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and fiscal interference:
Bulgaria in search of its way, 1879-1913**

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Financial stability, monetary autonomy and fiscal interference: Bulgaria in search of its way, 1879-1913

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Abstract

The Bulgarian monetary system was established, immediately after independence. Having experienced it already under Ottoman rule, newly independent Bulgaria adopted the bimetallic standard. Without being a member of the Latin Monetary Union, it tried broadly to follow the principles of the convention, yet with some exceptions, the most important of which concerned the limit on silver coinage. The absence of such a clause in Bulgaria turned out to be crucial since the financial needs of the recently established state triggered excessive silver coinage which resulted in a persistent agio - a positive and variable difference between the legal and the commercial value of silver coins. The interference of fiscal authorities obstructed the Bulgarian National Bank's ability to manage money in circulation and to secure the monetary stability required by economic development. The attempts of the Bulgarian monetary authorities to eliminate the agio were unsuccessful until they acquired the right to issue silver-backed banknotes. Soon after that, in 1906, Bulgaria introduced a short-lived typical Gold standard.

The objective of this paper is to study the interaction between fiscal and monetary policy in Bulgaria, in the period between independence and the outbreak of the Balkan wars, and the ensuing financial instability resulting in a deviation from the established monetary standard. While the attempts to eliminate the agio seem compliant with the concept of financial stability prevailing at that time, fiscal interference in monetary issues was primarily intended to provide extra revenues for government spending in an effort to finance the building and management of the new autonomous state. This study is a continuation of a broader research on the peculiar transition of Balkan countries from the bimetallic system to the Gold standard.

Key words: financial stability, monetary autonomy, fiscal interference, Bulgaria.

JEL Codes: E42, E51, E63

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Introduction

A vital element in the institutional setup of a new state is the establishment of the monetary system. The primary functions of a sound monetary system are to provide a stable currency for foreign trade and a sufficient currency for domestic transactions and payments. Towards the end of the nineteenth century, most countries, new and old, of the centre as well as of the periphery, increasingly conformed their monetary systems to the rule of the metal standard. According to this rule, full-bodied coins of precious metal were to be used as means of international settlement, whereas fiduciary currency, whether in the form of banknotes or of coins with a face value higher than the intrinsic value, were commonly used in domestically. Therefore, the basic principle of the metal standard, which identified the unit of account with a definite quantity of precious metal of a specified weight and fineness, was partially derogated to allow national monetary authorities to adjust internal money supply to the needs of domestic circulation. However, this derogation to the metal rule had a limit dictated by its purpose: the issue of fiduciary money should not exceed the needs of the population for local transactions. As long as it managed to abide by these rules, a country could enjoy a relative monetary stability.

The stability of the value of money is crucial to the stability of financial relations. The pursuit of a stable measure for exchanges is best accomplished when it is entrusted to an authority which does not have itself financial interests. The Latin Monetary Union (LMU) had been formed in 1865 by France, Belgium, Switzerland and Italy with the purpose of ensuring stability and avoiding competitive debasements, by establishing a common standard for the coins of all four states. The fineness of the 5 franc piece (5 lire in Italy) was set at 0.9, while lesser coins were to be minted at 0.835. This, of course, involved a seigniorage, and hence a possible incentive to overmint small coins and flood neighbouring countries. In order to avoid this, the issue of small coins was limited, for each country, at the value of 6 francs per inhabitant. Following these rules, the LMU managed to secure a reasonable stability to its members, especially in the first years after its establishment, when it was enlarged to include also the Papal States, Greece and Romania. It was subject to strong strains in 1877, when the newly founded German Reich shifted from bimetallism to the gold standard, flooding world markets with over 500 million francs of silver (Kindleberger, C. 1993, pp. 68-9).

Bulgaria was established as a modern independent state in 1878 and it soon introduced its own monetary system, designed along the lines of the metal standard. In fact, although Bulgaria never became a formal member of the LMU, it conformed broadly to the same principles, in an attempt to benefit from the stability of a wider and stronger economic area.

However, for roughly three decades following its independence, the Bulgarian currency was afflicted by agio, i.e. by a discount on silver coins compared to their official value in terms of the unit of account, and hence in relation to the stable gold coins. This discount was at times quite high and highly variable, fluctuating between 0 and over 13% between 1882 and 1907. It implied uncertainty in the value not only of money hoarded, but also, and more importantly, of revenues and incomes fixed in nominal terms, of money contracts, of credits and debts.

The present paper investigates the reasons for the monetary and financial instability implied by the agio experienced in Bulgaria, with a view to highlight the respective roles played by the central bank and by the government. Section one presents the monetary regime that was established in Bulgaria after independence in 1878; it describes the emergence, the variation and the eventual disappearance of the agio before the outbreak of the Balkan wars in 1912; and it identifies a significant cause of those fluctuations in the circulation of fiduciary silver currency over and above the limits set in countries with similar regimes. Section two questions whether the excess issue of silver currency may be ascribed to the autonomous initiative of the central bank and argues that, in fact, it fell rather under the responsibility of the ministry of finance. Section three provides evidence of the fact that the main driving force for fiscal interference in monetary policy was the need to finance public expenditure related to the construction and consolidation of the newly established state.

Financial stability

The establishment of the Bulgarian monetary system occurred at a time in which the very meaning of money was being redefined at an international level, with the diffusion of the gold standard. Within this framework, the possibility of attaining monetary stability in peripheral countries was increasingly associated with the decision to peg their currency to an external reference. Having inherited it from the Ottoman times, Bulgaria continued to

practice the bimetallic system. Although Bulgaria was never a member of the LMU, the Monetary law of 1880, which established the monetary system in the country, incorporated the main principles of the LMU. The Bulgarian Lev was established as a national currency with a value equal to the French Franc at an exchange rate of 1 to 1. The Monetary law also adopted a bimetallic ratio (bmr) between gold and silver of 1:15.5, in conformity with the LMU. With respect to paper money, the law stated that all banknotes in circulation should be backed by no less than 1/3 of gold reserves.

The first monetary law in Bulgaria was however somewhat looser than the LMU, in that it accepted as legal tender not only all LMU currencies but also the Russian silver Ruble and the Ottoman Lira (Nedelchev, K. 1940, p.15). Other currencies which were not issued in compliance with the LMU (such as the Austrian Guilder, the Serbian Dinar and the Romanian Leu) were also allowed to freely circulate in the country but they were not legal tender and the exchange rate at which all government institutions accepted them was determined by the Ministry of Finance in the tariff.

Since the 1870's, however, LMU adopted several reforms with the view to maintain financial stability in response to the permanent devaluation of silver on international markets³. There was one clause on the limitation of small denomination coins (predominantly silver) to "6 francs (coins) per inhabitant" (Lazaretou, S. 2004, p. 38). This clause was very important for the maintenance of the bimetallic system until 1878 when major LMU countries eventually went on gold and agreed on the final suspension of silver coin minting. Ironically, this happened just 2 years before the Monetary law in Bulgaria.

The Bulgarian Monetary law, therefore, did not incorporate LMU principles as they stood in 1878, but rather as they had been first defined in 1865. Among other things, it failed to explicitly set a constraint on silver coinage and, as several contemporary economists pointed out, "this turned out to be the major weakness of the monetary system in Bulgaria" resulting in the appearance of a permanent agio from 1882 until 1906 (Nedelchev, K. 1940, 17).

Various factors, at different periods of time, caused the excessive amount of silver money in circulation in Bulgaria, which in turn led to the persistent agio⁴. Following the chronology of the events, the main reason for the wide circulation of silver foreign coins was

³ A summary of these reforms may be found in Lazaretou (2004, 2005).

⁴ A detailed discussion of the possible determinants of the agio is presented by Fantacci (2009).

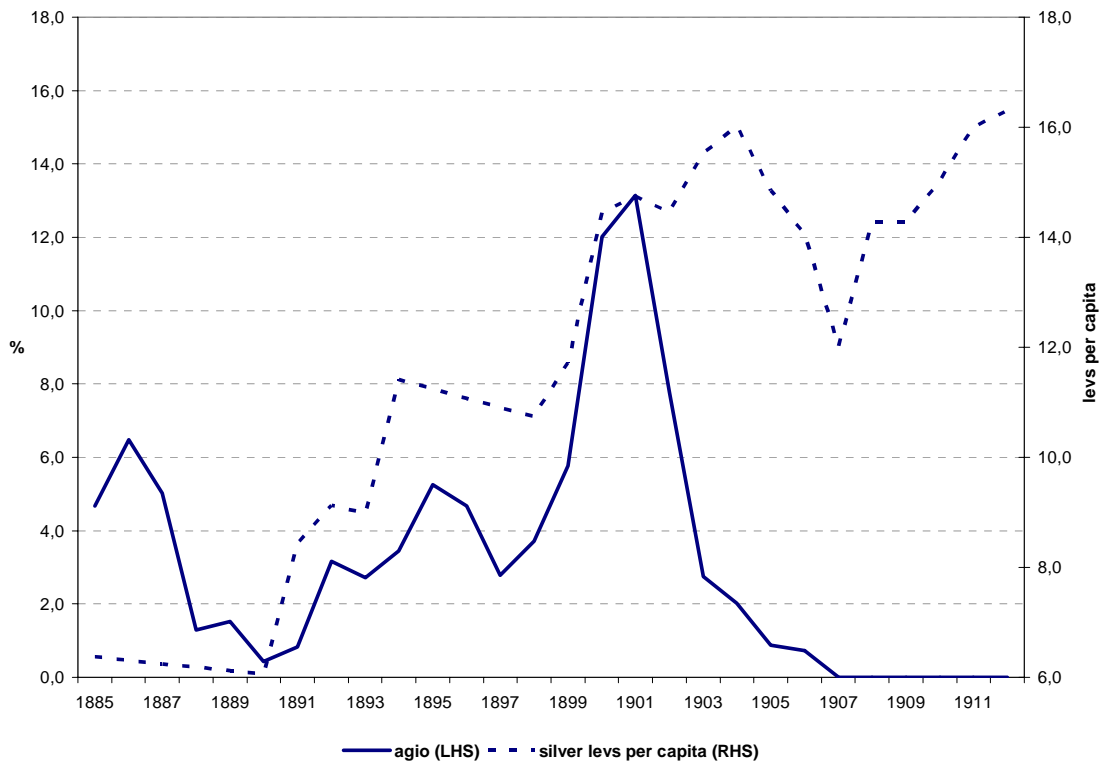
the imposed overvaluation of the Russian silver Ruble, which was to be exchanged against 4 French Francs (Bulgarian Levs). This artificial exchange rate was set by the provisional Russian administration immediately after the war of 1877-78 in Bulgaria, Serbia and Romania⁵. Soon after their liberation in 1880, Romania demonetized the Russian silver Ruble to the price of 3.5 Francs, while Serbia decreased the exchange rate to 3.3. In 1882 Turkey demonetized all foreign silver coins withdrawing them from circulation. Still offering the best price for foreign silver coins in the neighbourhood, Bulgaria got flooded with them and a persistent agio appeared (Kiosseva, 2000). After several unsuccessful attempts to limit their circulation, they were ultimately demonetized by mid 1887.

At the demonetization of the foreign silver coins there were only Bulgarian silver coins in circulation minted by the fiscal authorities. This should have been, in itself, a factor of stability. However, BNB Annual Reports and several studies (BNB, 1929; Yordanov, 1910 and Christoforoff, 1946) provide evidence that silver coinage was used for budget financing. Keeping the official parity between silver and gold unchanged at 1:15.5, the seigniorage from silver coinage varied from 20 to 60% following the constant devaluation of silver on international markets (from 1/20 to 1/40 between 1886 and 1911). Being accepted for the payment of all taxes at the ministry of finance and being exchanged for gold at the central bank at the official parity, Bulgarian silver coins were widely used for transactions on the domestic market, despite the fact that they were not full-bodied coins, i.e. their face value was much higher than the intrinsic value.

After having made several unsuccessful attempts to eliminate the agio, and 9 years after having acquired the legal right to issue silver-backed banknotes, the BNB eventually started printing silver-backed banknotes only in 1899. Applying the same coverage (with silver holdings equal to 1/3 of the value of notes in circulation), BNB had ample scope to print these banknotes, the excess of which was often motivated by budgetary needs (Bochev, 1924). This, however, contributed to the successful supply of banknotes in circulation and to the ‘unnoticeable’ establishment of the gold standard in 1906 when the agio of silver against gold disappeared (BNB, 1907, p.17).

⁵ Researchers at that time like Assen Christoforoff argue that this was done with the purpose to support the Russian currency by creating external demand for it, a zone of Rubles in circulation, making it as strong as the French Franc (Christoforoff, 1946).

Figure 1. Agio and silver levs per capita in Bulgaria 1885-1912



Source: BNB annual reports and Statistical Yearbooks, various issues.

Based on the available information and data, we managed to construct the indicator “silver levs per capita”, which includes both silver coins and silver-backed banknotes. If we compare it with the development of the agio (figure 1), it is quite clear that both series move broadly parallel suggesting a positive relationship, except for the period until 1888 when foreign silver coins were allowed in circulation, and after 1906 when the agio between gold and silver was eliminated.

Although BNB starts to report the agio since October 1885 the whole period until 1888 is difficult to analyze because of the lack of data on foreign silver coins in circulation⁶. “Silver levs per capita” includes only Bulgarian silver money per inhabitant, and despite the fact that it is above the LMU limit of 6 per capita, it is only an underestimated proxy for all silver coins in circulation; this may well be the reason why the agio increases to over 6 %,

⁶ There is also some descriptive evidence in the literature that the agio existed at a considerable degree since 1882 and in 1884 it moved in a range between 4 and 9% (BNB, 1929).

even though the number of silver levs per capita is relatively low. In any case, a more robust relationship between the two indicators can be studied since 1888.

From 1888 onward the agio was very dynamic reflecting the development of silver money in circulation (figure 1). The lowest value of the agio of 0.4% took place in 1890 when the silver levs per capita recorded a minimum of 6.14. Not surprisingly, this coincides with the demonstration of government will to go to gold in compliance with the internationally and neighbouring changing environment towards gold standard. The government, however, did not restrain from minting silver coins and all efforts and hopes to eliminate the agio were in vain. In her turn, BNB decided to change its strategy, and having the experience of neighbouring Serbia, she insisted on introducing silver backed banknotes on the market with the view to enhance the banknotes in circulation. As a compromise, in 1891 instead of introducing the gold standard like in Romania, BNB got the legal right to issue silver backed banknotes, which she was allowed to exercise 9 years later.

In the meantime, in 1897 BNB made another attempt for the introduction of the gold standard. It was motivated by the establishment of the gold-metallism in Austria in 1892, which represented 20% of the Bulgarian foreign trade, and just two successive years of positive trade balance (Christophoroff, 1946). As a result the agio decreased to 2.8% but the efforts ended with a project law which was never put in practice.

At the face of the upcoming economic depression in 1899, BNB was confined to convert gold-backed banknotes silver plus the daily premium for gold. Instead of making efforts to restore the convertibility of gold-backed banknotes, she finally started to print silver-backed banknotes in late 1899. In 1901 the agio scored a peak of 13.2% (annual average), just two years after the issuance of the silver backed banknotes as envisaged by the BNB. Introduced as a temporary anti-crisis measure, the situation of *de facto* functioning silver standard lasted for almost 3 complete years (Christophoroff, 1946, p. 68). Although the silver levs per capita was constantly above the LMU clause, it started to lose its impact on the agio development since 1902. This may well be explained by the favourable balance of payments recorded in several successive years as well as by the foreign loans contracted with a government commitment to restrain from minting silver coins. Soon after the situation was improved, the convertibility of gold-backed banknotes into gold was restored.

For the purpose of providing an estimate of the impact of the silver levs per capita on the observed agio, we proceed with running an Ordinary Least Square (OLS) regression

(equation 1) after adjusting the series by taking first differences in order to obtain stationarity.

Equation 1.

Agio and silver levs per capita in Bulgaria (t-stat is given in parentheses)

$$\text{AGIO} = -0.49 + 1.30 \text{SLPC} - 5.88 \text{D}_{1903}$$

(-1.12) (2.14) (-9.05)

Newey-West HAC Standard Errors & Covariance (lag truncation=2)

$R^2 = 0.45$; Adjusted $R^2 = 0.38$

Durbin-Watson statistics: 2.1

LM test for serial correlation: F-statistics = 0.45 (0.64)

Normality test: $\chi^2(2) = 1.05$ (0.59)

Heteroskedasticity: F-statistics = 0.43 (0.72)

The econometric estimation suggests that an increase of 1 silver lev per capita above the level of 6 (SLPC = silver lev per capita – 6) is estimated to lead to 1.3 percentage point increase of the agio⁷. There is a dummy variable characterizing the opposite development of the two indicators in 1903 when the agio was on its monotonously descending trajectory while silver levs per capita continued to increase. The constantly decreasing agio was favoured by the inflow of gold as a result of the big trade surpluses since 1902 as well as of the foreign debts received in gold-backed currencies⁸. Interestingly, silver backed banknotes continued to be printed (as well as gold-backed banknotes) to compensate for the decreased volume of deposits at the BNB due to the decreased interest rate on deposits (BNB, 1999, p.317)⁹.

As an intermediate conclusion we found empirical evidence supporting the importance of the “silver clause” for the existence of the agio in Bulgaria. In fact, excessive silver minting and printing of silver-backed banknotes at a later stage, which was constantly

⁷ This relationship is statistically significant as the residual tests for serial correlation, heteroskedasticity and normal distribution justify the good fit of the regression.

⁸ A more detailed study of the determinants of the agio is provided by Dimitrova and Fantacci (2009).

⁹ In a letter to the Minister of Finance, the motivation behind the decreased interest rate on deposits was to make the public invest in more profitable options like real estates, which would push the price of mortgages and BNB had a large portfolio of mortgage loans, or in treasury bonds, which would cause a transformation of the foreign public debt into domestic public debt and might ease the debt burden on the government.

above the LMU reference rate of 6 per inhabitant, were direct factors for the persistent agio throughout the whole period when Bulgaria practiced the bimetallic system.

Monetary autonomy

In our previous studies we have investigated the issue of monetary autonomy referring to the central bank's capacity to maintain the official bmr different from the international bmr, and hence to maintain bimetallism despite the slight agio, in the face of the diffusion of the gold standard, not only in the European centre, but also in the neighbouring periphery (Fantacci, 2009, Dimitrova and Fantacci, 2009). For the purpose of the present study, however, we will analyse monetary autonomy in the context of the relationship between monetary and fiscal authorities, i.e. in the more traditional sense which refers to the autonomy of the central bank from the government.

Given that the excessive silver money in circulation caused the deviation of the officially observed bmr, we are interested in what the central bank could do and did to eliminate this financial weakness of the Bulgarian monetary system. Determining monetary autonomy as "the central bank's ability to manage money in circulation", we should first estimate what was really within her power and reach. Therefore, a decomposition of money supply, taking its narrowest concept of coins and banknotes in circulation, would allow us to investigate to what extent different components belonged to BNB's responsibilities and liabilities following the chronology of events.

Minting, in Bulgaria as everywhere else, was an exclusive privilege of the government, and in particular of the ministry of finance, whereas banknotes were issued by the central bank and hence, her liabilities. While silver and gold coins have an intrinsic value corresponding to the metal they contain, banknotes have a purely nominal value and, under a metal standard, they circulate only as a substitute of the metal, and should therefore be covered by reserves. If we exclude the copper *stotinkas*, minted in 1881, which were of smaller than half-lev denomination, the first Bulgarian levs to be minted were silver coins, issued in 1882 for an overall amount of 8.5 million levs. BNB started to issue gold-backed banknotes only in 1885 according to LMU standards, but they did not obtain proper circulation due to several reasons. First of all, they lacked credibility among the public who kept recent memories of the devalued Ottoman banknotes called *Kaime*. Another reason was the already existing agio, which made it more convenient to rapidly dispense silver coins in

the settlement of daily transactions. Bulgarian gold coins were minted only in 1894, and they quickly disappeared from circulation as people kept them for as a store of wealth and did not use them for regular transactions due to their large denominations. Their amount was 3 million leva and did not increase until 1912 when another 2 million gold leva were minted. Therefore, it was argued that Bulgaria had *de facto* a silver standard (Christoforoff, 1946) until 1899 when BNB started to print silver-backed banknotes. The latter, together with the gold-backed banknotes, eventually obtained a proper circulation and enabled the central bank to manage the process of money creation.

The chronology of the different types of money issued at various stages allows us to study the way in which the composition of money circulation changed through time (table 1) analysing who was responsible for the money supply at different periods: whether the ministry of finance (MF) by minting coins or BNB by issuing banknotes.

Table 1. Decomposition of money in circulation in Bulgaria 1885-1912

Decomposition of money in circulation in Bulgaria 1885-1912				
	Silver coins	Gold coins	Gold banknotes	Silver banknotes
1885-1893	0.97		0.03	
1894-1898	0.90	0.06	0.04	
1899-1905	0.61	0.04	0.13	0.22
1906-1913	0.37	0.03	0.44	0.16

Note: Data is reported in percentages (shares)

Source: BNB Annual reports and Statistical Yearbooks, various issues.

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The decomposition shows that MF had a direct responsibility for creating 97% of the money supply throughout the whole period from 1882 until 1899 as silver coins dominated money in circulation (95% of total money in circulation). BNB's liabilities came up hardly to 0.03% of total money supply, due to difficulties with the circulation of banknotes. When BNB started to print silver-backed banknotes, it took over a share of 35%

of total money supply relatively to the decreased share of coins in circulation, which fell to 65% between 1899 and 1905. With the establishment of the gold standard in 1906, the central bank enhanced its role in determining money supply by increasing the share of banknotes in circulation to 60%, while MF liabilities were limited to around 40% of total money creation.

From the aspect of monetary autonomy defined as the central bank's ability to manage money creation, these results could be interpreted in the following way. BNB was obstructed in its ability to manage money in circulation, since coins (issued by the MF) dominated money supply. Moreover, it was silver coins which took over from 100% to 51% of the process of money creation until 1906. Therefore, it was very difficult for the BNB to fight against the agio, and whenever it made interventions on the market, purchasing silver coins, it was always at the cost of a drastic decrease of its gold reserves (BNB, 1929). Even as they were aware that the issuance of silver-backed banknotes could further increase the agio, BNB officials strongly insisted on acquiring the right to issue such notes, with a view to increase their ability to manage money in circulation, and hence, to take effective measures against the agio (BNB, 1998, p.364). In fact, the printing of silver-backed banknotes did increase the agio to its maximum of 14% in October 1901, but at the same time it contributed to the proper circulation of both silver and gold banknotes. Being responsible for over 35% of total money supply, BNB was in a much more favourable position to manage money in circulation and to implement the policy measures that were needed to eliminate the agio between silver and gold. Besides, the gold inflow due to positive trade balances and foreign debts, BNB implemented policy of replacing big denomination silver-backed banknotes with gold-backed ones which resulted in using silver-backed banknotes predominantly for small transactions (BNB, 1999, p. 323).

With the *de facto* establishment of the gold standard in Bulgaria in 1906, leaving silver coins and silver-backed banknotes of less than 5-lev denomination in circulation for transaction purposes only, BNB was about to face another "kind of agio", i.e. the devaluation of the banknotes with respect to their precious metal equivalent at the outbreak of the Balkan Wars in 1912, just a year before the end of the Gold standard era. This, however, was not viewed as a serious concern; it was rather regarded as "manageable", provided that central bank's liabilities dominated total money in circulation at that time (BNB, 1907, p. 17).

Fiscal interference

Since the decomposition of money in circulation reveals that 74% of total money was a responsibility of the MF, one could argue in an oversimplified way that this is the degree in which fiscal authorities interfered into monetary policy¹⁰. We would like, however, to provide a reliable estimate of the extent to which budget deficits triggered money creation.

Minting provided net revenue to the budget, equal to the difference between the face value of the coins and their cost of production inclusive of the cost of the metal (seigniorage). In the case of gold coins, since the face value was equal to the intrinsic value, minting would yield a slightly negative seigniorage, reflecting the costs of the minting process itself (brassage). As a consequence, despite their lower denomination, and hence the higher impact of brassage, it was the minting of silver coins rather than of gold ones that could be bent to the purpose of increasing budget revenues. Hence, silver coinage should be expected to be closely related to budgetary needs.

With respect to banknotes in circulation, the fiscal authorities could not derive a direct benefit from their issues. In fact, the fiscal authorities granted the central bank the privilege of printing banknotes in exchange for cheaper financing. Not by chance, government credit from the BNB became permanent and summed up to a conspicuous amount soon after BNB started to print silver-backed banknotes (according to the composition of money in circulation, the share of silver-backed banknotes is 22% against 16% of gold-backed banknotes from 1899 until 1906). In fact, gold-backed banknotes were strictly limited by the reserves, since BNB never allowed the cover ratio to go below 1/3. On the contrary, BNB kept gold reserves quite above the necessary coverage level as a buffer against the agio and for the foreign payments of the Treasury.

When silver-backed banknotes appeared, their backing was also set at 1/3 of silver holdings. In 1903, however, the coverage of silver-backed banknotes got slightly below the reserve ratio (29.9%) and when the international financial community inquired on this issue (BNB, 1999, p.314), it became obvious that BNB printed excessive silver-backed banknotes driven by the needs of the fiscal authorities (BNB, 1999, p. 317). As a result, the new law on BNB constituted a coverage for the silver-backed banknotes of 50% in silver and observed it

¹⁰ For a long-term analysis of the interaction between monetary and fiscal authorities in Bulgaria see Dimitrova, K (2009).

until the collapse of the gold standard. Hence, we can argue that it was also silver-backed banknotes which were closely related with budget financing.

Combining the two - silver coins and silver-backed banknotes, we have come up with all “silver levs in circulation”, which represented 83% of total money in circulation in the period 1885-1912. For the purpose of testing whether and to what extent the money supply, and particularly the amount of silver levs in circulation, was determined by the development of budget balances, we proceed with an econometric estimation running an OLS regression (equation 2).

Equation 2. Impact of budget deficit on silver levs in circulation
(t-stat is given in parentheses)

$$\text{SLC} = 0.008 - 0.56 \text{BD} - 0.23 \text{D}_{1886}$$

(0.48) (-3.24) (-6.20)

Newey-West HAC Standard Errors & Covariance (lag truncation=3)

$R^2 = 0.55$; Adjusted $R^2 = 0.51$

Durbin-Watson statistics: 1.48

LM test for serial correlation: F-statistics = 0.80 (0.45)

Normality test: $\chi^2(2) = 4.76$ (0.08)

Heteroskedasticity: F-statistics = 0.53 (0.66)

The econometric exercise suggests that a 1 percent widening of the budget deficit (BD) lead to 0.56 percent (approximately half percent) increase in money creation, and particularly in silver levs in circulation (SLC)¹¹. There is one dummy variable for 1886 (D_1886) which enters the equation at a significant level. In fact, this is the year just following the unification of the Kingdom of Bulgaria and Eastern Rumelia which was followed by a short-lived war. This was the only war which did not require extra budget financing easily provided by money creation in other circumstances (BNB, 1929). These results could be interpreted also in the following way: more than 50% of money in circulation was created to provide extra budget revenues.

¹¹ The results are similar, as expected, when total money in circulation is taken into account, as the coefficient in front the fiscal budget decreases insignificantly to 0.55.

Conclusions

At the time of the diffusion of the Gold standard, Bulgaria opted for establishing a bimetallic standard. In doing so, it conformed to the model of the LMU, adopting all its major provisions, except for the clause limiting the issue of silver coins to “6 francs per inhabitant”. This clause, however, turned out to be crucial for the stability of bimetallic systems, particularly in those years. Ignoring the limitation on small denomination coins (predominantly silver), caused a financial weakness in the practiced standard resulting in the appearance of a permanent agio.

What could BNB do to maintain financial stability through money management? Apart from its de jure absolute dependence on MF for major monetary policy decisions (Avramov, 2007), BNB was much constrained to perform its basic function (manage money supply) provided that coins (issued by the fiscal authority) dominated money in circulation (corresponding to an average of 74% of total money supply until 1913). Starting from 1899, banknotes in circulation obtained a significant share in total money creation with the introduction of silver-backed banknotes. Although the latter were closely related to fiscal financing, BNB gained much more control over money in circulation, eliminated the agio and established the gold standard in Bulgaria in 1906.

Excessive silver minting and printing of silver-backed banknotes was definitely determined by the needs for extra revenues of the budget (Bernholz, 2008). Through coinage, however, fiscal authorities also supplied the market with the necessary means of payment. Therefore, by applying econometric techniques, we have come up with a precise estimation of the fiscal interference in money creation: 56% of money in circulation is triggered by fiscal objectives.

The whole story may be summed up briefly, in the following terms: Superseding an international financial rule like the silver clause of the reformed LMU, the Bulgarian government was able to finance its budgets by minting excessive amounts of silver coins and by obtaining credit from the central bank against the right to issue silver-backed banknotes; this put a constraint on the central bank’s ability to effectively manage money circulation and fight the agio.

References:

Avramov, R. (2007) Komunalniat kapitalizam (Communal capitalism), volumes I, II and III, Sofia: Bulgarian science and culture Foundation (in Bulgarian).

Bernholz, P. (2008) Government bankruptcy of Balkan nations and their consequences for money and inflation before 1914: a comparative analysis, Bank of Greece Working paper No. 74, June, BoG.

BNB (1907) BNB Godishen Otchet za 1906 (*BNB Annual Report for 1906*), Sofia (in Bulgarian).

BNB (1929) Jubileen sbornik 1879-1929 (*Jubilee Book 1879-1929*), Sofia: BNB (in Bulgarian).

BNB (1998) Balgarska Narodna Banka. Sbornik dokumenti. Glavno upravlenie na arhivite (*The Bulgarian National Bank: a Collection of Documents. The Central Public Record Office*), Vol. 1, 1879-1900 (in Bulgarian).

BNB (1999) Balgarska Narodna Banka. Sbornik dokumenti. Galwno upravlenie na arhivite (*The Bulgarian National Bank: a Collection of Documents. The Central Public Record Office*), Vol. 2, 1901-1914 (in Bulgarian).

Bochev, St. (1924) Balgarskata narodna banka kato emisionen, kambialen I krediten institut (Bulgarian National Banks as an emission, exchange rate policy and credit institute) Sofia: Al. Paskalev Publication (in Bulgarian).

Christophoroff, A. (1946) Kurs po Balgarsko bankovo delo (Course on banking activities in Bulgaria), Sofia: n.a. (in Bulgarian).

Dimitrova, K. (2009) "Monetary and Fiscal Policies in Bulgaria: Lessons from the Historical Record", Yearbook of the Faculty of Economics, Sofia University, Volume 8 (forthcoming).

Dimitrova, K. and L. Fantacci (2010) "The establishment of the gold standard in Southeast Europe: convergence to a new system or divergence from an old one?" in: Baubeau P./A. Ögren (eds.) Convergence and divergence of national financial systems during the gold standards, 1871-1971, London: Pickering & Chatto Publishers Ltd (forthcoming).

Fantacci, L. (2009) Autonomy vs. Stability: the relationship between internal and external money in Bulgaria (1879-1912), BNB Discussion Paper (forthcoming).

Kiosseva, N. (2000) *Istoria na parichnite krizi w Balgaria, 1879-1912* (History of the monetary crises in Bulgaria, 1879-1912), Sofia: Economic University Press (in Bulgarian).

Kindleberger, C. (1993), *A Financial History of Western Europe*, New York and Oxford: Oxford University Press

Lazaretou, S. (2004) “Monetary system and macroeconomic policy in Greece: 1833-2003”, *Economic Bulletin* No. 22, issue 1, pp.33-65, Bank of Greece.

Lazaretou, S. (2005) “Greek Monetary Economics in Retrospect: The Adventure of the Drachma”, *Economic Notes*, 34: pp.331-370.

Nedelechev, K. (1940) *Parichnoto delo v Balgaria, 1879-1940* (Monetary activities in Bulgaria, 1879-1940), Sofia: Knipegraph Printing House (in Bulgarian).

Yordanov, D. (1910) *Balgarskata Narodna Banka 1879-1908* (Bulgarian National Bank, 1879-1908), Sofia: Liberalni klub Printing House (in Bulgarian).

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