Recently, Zoltan Gal provided an interesting and original methodological model, especially for regional banking, but he unfortunately shifted his career focus to other subjects. See Zoltan, Gal, "The golden age of local-regional banking. The spatial structure of the Hungarian banking system at the turn of the 19/20 the century", EABH bulletin 2/2005, pp. 19–30.

sis could provide a huge number of informations. Those informations have a huge value for the understanding of the banking history. Also, those informations surpass the barriers of the usual national accounting historiography – regional and spatial analysis and the building of time serials. Future research will have to look for a methodology, which will exploit banking history data for an understanding of the economic past.

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