Shadowing the Latin Monetary Union: Monetary Regimes and Interest Rates in the Balkan Periphery (1867-1912)*

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> "The countries that are monetarily poor and where prices are low are thus in reality under the economic domination of the countries that are monetarily rich with high prices."
>
> Laveleye (1888, 63)

Abstract

In this study we reconstruct the Balkan countries' monetary relations with Western Europe in the period of the Latin Monetary Union (LMU), particularly from 1867 to 1912. We concentrate on the complex puzzle of LMU and its relations with the Balkans within the theoretical framework of dependent capitalism, reduced to "the incompatibility hypothesis", based on which we analyse the dynamics of interest rates on the Balkan countries' foreign debt. Our original monthly database (1875-1912) shows that the Balkan countries wishing to join the LMU at the end of the 19th century were asymmetric in relation to the core countries (France, Italy, Belgium and Switzerland). Their incorporation into the LMU created an *agio* between gold and silver. Monetary union required a policy of stringency in the Balkan countries if they were to converge toward the

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core, but their remoteness from the centre (both geographical and economic) consigned them to the periphery.

1. Introduction

The Belgian scholar Emile de Laveleye (1822-1892), among the most eminent economists of his time, a staunch supporter of bimetallism[1], an ardent proponent of the free development of the Balkan peoples (to whom he dedicated books on his travels),[2] could scarcely imagine that more than a century later the Balkan region would still find itself in the same backward, peripheral, and subordinate position.[3] Today, one of the most serious consequences of the global crisis is the hastening trend towards the disintegration of united Europe and its differentiation into several Europes. The Balkans, as a specific and independently developing region, burdened with the traditional economic and political vulnerabilities and hazards of the past, has become one of these Europes. The enlargement of the Eurozone towards the Balkan economies is increasingly clouded by doubt.

Illustrating the current peripheral state of the Balkan region is the existence of monetary regimes which are extremely inflexible and dependent on the Eurozone (currency boards, unilateral euroization, fixed exchange rates. etc.).[4] In fact, without being members of the Eurozone, the Balkan countries have adopted its rules and unilaterally follow the European Central Bank's monetary policy and the dynamics of its interest rates in particular (Magnin and Nenovsky, 2016). According to traditional monetary theory, owing to

[1] Laveleye (1891).
[2] Laveleye (1888). See Figuet and Nenovsky (2006) on the current trends of economic convergence of the Balkans.
[3] The dependence of the Balkan region on external factors and above all on the intercession of the Great Powers has been examined by authors with differing ideas, among them RIIA (1939), Geshkoff (1940), Chakalov (1962), Berov (1989), Genov (2008 [1925]), David (2009), and Kršev (2014).
[4] The case of Greece, deeply interesting, is not treated here.

their scant economic influence, smaller countries generally cannot have monetary flexibility: they can gain credibility and predictability only by adopting the policy of the rich and developed countries, thereby attaining conditions for attracting cheap capital. Consequently, all the peripheral countries sooner or later abandon their monetary and political sovereignty so as to gain better economic prospects and catch up with the rich countries (Cohen, 2015).

The configuration characteristic of the Balkans today echoes an era when those countries shadowed a different monetary community, one often seen as a proto-image of today's European monetary integration. The community in point was the Latin Monetary Union (LMU), which officially existed from 1865 to 1926, but passed through various stages and a good many perturbations. The establishment of the LMU coincided in time with the first steps in the formation of the independent monetary systems of the Balkan countries (in chronological order Greece, Romania, Serbia and Bulgaria) as they gained formal political independence from the Ottoman Empire.

In this paper we reconstruct the Balkan countries' monetary relations with Western Europe in the period of LMU. That period had many similarities with the problems and dilemmas facing the Balkan countries today, especially the choice of a monetary regime and Eurozone accession. In this sense, it is important to consider whether pegging to the common LMU currency (the French franc) could lead to synchronisation and convergence of the Balkan periphery's interest rates, thus reducing the risk premium and making external financing cheaper. It is equally interesting to interpret the behaviour of interest rates and spreads in the Balkan countries from the viewpoint of the evolution of debt and the state of public finances, to derive ideas bearing on the monetary strategies of the Balkan countries today.

The paper is organized as follows. Section 2 briefly presents a complex puzzle of LMU and its relations with the Balkans region. In Section 3 we set forth the theoretical framework reduced to "the incompatibility hypothesis", on whose premises we analyse the dy-

namics of interest rates on the Balkan countries' foreign debt. In Section 4 we present an empirical reconstruction of Balkan sovereign interest rates on a monthly basis for the period 1875-1912. We then run econometric tests to check for interest rate convergence. We interpret interest rate dynamics from a historical and a macroeconomic point of view. Both the national peculiarities and the specificities of two sub-periods (1882-1903 and 1904-1912) are analysed. These two sub-periods essentially illustrate two different types of economic and monetary regime.

We believe that our contribution is significant in two respects. The first, more theoretical, concerns the asymmetry of the monetary regimes of the Balkan countries during the LMU period. The second, purely empirical, consists in our historical reconstruction and monthly modelling of interest rates of relatively under-researched countries such as Bulgaria, Romania and Serbia.[5]

2. The LMU and the Balkan Periphery: A Complex Puzzle of Geopolitics, Diplomacy and Finance

The LMU officially existed from 1865 to 1926 but passed through various stages and many perturbations.[6] Originally conceived as a bimetallic union, it quickly became a "limping" bimetallic union (Pecorari, 2008) and later a gold bloc. Its purpose was to harmonize and expand bimetallism in order to preserve it, eliminating the working of Gresham's law in response to repeated shocks in the

[5] The region's monetary problem of the era has been studied by Matthias Morys (Morys, 2014). For Greece, we have interesting theoretical and empirical studies by Sophia Lazaretou (e.g. Lazaretou, 1993, 1995).

[6] There are two requirements for a metal to become a standard: it must be minted freely and used unlimitedly as a legal means of payment (banknotes are also exchanged for this metal) (Nogaro, 1949, 33-41, 145-149). For details, see the reports of the monetary conferences (1865, 1867, 1875, 1876, 1878, 1881, 1885, 1893), as well as Laveleye (1891), Willis (1968 [1901]), Chausserie-Laprée (1911), Helfferich (1927), Rastel (1935), Nogaro (1949), Cipolla (2001 [1975]), Yeager (1976 [1966]), De Cecco (1974), Flandreau (1995), Thiveaud (1996), Pavanelli (1995), Einaudi (2000, 2001), Pecorari (2008), Bae and Bailey (2011), and most recently Gillard (2017).

price of gold or silver.[7] The establishment of the LMU (1865) and its first problems (the switchover in 1878 to the limping bimetallic standard) coincided with the initial steps of the formation of the independent monetary systems of the Balkan countries (chronologically Greece, Romania, Serbia and Bulgaria) which gained formal political independence from the Ottoman Empire.

Like the Eurozone, the LMU was, despite its technical and monetary form, primarily a geopolitically and politically motivated entity. In the struggle for spheres of influence with England and Germany, where gold monometallism prevailed, France forced a number of smaller European countries that were politically, militarily or financially dependent on it to adopt the principles of bimetallism (see Einaudi, 2001; Silvant, 2012; Gillard, 2017). In this configuration, France was a hub and the other countries (Belgium, Switzerland, Italy, and subsequently Greece) represented a periphery at differing distances from the centre.

In examining the monetary system in the countries of the Balkans, it is necessary to take account of the complicated geopolitical arrangements and relationships among the Great Powers and of two emergent factors. The first was the role of Russia, a Great Power itself, which in its contest with Turkey bestowed political independence on the Balkans. Russia had good political relations with France. Its monetary system was somewhat aligned with that of the LMU, although silver dominated in the domestic currency circulation and, with minor interruptions, paper currency could not be exchanged for silver or else it could only be exchanged with a large *agio*.[8] During the 1877-78 war, Russian silver coins (and, to a lesser extent, silver-backed paper rubles) were introduced into Balkan circulation, financing the invasion by Russian troops and creating a significant money supply in the Balkans (Bugrov, 2016). The second

[7] Overcoming Gresham's law that "bad money drives out good" was possible (according to Isaac Newton, for one) only if the rules of bimetallism were adopted on a global scale or at least by all leading countries.
[8] For details, see Miklashevsky (2012 [1896]) and Kaufman (2012 [1910]).

factor consisted in the institutions inherited from the Ottoman Empire, and in the monetary sphere the principles of bimetallism (officially since 1844),[9] although silver likewise dominated there in the domestic circulation: paper currency – *kaime* – was issued, albeit unsuccessfully, for short periods (Pamuk, 2000, 2019; Abdullah, 2013; Conte, 2018).[10]

In choosing a monetary system, not only were the Balkan countries constrained by their lack of an autonomous state and fiscal apparatus and their economic backwardness, but they also had to comply with the diplomatic, political and financial restrictions imposed by the Great Powers. In general, the monetary regime and rules in the Balkan countries followed the monetary regime of the leading Great Power(s) for those countries (Marinova and Nenovsky, 2019). The movement of monetary metals and in general the currency flow and exchange rates depended on a complex set of factors in which geopolitics, diplomacy, the interests of central banks and the power of leading financial centres played a role.

Initially, Russia and France (and, in the economic sphere, Turkey as well, as a market) wielded key influence in the Balkans. Gradually the role of Russia and France diminished, to the benefit of Germany, Austria-Hungary and England. The evolution of the monetary regime in the Balkan countries can be traced against this background. It was also reflected in growing attempts to switch over to the gold standard, despite the region's lack of gold and its general economic backwardness. The weakening of the role of France as a political and financial centre of attraction can also be also be detected in the other members of the LMU (Ousset, 1990). Nevertheless, France and the Banque de France, as the LMU centre, continued to play a prominent role for the Balkan countries until the outbreak of the wars.

The two volumes of memoirs of Mikhail Tenev (2014 [1938]), fi-

[9] *De facto*, even earlier, in 1834 (Conte, 2018, 63).
[10] On Ottoman monetary issues and debt problems, in addition to Pamuk's works, Tunçer (2015) and Conte (2018) offer highly insightful discussions.

nance minister at that time and later governor of the Bulgarian National Bank (BNB), provide vivid evidence regarding the influence of the Great Powers on the monetary processes in the Balkans and are an important source document for the economic and monetary development of Bulgaria and the Balkans in the period from the liberation to the Balkan Wars. According to Tenev (1856-1943), initially Bulgaria was under the influence of both Russia and France, between which a definite rivalry existed. Numerous facts prove the Russian influence – Russian silver coins penetrated the circulation, the Russians created the BNB in 1879, and the first Governor was Russian. Later, Russian Jews proposed that the BNB (established as a state bank) be turned into a shareholders' bank with the participation of foreigners.

Meanwhile, France exercised growing influence as a financial centre and as a model to be followed in building a monetary system. There is compelling evidence to this effect. Despite resistance, two French experts (Dominique Hoquedez and Eumène Queillé) were formally invited in 1880-81 to advise the Bulgarian government, and in 1882 M. Tenev was sent to France for half a year to study the French monetary system, spending much of his time at the Banque de France. The first Bulgarian monetary law of 1880 on the minting of coins was drafted entirely according to the system of French bimetallism (Tenev, 2014 [1938], vol. 1, 99, 370). France did not lag behind Russia and likewise made a proposal in 1882 to turn the BNB into a shareholders' bank, with the obvious intention of becoming a major shareholder in the new bank.[11] French policies were promoted by the politician Grigor Nachovich, a graduate of a French university and an economic liberal. The attempts to transform the BNB came to no avail. Russian monetary influence received a strong blow after the demonetization of the Russian silver ruble (1886-87). The monetary system was strengthened.

In 1884-85 the Bulgarian elites decided to draft a law on the BNB

[11] In 1899, France made the same offer for the transformation of the BNB as a condition for granting credit (Tenev, 2014 [1938], vol. 1, 248).

as an entirely Bulgarian state bank. To do this, they turned to other smaller countries of the LMU and above all to Belgium and the Belgian central bank. Tenev and the minister of finance, Ivan Geshov, were sent to Belgium in 1885, writing extensive reports on the Belgian monetary system. Geshov also studied the other two small member countries of the LMU – Switzerland and Greece – during visits there.

After 1886-87, the influence of France and especially of Russia waned, to the benefit of Austria-Hungary, Germany and, in part, England (the gold standard dominated in the latter two). In 1888, Tenev was sent to Vienna and then to London and visited the Bank of England (Tenev, 2014 [1938], v. 1, 133-138). On the other hand, German banks (Deutsche Bank, Dresdner Bank) played a leading role in negotiating and granting the first loans to Bulgaria. To be sure, those loans were in gold. Subsequently, proposals and laws were drafted in 1891, 1895 and 1897 on the adoption of the gold standard and on demonetizing the silver five levs, but those attempts came to naught (Romania introduced the gold standard in 1890).

The history of Serbia's and Romania's relations with the Great Powers and their financial institutions played a key role in the choice and subsequent dynamics of the monetary regimes in both countries. As in Bulgaria, there, too, the Great Powers contended for influence, for example in railway construction (Hertner, 2006). Despite differences, most notably Russia's role as regards Serbia and Romania, the overall dynamics were similar. Significantly, at the initial stage of building the monetary systems and the national central banks, both countries mentioned the influence of France and subsequently of Belgium, whose monetary institutions and laws were actually copied (see Gnjatović et al. (2009 [2003],[12] Pecorari, 2006, 223).[13] Bulgaria, as well as Serbia and Romania, encountered the

[12] In 1881, France, Russian and Britain made proposals for the establishment of a central bank in Serbia, but the most active in this respect was France (Gnjatović et al., (2009 [2003]). In 1884, when the Popular Bank was established, the Belgian accountant and financier Charles Boshman was invited as a leading expert.

[13] The discussion in the Balkan countries on determining the status of the central bank

problems of demonetization of foreign silver coins and especially of Russian silver rubles, which had financed the entry of Russian troops and the Russian presence in the 1877-78 war with Turkey. According to Russian archival documents, the Russian authorities considered silver rubles as an important lever of influence. Already at the outset of hostilities, the exchange rate was determined by the silver content of the ruble whereas 1 ruble = 4 francs (pegging the ruble to the franc reflected the view that the franc could become a world currency). The Russian authorities wanted to impose silver paper rubles, of greater advantage to them, but the Balkan population preferred coins (for details, see Bugrov, 2016).

For a variety of reasons, a group of European countries adopted the gold standard after 1873. Silver production was on the rise while demand for it in Asia declined. After 1878, the countries of the Latin Union turned to "limping bimetallism," thereby radically transforming the regime. Though silver was a legal means of payment, the coining of it was banned (first for individuals and later for the state). Silver coins (5 francs) were limited to a definite amount per capita. They were used only as change and consequently were nationalized (especially after the demonetization of the 5-franc silver coin, which was the only silver coin of full value). Therefore, silver gradually turned into domestic, national money, while gold became external, international money. It was not until around 1904 that the stabilization of the international monetary system on a gold basis became a reality. The mining of gold increased and met demand. Then most countries adopted *de facto* the gold standard or the gold-exchange standard (Nogaro, 1949, 99; Helfferich, 1924).

The individual Balkan countries inherited, albeit with some differences, the prevailing trends in the economically disintegrating Ottoman Empire, and the problems facing them were similar. Overwhelmingly agricultural, severely underdeveloped industrially, lacking essential infrastructure, a state apparatus and efficient insti-

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was similar to that on the status of the Belgian central bank fifteen years earlier. On the Belgian debates, see Pecorari (2006a).

tutions, the Balkan countries had no way to develop except by attracting foreign capital.[14] Governments had extremely tight revenue sources. Tax collection was limited, there was no significant tax base or fiscal structure. Domestic savings were almost non-existent. In the early stages, the money income (seigniorage) was an important though only a potential fiscal source, while monetization was extremely limited and mostly consisted of foreign coins (Turkish, Austrian, Russian, etc.). Subsequently, parallel to the monetization of the Balkan economies and the minting and penetration of their own metallic and mostly paper currency, seigniorage rapidly increased its share and became the leading source of state revenue (Morys, 2014).

In this initial impasse, the new elites of the Balkan countries accepted that the only possible path to industrialization and infrastructure development lay in attracting European capital (mostly debt).[15] To achieve this, it was necessary to demonstrate monetary stability, to offer a sign of future "civilized" monetary and financial behaviour. The only way that could be done was to adopt the rules of the Latin Monetary Union. The Balkan countries adopted the LMU's rules informally, because their applications for official membership were rejected (except for Greece, which was admitted to the LMU in 1869; see Einaudi, 2008). A unilateral commitment to peg the exchange rate to the gold French franc was undertaken by Romania in 1867, Serbia in 1873 and Bulgaria in 1880, i.e. 1 franc = 1 lev = 1 leu = 1 dinar (CMI, 1890, 454).[16] That commitment ended with the wars of 1912-1914.

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[14] See Markovitch (1919), Palairet (1997), Nenovsky and Penchev (2015, 2015a). In describing the monetary history of the Balkan countries, we have drawn on a variety of sources. For the sake of brevity, they are listed in the "Historical Sources" section at the end of the text.

[15] It was difficult to break this vicious circle not only in practice but also in theory, even if the ideas of catching-up levers, later developed by Alexander Gerschenkron and Ragnar Nurkse, had been mobilized.

[16] Slăvescu erroneously states that Romania became an official member of the Union only in 1889 (Slăvescu, 2013 [1925], p. 48). See also detailed developments in Băicoianu (1932). According to Stoenescu et al. (2011, 174-175) and based on Băicoianu (1932), the ratio adopted in Romania was 1:14.38, and Romanian law did not allow private minting of coins, the state having a monopoly.

In general, archival documents and contemporary data do not clarify the reasons for the denial of official LMU membership, but it seems safe to assume that they were political (Willis, 1968 [1901], 83-84; Einaudi, 2008, on the denial of Romania's membership) and also represented a reaction to violations of the LMU's rules by Greece and Italy.[17] Evidence of the unilateral and asymmetrical tying of the Balkan countries' monetary system to the countries of the LMU (leaving aside the case of Greece, which was a formal member) is to be found not only in the legal restrictions, but also in the non-acceptance of coins minted in the Balkans (silver and gold coins alike) in the domestic circulation of the member states (no coin minted in the Balkans appears in the list of acceptable coins in France; Chausserie-Laprée, 1911, 250-252).[18] In fact, Greece was admitted for purely political and geostrategic reasons, that is to say to distance it from Russia. According to H. P. Willis:

> "Economically unsound, convulsed by political struggles, and financially rotten, [Greece's] condition was pitiable. Struggling with a burden of debt, Greece was also endeavouring to maintain in circulation a large amount of inconvertible paper. It was not territorially a desirable adjunct to the Latin Union, and its commercial and financial importance was small. Nevertheless, its nominal admission was secured, and we may credit the obscure political influences, to which reference has been made in a preceding chapter, with being able to affect what economic and financial considerations could not. Certainly, it would be hard to understand on what other grounds its membership was attained. The unit adopted was to be silver drachma, -900 fine, corresponding exactly to the franc, with multiples analogous to those of the French system. When we come to study the coinage history of the Latin Union, we shall see that little use of the new system was ever made by

[17] Henri Cernuschi's proposal for the survey of minting silver in the Balkan countries (CMI, 1881, 75).

[18] For their part, the three countries later restricted and subsequently banned the circulation of foreign silver coins because of the resulting intensive outflow of gold.

> Greece. The coinage has been insignificant. Thus, Greece was a mere useless appendage to the monetary league. Its admission is another fact tending to confirm the political inferences already drawn." (Willis, 1968 [1901], 81)

Despite their unilateral commitments, Bulgaria, Romania and Serbia, like other peripheral LMU member states (Italy and Greece, for example), very quickly started to bend the rules of LMU beyond recognition. There was often a complete disparity between what was declared as a system and what was done in practice, namely the initial dominance of silver coins in domestic circulation and subsequently of banknotes, turning these into compulsory paper currency. Gold remained currency for external circulation and was concentrated in the central bank. This is further evidence of the trickiness of transferring formal institutions from developed countries to underdeveloped ones, where they were combined with long-standing informal institutions reflecting different collective interests and power relations (see the recent studies of the Ottoman Empire by Pamuk, 2018, and Conte, 2018). We shall present evidence of the complexity of copying monetary institutions of the LMU countries in the Balkans in the next section.

3. Theoretical Framework: Monetary Incompatibility Hypothesis

The disequilibria between the centre and the periphery of the world economy, especially under the pre-war international gold standard, have been analysed repeatedly. It is generally accepted that the adjustments were not automatic but asymmetrically distributed, with the countries of the periphery shouldering most of the burden.[19] In this respect, the colonial zones (e.g. India, Africa) or periphery countries (Latin America, the Balkans and others) had functionally similar tasks in relation to the core countries. The periphery

[19] For instance, see Bloch-Lainé (1956), Bloommfield (1959), Triffin (1964), Ford (1962), De Cecco (1974), Vernengo (2003), and Della Paolera and Taylor (2012).

constituted a major market for core countries' industrial goods. As a whole, that market followed the inflow of capital in the periphery. Colonies and periphery countries, whose economies were agricultural, provided raw materials and natural resources for the core. Gold flows were not automatic and rarely occurred freely. In most cases, they went from the periphery to the centre. Most periphery countries, including the Balkans, were forced to suspend the gold standard and to introduce fiat paper money.

One of the proofs of those bouts of turbulence and of the contradiction between domestic and foreign currency was the persistence of the *agio*. The *agio* can be defined as a market premium (deviation) on gold coins over the official rate of those gold coins (later gold-backed banknotes) with respect to silver coins (silver banknotes). The *agio* was one of the key variables whose behaviour illustrated the whole range of issues related to the Balkan economies' adoption of the core European countries' monetary regime. The *agio* was closely related to the interest rate and debt dynamics at the periphery, and was evidence of the asymmetry between the centre and the periphery (manifested in the structure of their balance of payments). In other words, it showed the deviation from the "potential equilibrium" of the Balkan monetary markets, or the Balkan countries' real exchange rates misalignment. The *agio* not only led to the accumulation of debts and disequilibria, but it also indicated the level of distrust in national silver banknotes and paper money compared with international gold currency.

The *agio* undermined the income of the state and increased its deficit, creating a shared environment of monetary uncertainty, incurred losses for the state (central bank), and scope for corruption and speculation (Tenev, 2014 [1938], Iordanov, 1910). Consequently, suspension of the *agio* became the primary objective of all Balkan governments. According to Willis:

> "The *agio* created a lucrative commerce which acquired enormous proportions. The coin actively drained away by the money changers accumulated in their hands and was sold at

> the highest prices when imperious needs demanded its use in large proportions." Willis (1968 [1901], 69)[20]

We consider that a chain of cause and effect could be triggered, featuring a self-destructive dynamic whereby the choice of a monetary regime, namely the adoption of a fixed rate to the French franc, combined with the specificities of the Balkan economies, led rapidly to budget destabilization and to the accumulation of debts (see Figure 1). That went hand in hand with the emergence of a considerable *agio*. In technical terms, the *agio* was the immediate result of the deformation of the money supply structure and of the money market towards silver. Nevertheless, the monetary sector was closely related to the structural changes of the balance of payments. In other words, the chosen monetary regime led to a vicious circle between the monetary sector and the balance of payments.

Capital movements gained a leading role within the framework of the balance of payments. The trade flows and the current account as a whole were derivatives of the capital movements (adoption of the LMU's rules signalled a conservative monetary policy, thereby reducing uncertainty and the cost of attracting European capital).[21]

Despite the existence of non-productive loans (war loans, above all) at the outset of political independence, capital and loans were initially allocated for building infrastructure and were productive. They fuelled imports of industrial goods, machines and technologies. This first stage saw a net gold inflow to the Balkan region, with the *agio* thus at acceptable levels. Within that configuration, the silver money supply appeared essentially to be inherited (foreign coins, mostly silver rubles, which had penetrated in the wake of the wars of liberation, etc.).

Later, however, the situation changed and the net gold flow quickly turned negative. Agricultural produce and raw materials generated relatively lower revenues and their prices dropped more

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[20] For an interesting recent analysis of the *agio* and public finances and British paper money during the period 1797-1821, see Antipa (2016).
[21] In the literature this is referred to as the "Empire effect."

steeply compared with those of industrial goods (i.e. the terms of trade deteriorated). According to contemporary testimony:

> "Exports are by far the most important source bringing gold into the country. As farm produce plays a predominant role in Serbian exports, the export figures depend chiefly on the harvest. However, conversely, Serbian agriculture is still not well developed. […] Borrowing is another means of supplying the country with gold, but these inflows of gold into the country are only temporary, for when the debt comes due, an equal sum, plus interest, will go out of the country. Therefore, in order to act as an instrument against the *agio*, these borrowings must be used productively. This is notably the case for the borrowings that were used to build the railways, to create the tobacco and match monopolies. Unfortunately, the majority of Serbian borrowings were undertaken only to cover budget deficits or to purchase arms and munitions, imported from abroad in most cases. It is obvious that instead of improving the exchange, these borrowings contributed instead to a large extent to worsening it." Bochkovitch (1919, 145-147)

The servicing of outstanding foreign debts began in this second stage, and annuities were payable in gold. The *agio* began to grow at an alarming rate, leading to losses for the state and the central bank (the gold reserves decreased).[22] The Balkan governments were divided in their opinion over the need, on the one hand, to fight the *agio*, which basically forced them to resort to new, already non-productive foreign debts (so as to increase their gold reserves),[23] and, on the other hand, to increase seigniorage by issuing new quantities of silver coins and banknotes (attempts to issue gold banknotes failed in Serbia and Bulgaria). Public finances began to be completely dependent on foreign debt in the last decade of the 19th century and at the outset of the 20th century. The political and economic interests

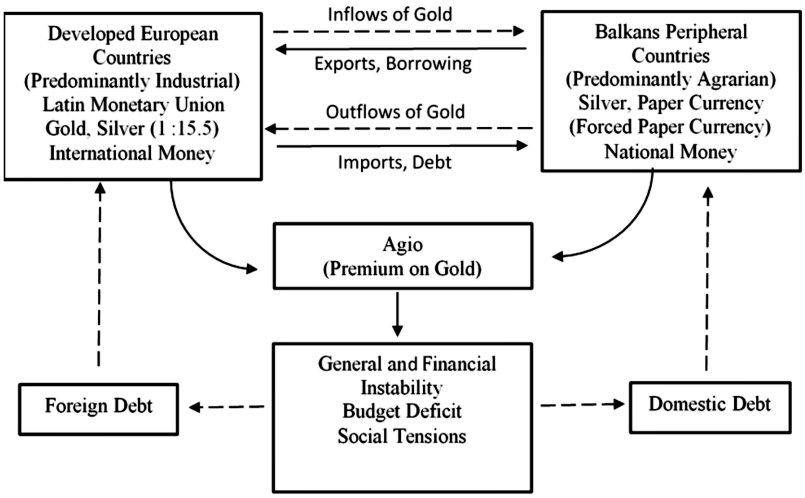
[22] For Bulgaria, see Iordanov (1910).
[23] In today's crisis, Greece negotiates loans in a similar way in order to service outstanding debts.

involved in negotiation of foreign loans resulted in political instability and frequent government reshuffles. Bulgaria offers a telling example: foreign loans caused the collapse of three governments within the span of a few years (Iaranov, 1934).

Our reflections can be summarised as "an incompatibility hypothesis", i.e. incompatibility of the periphery with the monetary regime of the centre. In fine, the dynamic incompatibility between the monetary regime, which followed the monetary policy of the developed countries in pursuit of development, and the sustainability of the balance of payments and public finances. The relation between the balance of payments and the monetary sector was indirect, intermediated by the public sector (the budget). The main causal channels are illustrated in Figure 1.

The above-mentioned relations are featured today by the theory of "the monetary approach to the balance of payments," but this had yet to be formulated back then. It is no accident that there were two theories of the *agio*, often regarded as mutually contradictory. The

FIGURE 1
Balkans Periphery and European Core:
the "Bad Dynamics" Theoretical Frame



first considered the *agio*'s root cause to be the monetary sector (i.e. the quantity theory of money, Olanesco, 1900). The second considered the root cause to be the balance of payments (Bochkovitch, 1919). At the time, the two theories were held to be completely different.[24]

In this connection, it is interesting to dwell on the specificities of *the monetary sector* in the Balkan countries. That sector's condition contradicted the adoption of the monetary rules of the LMU. As already mentioned, the Balkan countries were agrarian, had no savings or tax base, and were poorly monetized. Dozens of foreign coins, especially of silver and copper, were in circulation. Actually, there were no gold coins in the region (Cercel, 1908; Minei, 1912; Bochkovitch, 1919). The low monetization of the Balkan region is illustrated by Table 1, contained in an 1884 report to the Bulgarian parliament in 1884 by Finance Minister Mihail Tenev.

The situation deteriorated during the first years of independence, because along with the Russian troops there was a considerable influx of Russian silver rubles, whose official fixed rate to the French franc was much higher than their market value. Thus, for instance the exchange rate in Bulgaria, namely 1 ruble = 4 francs = 4 levs (the lev was fixed to the franc), persisted for a long time, but the ruble was worth considerably less on the market. For example, the ruble was exchanged for 3.10-3.15 levs at the currency exchange in the city of Rousse (Bulgaria), while in Vienna it was exchanged for 2.9 levs. Problems were caused by the differing rates obtaining in the Balkan countries, which resulted in a currency arbitrage. There was silver inflow above all in Bulgaria, where the ruble rate was higher than the market rate longest and gold immediately went into hiding.[25]

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[24] One of the first economists to offer a comprehensive theoretical analysis of the *agio* in the light of the development of paper currency and to set forth "the theory of the monetary approach to the balance of payments" was the Russian economist M. Tugan-Baranovsky in his book *Paper Currency and Metal* (Tugan Baranovsky, 1917).

[25] For instance, the rate went from 4 to 3.7 francs very quickly in 1879 and then to 3.5. In Serbia, it was 3.5, then 3.3 francs (Tenev, 2014 [1938], v.1, 359-367, v.2, 253).

Table 1
Gold and Silver Reserves of the European States in 1882

Country	Gold reserves		Silver reserves		Gold per capita	Silver per capita
	Francs	%	Francs	%	Francs	Francs
United Kingdom	3,066,500,000	63	479,600,000	13	86	14
Germany	2,005,400,000	86	1,143,000,000	36	44	25
France	4,531,900,000	59	3,124,500,000	40	121	83
Belgium	533,500,000	63	307,300,000	36	96	55
Switzerland	103,600,000	57	76,200,000	42	36	26
Italy	749,800,000	67	362,600,000	32	26	12
Sweden and Norway	161,800,000	78	43,200,000	21	18	5
Netherlands	151,800,000	34	292,600,000	65	37	72
Austria	169,700,000	38	274,000,000	61	4	7
Russia	617,500,000	100		0	6	0
Spain	673,400,000	65	362,600,000	35	40	21
Portugal	248,600,000	79	62,200,000	20	54	13
USA	2,919,600,000	72	1,087,600,000	27	58	21
Balkan Peninsula	82,900,000	49	84,900,000	50	2	2

Source: Tenev, 2014 [1938], 366-367. Note: most probably central bank reserves.

There were numerous attempts to demonetize silver rubles. Bulgaria came last in this respect and the demonetization of rubles was only accomplished in 1887. Romania had taken this step in 1880, Turkey in 1884 and Serbia in 1886. In late 1881, Bulgaria, following a similar move by Serbia in early 1879, sought to restrict the inflow of LMU silver coins by decreasing their rate in levs: a rate of 4.50 levs for 5 francs replaced that of parity between the two.[26]

[26] Romania was the only Balkan country which managed to introduce, at least formally, the gold standard relatively early, in 1890. Conditions were then favourable for introducing the gold standard in Serbia and Bulgaria (in Bulgaria the *agio* was extremely low in 1888-1890, about 0.5 -1%, and in 1890 it was 0.25%), but Bulgarian politicians failed to exploit them. An attempt was made to introduce the gold standard, and the legislation was drafted to that end, but political opposition barred the path (BNB, 1929, Tenev, 2014 [1938], v.1, 396-401).

Due to the lack of gold and to restrictions on silver coins within the framework of the LMU, banknotes remained the only possibility for the economy's monetization. These, however, were very difficult to impose and led to the emergence of high *agio*. After the failure to impose gold banknotes, recourse was had to silver banknotes.

> "The banknote represents in Serbia almost the only instrument of exchange. The yellow metal has lost the role of monetary standard and is used only to carry out the payment of debts abroad." Bochkovitch (1919, 136-137)

In Serbia, for instance, the first gold banknotes were not introduced before 1886; later they rarely exceeded 1% of the total volume of banknotes, most of which were silver. This occurred even though gold reserves predominated among the assets of the central bank (Table 2). They actually increased and were used for external payments. One finds similar dynamics in Bulgaria (Table 3), with the difference that silver banknotes were introduced later, in 1899. Although gold banknotes dominated as a percentage, their volume was generally small. Fiduciary circulation in Romania is shown in Table 4. In Romania, so-called mortgage notes (*bilete ipotecare*) were issued in 1877, during the war, and they remained in circulation until 1889. Romania legally adopted gold standard in 1890.

Table 2
Fiduciary Circulation in Serbia (1886-1893)

Year	Banknotes payable in gold (%)	Banknotes payable in silver (%)	Metallic reserves in gold (%)	Metallic reserves in silver (%)
1886	15	85	69	31
1887	3.5	96.5	37	63
1888	1.3	98.7	39	61
1889	0.8	99.2	45	55
1890	0.4	99.6	57	43
1891	0.3	99.7	65	35
1892	0.4	99.6	66	34
1893	0.6	99.4	70	30

Source: Bochkovitch (1919, 109-110).

TABLE 3
Fiduciary Circulation in Bulgaria (1886-1893)

Year	Banknotes payable in gold (%)	Banknotes payable in silver (%)	Coins in gold (%)	Coins in silver (%)
1886	100	0	32	68
1887	100	0	79	21
1888	100	0	79	21
1889	100	0	93	7
1890	100	0	62	38
1891	100	0	90	10
1892	100	0	87	13
1893	100	0	79	21

Source: BNB (1929, 57-58), own calculations.

TABLE 4
Fiduciary Circulation in Romania (1886-1893)

Year	Banknotes payable in gold and silver (%)		Metallic reserves in gold and silver (%)*	
1886	100		100	
1887	100		100	
1888	100		100	
1889	100		100	
1890	100		100	
	Banknotes payable in gold (%)	Banknotes payable in silver (%)	Metallic reserves in gold (%)	Metallic reserves in silver (%)
1891	100	0	99	1
1892	100	0	99	1
1893	100	0	99	1

* Central bank assets included, up to 1888, mortgage notes, which accounted for between 30% and 50% of the total; from 1890 bills of exchange (*trate*) denominated in pounds sterling or German marks were accepted up to 30% of the total coverage. See Slăvescu (2013 ([1925], 164-166) and Stoenescu et al. (2011, 191).

Source: Slăvescu (2013 ([1925], 100, 165-166). Own calculations.

It is worth noting an institutional specificity. As already mentioned, Romania, Bulgaria and Serbia modelled their central banks on that of Belgium.[27] Importing and copying institutions without

[27] Borchgrave (1883), 68-74, Bochkovitch (1919), 170-171, NBS (2004), Minei (1912), Slăvescu (2013 ([1925]), Băicoianu (1932).

taking account of national specificities is not always felicitous. Bochkovitch observed:

> "Finding a model was not everything. It also had to be adjusted to the country's special conditions. Indeed, this was the main difficulty of the problem. The difference between the economic situation of Belgium and that of Serbia is, and especially was at that time, considerable. Whereas the former is a very wealthy country with an extremely developed industry and many credit institutions holding very high levels of capital; in Serbia, on the contrary, at the time the National Bank was created, the credit system was still quite rudimentary, industry did not exist, trade was also not very well developed, and furthermore, constant political struggles delayed progress. Yet the legislator was unable to make the necessary modifications to the Belgian system to adapt it to the setting in which it was to be applied." Bochkovitch (1919, 169-177)

But gold monometallism was difficult to implement:

> "However, to be able to come out in favour of one system or the other [Authors: gold monometallism or bimetallism], one must take account of the country's economic nature. Indeed, it is quite obvious that although monometallism is excellent from a purely theoretical standpoint, it will yield very poor results if applied to a country that is poor in that metal. The legislator proposes [but] economic reality decides. At that time, there was no fiduciary currency. The only instrument for exchange were metal coins. However, the quantity of gold coins was far from enough to satisfy the needs of monetary circulation. That situation could not continue for long without causing great harm to the country. The simplest means to lighten the burden on gold was to issue a fiduciary currency." (Bochkovitch, 1919, 97, 101)

For its part, Romania managed to introduce the gold standard legally by applying extremely restrictive and conservative measures, thus drawing closer to the states with a gold standard and above all to Germany, orientated towards the monetary system of Prussia. In

1890 the budget was balanced, half of the silver coins were withdrawn, and payments in silver were limited to small sums (Tenev, 2014 [1938] v.1, 398, Olanesco, 1900). Although the *agio* (on gold as against silver) was overcome in 1890, it reappeared later, but in a different form (*agio* on gold banknotes). The Romanian central bank and finance ministry took "draconian measures" and applied police force to restrict its spread and to preserve the gold standard, further illustrating the difficulty of maintaining a monetary regime similar to that of the developed countries. BNB Governor Mihail Tenev set forth the measures for overcoming the monetary crisis in Bulgaria in a speech to the Bulgarian National Assembly in 1900:

> "In Romania, a country close to ours in which the gold standard has existed for years, whose national bank keeps a permanent gold stock of 60, 70 million lei in its vaults and this time last year there were 45,000,000 lei there, a country where the *agio* has deviated between 10 and 60 stotinki per one hundred, last year given the same circumstances which existed in Bulgaria and in the Bulgarian National Bank the *agio* reached about 5 to 6% and speculators were engaged daily in withdrawing the gold stock from the Romanian National Bank by submitting for exchange banknotes against gold coins and sending them abroad. Do you know what measures were taken by the Romanian National Bank despite its obligation because of the gold standard in the country and the large gold stock in its vaults to exchange those gold banknotes! The bank made use of something which could discredit it greatly if the public opinion had not followed its actions and if it had been unaware of the objective of the measure taken. There were several gendarmes in front of the tellers in the Romanian National Bank who did not allow anyone to submit even an insignificant quantity of banknotes to be exchanged for gold. Moreover, the management of the Romanian Bank declared to all its customers who dared to appear in the bank and submit banknotes to be exchanged for gold that it would close their current accounts, close its tellers for all operations; apart from that it threatened that those who did not listen to reason and

> continued to insist on the exchange would be promptly expelled from the country." (Tenev, 2014 [1938] v.1, 344-346)

The "centre-periphery" relationship in the international monetary system, its instability and asymmetry were described by illustrious economists of the time.

> "The Latin Monetary Union made France the centre of a vast system of circulation, and by giving it satellites, made it a sort of monetary sun. If the other heavenly bodies that it drew into its orbit were attracted to the gravitational force of another monetary system, would there not be reason to fear that France might lose, along with its monetary influence, a portion of its economic importance?" (Ed. Van der Smissen, in Chausserie-Laprée, 1911, 218)[28]

> "By making the smaller states dependent upon France, the Latin Union hindered them, as we shall later see, from actively caring for their own interest when the fall in the value of silver began to grow more visibly, and forced upon them subsequently the necessity of redeeming a mass of depreciated metal." (Willis, 1968 [1901], 85)

In an 1888 book on the Balkans, Emile de Laveleye dwelt on the unbalanced exchange they suffered by accepting the money of the developed countries: the money deviated from purchasing power parity.

> "All the nations of Western Europe are wealthy countries with abundant circulation, therefore prices are high. The nations of Eastern Europe are, conversely, countries with low circulation, hence prices are low. This difference matters little to the inhabitants of one or the other of these groups in their relations

[28] The Romanian monetary reform of 1890, when gold monometallism was formally adopted, confirms the passage quoted above, for it was then that relations with Germany and also with Britain strengthened (both countries were gold monometallists) while those with bimetallic France weakened (Stoenescu et al., 2011, 184-185). The real injury sustained by France from the war was that Germany was enabled partially to usurp the place of France as a leader in monetary affairs (Willis, 1968 [1901], 111).

> amongst one another, but it is felt as soon as there are relations between citizens of the high-price group and those of the lower-price group. The former can easily buy from the latter; but reciprocally, the latter cannot buy from the former. If I sell a chicken in London for three shillings, I can use this money to buy three chickens in Bucharest. A thousand francs in Paris will give me three times as much purchasing power in Romania or Bulgaria. The Englishman or the Frenchman can thus take from the poor countries everything of their liking, because they will pay prices that nobody could pay locally. This is why we see all the fine and sought-after things flow to London and Paris, to the detriment of the countries that produce them. It is also for this reason that such a large number of English live abroad. Their incomes give them a much greater purchasing and consuming power [abroad] than at home. Conversely, the inhabitant of Kyiv or Sofia who would like to come to London or Paris, to consume the equivalent of a hectoliter of wheat, must, in order to do so, sell at least two hectoliters of wheat at home." Laveleye (1888), 62

From a political economy standpoint, the core European countries and above all the members of the Latin Monetary Union regularly attracted the gold of the Balkan periphery and pushed silver therein.[29]

Ending these "bad" dynamics required a radical change of regime, resolute measures in the sphere of public finances, limits on credits and flexibility in the labour market. An economic policy of this kind can break the vicious circle between the balance of payments and the money sector. A radical change along these lines oc-

[29] Paraphrasing Bismarck, one could say that "gold is a narrow blanket for many people and everyone strives to pull it towards oneself." A similar mechanism of relations was described by Marcello De Cecco with regard to the colonial monetary system between Britain and India (1974). The central countries alleviated their problems with the *agio* by exporting them. For instance, it is well known that Britain, France and Belgium had a relatively low *agio*, whereas almost all peripheral countries, not just those of the Balkans, had a high *agio*. (It was continuously above 20% in Greece and Portugal and even exceeded 30%).

curred in 1903-1905, when all three countries – Bulgaria, Serbia and Romania – adopted a new macro-economic regime.

1904 can be regarded as the beginning of a general stabilization of the European economies, with the final changeover of the leading economies to the rules of the gold and gold-exchange standard (Nogaro, 1949, 99, Helfferich, 1927). In the wake of 1904, the Balkan countries' statistics feature conservative public finances, balance-of-payments and budget surpluses, a net gold inflow, limitation of the money supply and credits. During that period (up to the Balkan wars of 1912-1913), the three Balkan countries successfully managed to follow the rules of the gold standard.

4. LMU and Dynamics of Balkan Interest Rates

We have already remarked that the decision to follow the LMU rules was motivated primarily by the prospective decrease in the cost of attracting foreign capital. Successful integration implies convergence of interest rates towards those in the zone of linkage and a narrowing of interest rate spreads. Our empirical and econometric exercise is aimed at studying the behaviour of interest rates within the framework of the "incompatibility hypothesis" set forth above.

While there are econometric studies that, like ours, examine the behaviour of interest rates in different groups of countries (correlation, volatility, deviation from purchasing power parity) consequent to the adoption of the LMU rules, they use a different empirical methodology (mainly panels) and omit the Balkan countries except Greece (for instance, Bae and Bailey, 2011, and Sophia Lazaretou, 1993, 1995).[30]

Empirical Methodology and Statistical Reconstruction

We developed a monthly data base of the interest rates of France

[30] See also Mauro et al. (2002); Garcia-Iglesias (2002) ; Della Paolera and Taylor (2012).

(3% French consol 1875-1914, taken as a benchmark)[31] and of the market interest rates on the debt securities of Bulgaria (5% bond for 1897-1914), Romania (5% bond for 1875-1888 and 4% until 1914), Serbia (5% bond for 1882-1896 and 4% until 1914) and Hungary (6% bond for 1877-1884 and 4% until 1914). Data and the statistical information are based on SEEMHN (2014) and other sources, including: national banks, *Cours authentiques* (Bourse de Paris) up to 1892, *Bulletin de la cote* from 1893 (the last-mentioned is available on gallica.bnf.fr).

The interest rates have been calculated as follows. The prices of bonds quoted on the Paris stock exchange are dirty prices (Bdp), i.e. with the accrued coupon (ac). For the French consol, the coupon payment had been quarterly since 1863. *B* denotes the price of the 3% consol (dirty price), *C* the coupon (3 francs per year), *n* the number of days between the date of the quotation and the date of the next coupon, and y the yield-to-maturity of the consol. We obtain the formula:

$$Bdp = \frac{c/4}{y} \times \left[1+y\right]\left(\frac{1}{4} - \frac{n}{365}\right) \times \left[1+\left(1+y\right)^{\frac{1}{4}} + \left(1+y\right)^{\frac{1}{2}} + \left(1+y\right)^{\frac{3}{4}}\right]$$

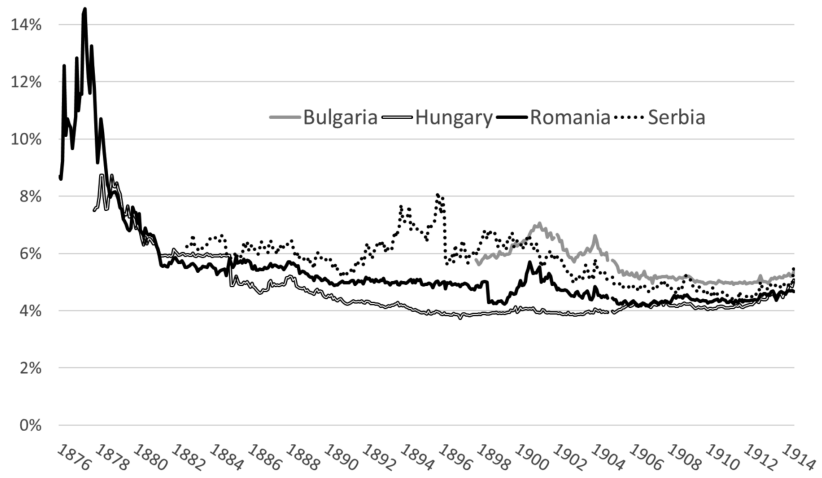
The iterative calculation is performed monthly to obtain y, the yield-to-maturity. In the case of Romania, all the bonds were issued through credit institutions and banking houses in Berlin, London and Paris. In 1875, the 5% bond was issued at the price of 357.50 francs; its face value was 500 francs. Coupons were paid on April 1 and October 1. In the case of Serbia, the 5% mortgage bonds of the railways were issued in denomination of 500 francs. They were redeemable from 1882 to 1931, by semi-annual drawings. They had been listed on the Paris exchange since September 5, 1882. In the case of Hungary, the 6% bond was issued in 1877 at the price of 84 francs.

[31] We chose France as a benchmark for interest rates because during the period in question Paris was the main LMU financial centre and the Banque de France was the leading monetary institution, taken as a model to be followed by the other members and their central banks. It was only in the wake of World War I that other centres emerged for the Balkan countries.

The 4% bond of 1881 was issued for the conversion and repayment of the Hungarian 6% loans of the years 1875-76-77. In the case of Bulgaria, because all of the Balkans bonds are long term (for example 75 years for the Serbian bond), we consider that we can approximate with the equation of a consol.

To approximate the interest rate (r_i), we must obtain the clean price *Bcp*: $Bcp = c/y$. Our calculations yield the following dynamics of interest rates on the debts of Bulgaria, Romania, Serbia and Hungary.

Figure 2
Monthly Foreign Debt Interest Rate Spreads of Bulgaria, Romania, Serbia and Hungary (over the French Consol) (1875-1912)



Source: own calculations.

Historical and Macroeconomic Interpretations

We now discuss the trajectories obtained for the cost of the debt. As mentioned, the graph illustrates several periods (common and country-specific ones). Clearly visible is the change of the regime in 1903-1904, which was common to all four countries. The cost of debt was the lowest for Hungary throughout the period, at times closely followed by Romania. Serbia and Bulgaria had considerably costlier

debts; Bulgaria's conditions for financing were always the most disadvantageous.

The graph also illustrates the decline in interest rates for Romania and Hungary after the defeat of Turkey in the Russo-Turkish war, as well as Hungary's debt conversion in 1884 (from 6% to 4%) and Romania's in 1894 (from 5% to 4%).

According to some economists, the difference between Romania and the other Balkan countries, apart from Hungary, was due to the exploitation of oil reserves (Minei, 1912). Oil made Romania an important destination of capital, and in fact the developed European countries constantly courted Romania, prompting Bulgaria's finance minister Mihail Tenev to call it "the pet child of European capitalists" (Tenev, 2014 [1938] v.1, 340). The graph also shows the downward trend of Romania's debt cost after the 1890 reform, i.e. after the introduction of the gold standard. One explanation for Romania's choice of the gold standard was its stronger ties with Germany (and also with Britain), to the detriment of its trade and political relations with France (Stoenescu and al., 2011, 184-185). Romania ran a government budget surplus already in 1902 and continued to do so in the following years (Minei, 1912, 59).[32]

Statistics for Serbia and Bulgaria clearly show two sharply contrasting regimes: up to 1903-1905 and thereafter. As regards Serbia, the reconstructed cost of the debt attests to an increase after 1890 (when debt payments accounted for most budget expenses), and the conversion following the default and the agreement with creditors in 1896 (discount of the coupon from 5% to 4%). The graph likewise shows a slight rise in the debt cost during the *coup d'état* in May 1903 and the rapid fall in interest rates thereafter, which was the result of the conservative policy of the new government [the key reformer was Lazar Paču (1855-1915)].[33] During the second period, the cost of borrowing declined. Dragana Gnjatović asserts that, compared with

[32] Curiously, an *agio* of a different type emerged, that on individual banknote denominations (for example 20-franc banknotes were valued more than other denominations).
[33] See Marković (1923).

a nominal interest rate of 5% and an effective rate of 6.47% in 1881-1903, in the years 1904-1912 the corresponding figures were 4.5% and 5.7% (Gnjatović, 2009).

There was a similar dynamic of the cost of the Bulgarian debt in the years before 1900, when the country struggled to service its debt. Great quantities of silver coins were minted and in 1899 the exchange of gold banknotes for gold was abandoned (gold banknotes were exchanged for silver). The trade balance was in deficit, compensated by capital inflows. The period saw the *agio* reach its peak of 12%-14%. The losses caused by the *agio* in 1900-1905 were enormous, amounting to one and a half million gold levs (Iordanov, 1910, table on p. 84). The graph also reveals the stabilisation following 1904 and 1905 in particular (the 1906 law on the Bulgarian National Bank guaranteed the right to issue banknotes both in gold and silver). State loans were negotiated in 1902, 1904, 1907 and 1909, augmenting the availability of gold in the country (BNB, 1929, 27). At the same time, the banknote circulation likewise increased (it rose threefold during the period 1903-1911), gold banknotes in particular (unlike in Serbia, where gold banknotes barely circulated even in the period of stabilisation).

Econometric Tests for 1882-1912

To deepen our investigation of the behaviour and integration of interest rates and spreads of the Balkan countries, we conducted econometric analyses of long-term relations. At an initial stage we used tests for co-integration of interest rates; subsequently, we analysed the extent of the β-convergence of interest rate spreads.

The main statistical characteristics of monthly interest rate spreads and their correlations for the different periods are given in the annexes. Statistical characteristics are reported according to periods: the first period (1882-1903) was financially unstable and displayed a prominent *agio*, while the second period (1904-1912) was financially stable and conservative as regards economic policy. In general, the tables show that the spreads of the first period demon-

strated considerably more volatility and a distribution far from normal (particularly in Hungary and Serbia). During the second period, by contrast, stabilization ensued and the movement of spreads was to an almost normal distribution (except for Bulgaria).[34]

The availability of a co-integration vector attests to the existence of a stable long-term relation among the variables under study. The tests for the existence of a long-term relation, interest rate co-integration of pairs of countries, produced the following two tables (Table 5 for the entire period under study, Table 6 for the second sub-period).[35]

TABLE 5
Number of Co-integration Vectors
Whole Period, 1882-1912 (for Bulgaria, 1897-1912)

	France	Hungary	Romania	Serbia	Bulgaria
France	–				
Hungary	2	–			
Romania	0	2	–		
Serbia	0	0	0	–	
Bulgaria	0	0	0	0	–

Note: Number of co-integration vectors at 0.05 level significance, 360 observations.

TABLE 6
Number of Co-integration Vectors
Second Period, 1904-1912

	France	Hungary	Romania	Serbia	Bulgaria
France	–				
Hungary	1	–			
Romania	1	1	–		
Serbia	0	0	0*	–	
Bulgaria	0	0	0*	1	–

Note: Number of co-integration vectors at 0.05 level significance, * at 0.10 level significance, 96 observations.

[34] Tables with statistical characteristics of the interest rate spread series are available upon request.
[35] All series have been integrated for first order I (1). The tests for integration and co-integration have not been included for the sake of brevity but are available upon request.

Results show that whereas in the first case (the whole period) co-integration could be detected only between French and Hungarian interest rates, during the stage of stability from 1904 until the Balkan wars two "clubs" of countries emerged, one comprising France, Hungary and Romania, the other Bulgaria and Serbia. Given a greater "statistical tolerance" (confidence coefficient of 0.10), a long-term relation could be detected between the interest rates of Romania and those of Serbia and Bulgaria (a sui generis Balkan club).

The existence of co-integration shows only that a long-term relation cannot be rejected, but it does not provide information about the processes of convergence of the interest rates of the peripheral Balkan countries toward those of the LMU and its leading member country, France. The tests of β-convergence provide more information about those processes. Usually β-convergence is used to analyse the convergence of incomes, wages and other similar variables, but it can be used for interest rates as well, e.g. for the convergence of interest rates on banks' consumer loans in the Eurozone (Vajanne, 2006). We have used the following formula for the convergence of spreads:

$$d(s_{it}) = \alpha + \beta s_{it-1} + \sum \gamma d(s_{it-j}) + \varepsilon_t$$

where s_i denotes the spread of Hungary, Serbia, Romania, Bulgaria with respect to the French interest rate taken as benchmark, and $d(s_{it})$ is the change in the interest rate spread. The equation above shows that we have a convergence if $\beta < 0$, the value of β illustrates the speed of convergence. There is no convergence if $\beta = 0$ or is not statistically significant, full convergence if $\beta = -1$. The results of the tests are summarised in Table 7.

Table 7
β-Convergence of Interest Rate Spreads (Parameter β)

	Hungary	Romania	Serbia	Bulgaria
1882-1912	- 0.04	- 0.03	- 0.02	- 0.01
(360 obs.)	(0.0086)	(0.3876)	(0.1699)	(0.5994)
1904-1912	- 0.07	- 0.15	- 0.03	- 0.019
(96 obs.)	(0.0017)	(0.0228)	(0.2974)	(0.2799)

Note: *p stat* in brackets.

The table shows that β convergence was established only in Hungary during the two periods and in Romania during the second, "financially conservative" period. It is noteworthy that that convergence was slow and weak (β coefficients have low values). Statistically significant convergence was not found in Bulgaria and Serbia (though with a negative sign, β coefficients were not statistically significant).

It should be remarked that publications of the time also classified securities in a similar way. Hungary and Romania enjoyed greater confidence as debtors, while the securities of Bulgaria and Serbia were speculative (Credit Lyonnais, Flandreau, 2004). For instance, one prominent French economist observed, "A number of government bonds in general must be currently ranked among the speculative securities: Serbian, Bulgarian …" (Leroy-Beaulieu, 1906, 84).

5. Concluding Remarks

More than a century ago, in 1912, the Romanian economist Basile Minei wrote:

> "If we compare Romania with the great Western countries: it is, for example, 4 or 5 times less rich than France, even if we take into account the difference in population. However, these figures become important if a comparison is made between the present and the past, or between the present state of Romania and that of the other Balkan countries: all proposals kept, Romania is three times richer than Bulgaria or Serbia, and 5 or 6 times richer than Turkey or Greece." Minei (1912, 64)

It turns out that almost nothing has changed since then, at least as regards the correlation of the Balkan periphery and the EU core: the differences in income and in material conditions are almost the same (see the fundamental study of Romania's development by B. Murgescu, 2010). We might paraphrase the title of the well-known book by Michael Palairet, *The Balkan Economies c. 1800-1914: Evolu-*

tion without Development (1997), as "Evolution without Convergence, without Catching Up". Europe today is still divided into several groups of countries, and the possibility of leaving the club of the poor for that of the rich – to converge – is but slight.[36]

Much like today, in the past the problems of convergence in incomes and catching up with the rich countries were often considered soluble by adopting the institutions of the rich countries, including their monetary regime. The Balkan countries were no exception. Today most of them have adopted passive and dependent monetary systems strongly tied to the centre. In most cases this has been done unilaterally (fixed and strictly controlled currency rates, monetary councils and even euroization as in Montenegro and Kosovo). The conditions today and the overall discussion on entering the Eurozone are strikingly reminiscent of the LMU period, although today the European project is far more ambitious.

Seeking a comparison, in the present study we have advanced a hypothesis on the incompatibility between the characteristics of the periphery and the centre's monetary system which the periphery strove to imitate. To survive under such dynamics, the monetary system required a strict and conservative fiscal policy, which in most cases the periphery Balkan countries were unable to pursue. The above-mentioned incompatibility was largely generated by the monetary regime itself and could not be easily overcome by the periphery governments' economic policy. It was only against the background of specific circumstances (positive trade balances) and of strict and extremely conservative fiscal policy that it was possible to block "poor dynamics" (e.g. the period after 1903-1905 up to the Balkan wars). The *agio*, like the exchange rate today, was the only variable manifesting the accumulated macroeconomic imbalances.

In most cases there was no pronounced convergence of sovereign interest rates (the cost of the debt) towards the interest rates of France, the leading member state of the LMU whose rules

[36] See the highly topical work by F. Delaisi, *Les deux Europes* (1929).

were adopted by the Balkan countries. Here we have found a difference compared with conditions today, when interest rates in most Balkan countries have converged towards those of Germany. In the years of the LMU, we can speak of definite initial signs of integration and convergence only for Romania, above all during the period following 1904, when the overall European economy and public finances stabilised and the gold standard was adopted.

In a nutshell, the adoption of developed countries' monetary rules by periphery countries has always carried the dangers of asymmetry and the emergence of a feedback mechanism by which the periphery countries accumulate imbalances. This mechanism can be overcome only under specific circumstances and given an explicit requirement for strict fiscal discipline and political stability. Though feasible, more often than not these commitments are difficult to implement, as is evidenced by the experience of the Balkan countries that undertook unilaterally to follow the formal rules of the LMU.

Finally, we would like to point out that the LMU theme provides interesting possibilities for future research. Two themes are especially noteworthy. The first refers to expanding the comparative analysis of the convergence of the interest rates to embrace two groups of countries – the formal members of the LMU (Belgium, Switzerland, Italy and Greece) on the one hand and the countries that unilaterally adopted the LMU rules (the Balkans included) on the other. Empirical analyses have been conducted concerning the first group of countries (Bae and Bailey, 2011). In this paper we have studied a part of the second group. A common panel model would add to the theme of the convergence. A possible extension in the direction of testing the power of attraction of financial centres other than France, such as Germany and Britain, is also plausible, especially with the increasing influence of gold monometallism.

The second interesting topic concerns a comparative analysis of the theoretical and practical discussions among leading economists and politicians, Western economists' missions in the Balkans, etc. Although the Western and Russian literature on the problems of the choice of a monetary regime in the period under review is vast, it

has been relatively well studied (among others: Flandreau, 1995; Pavanelli, 1995; Pecorari; 2006, 2008; Silvant, 2012). The same is not true of the debates on the monetary regimes in the periphery Balkan countries, which are equally interesting from a contemporary standpoint.

Historical Sources

Bulgaria

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