The Economic Transition in Bulgaria

1989-1999

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Abstract: This paper provides analysis of the key economic developments in Bulgaria over the period between 1989 and 1999. The key facts in the case of Bulgaria are: (1) delay of economic reform; (2) considerable decline in output; (3) series of financial crises; (4) introduction of a currency board with a comprehensive package of reforms in July 1997. These facts shape the discussion in the current paper around the following three questions: Why were reforms delayed? What are the mechanics of the financial and economic collapse? What are the challenges faced by policy-makers and how to deal with these challenges under the currency board constraint?

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I. Introduction

After seven years of recurrent surges in inflation, stumbling structural reform and a series of banking crises, in July 1997 Bulgaria launched a comprehensive stabilization program. Its cornerstone is the introduction of a currency board arrangement, but the program also includes acceleration of privatization, recovery of the banking sector, a comprehensive tax reform, and several other macroeconomic measures. Two years after its launch, the new stabilization package seems remarkably successful both in reducing inflation to single-digit numbers and in creating environment for the implementation of long-delayed structural reforms. Before the start of the July 1997 program, the economic transition in Bulgaria was a clear illustration of the pitfalls of partial reform. The purpose of this paper is twofold. First, it presents an overview of key macroeconomic developments from 1989 to 1999 highlighting the lessons from the delay of economic reforms and describing the exact mechanisms of economic and financial collapse. Second, the paper reports the merits of introducing a currency board in Bulgaria, as well as its sustainability in the medium and the long run.

There are several stylized facts that stand out as the key characteristics of the economic transition in Bulgaria: (1) delay of economic reform -- on several occasions attempts were made to jump-start the process of transition, but all of these programs failed except for the 1997 stabilization package; (2) considerable decline in economic activity -- at the bottom of economic collapse in 1997, Bulgarian GDP fell to 63% of its 1989 level; (3) several financial crises; (4) introduction of a currency board with a comprehensive package of reforms in 1997 and subsequent stabilization of the macroeconomic environment.[1]

The search for a coherent explanation of these facts must address one fundamental question: Why were reforms delayed? With hindsight, it is clear that the transition in Bulgaria started without any vision for a comprehensive structural reform: privatization,

[1] Certainly, there are also other candidates for "key facts". Wyzan (1998) argues that the burden of foreign debt is a key leitmotif in the Bulgarian transition and that IMF's policy has been instrumental in creating business cycles. I think it is a little bit unclear how to interpret the "business cycles" in Bulgaria since the comovements of macroeconomic variables do not fit the standard definition of Burns and Mitchell (1946) or that of Lucas (1977). Second, I consider the reaction of the IMF as largely endogenous to the macroeconomic policy in Bulgaria. Third, foreign debt is a key economic parameter but its effects are largely determined by the governmental policy, and in particular by the declaration of moratorium on debt repayments in early 1990.

deregulation, tax reform, everything was done on an *ad hoc* basis until 1997. Why did successive governments fail to implement changes which would have been clearly efficiency enhancing? The question becomes even more puzzling once we consider the success of the political transition. By 1992 Bulgaria had a working constitution, the consolidation of democracy was progressing quite rapidly, and there were no significant ethnic conflicts. The public had at its disposal a well-functioning electoral system and yet it did not vote for reform in the first seven years of transition. Political advances did not translate into economic reforms. These questions are quite general and some of the answers can be found in recent models that study the political determinants of economic reforms. Theories analyze the problem of delayed reform by investigating the interaction between voters and politicians, the incentive structures and the rules in the electoral process. Several models formalize the problem of delayed reform. Alesina and Drazen (1991) study the "war of attrition." In this model, stabilization is implemented only if both parties vote for it and then the “war” starts over who should bear the costs of stabilization. Reform is delayed until one of the groups concedes. Fernandez and Rodrik (1991) introduce uncertainty about the benefits of reform and build in a conflict between two interest groups. The uncertainty leads to voting for the status quo by voters who might actually gain from the reform. In a different setting, Dewatripont and Roland (1992) construct a model designed to explain the delay of restructuring in transition economies. Their key result is that gradualism in reforming state-owned enterprises might be an equilibrium outcome. The reason is the asymmetric information assumption: slow reform allows the government to learn workers’ type, so that layoffs and restructuring are conducted in an efficient manner.

In explaining the Bulgarian case, one has to note first that the communist government in the pre-1989 period managed to avoid major economic collapses. Unlike other countries from the region, at the end of 1989 the disenchantment with the communist regime in Bulgaria had not reached its peak. These preferences were clearly manifested by the fact that in the eight years after 1989 *no government received a clear mandate for a comprehensive market-oriented economic reform*. To the contrary, large masses of the population were disappointed with the initial stages of transition and in a crucial vote in 1994 the public gave a mandate to the socialist party to slow down the

process of reform and to conduct a more "socially-oriented" policy.[2] In addition to voters' preferences, one should take into account also special interests and in particular the interests of the managers of socialist enterprises. The slow process of economic reform allowed them to conduct "hidden" privatization by creating parallel structures and charging the losses to the state-owned enterprise while channeling the profits to their own private companies.[3] To understand the delay of reform in Bulgaria, one needs to address the question why the public voted continuously for the ex-communist party even though the agent of efficiency-improving market-oriented reform was the opposition. A good starting point are models with incumbents. The public voted for the communist party because they did not completely damage their image as being a competent government in the 1980s.[4] At the same time the uncertainty surrounding the competence of the opposition amplified the inherent resistance to bear the short-term costs of reforms among some of the voters. Hence a model extending Rogoff (1990) in the direction of asymmetric uncertainty about politicians' ability to run the government and incorporating findings from the delay of stabilization literature will be useful in explaining the dynamics of economic reform in Bulgaria. Outlining the theoretical framework of such a model is beyond the scope of this paper but the basic idea seems to be compatible with the key facts: consistent support for the ex-communists and a change of the political landscape only after the incompetence of the ex-communist party was clearly revealed when the economy slipped into a hyperinflation and financial breakdown.[5]

Leaving now the political economy story aside, the stylized facts outlined above raise also questions about the decline of economic activity: What are the mechanics of the financial and economic collapse? How much of the collapse can be explained by the slow speed of transition and how much is the inevitable cost of reforming the economy? Even a quick glance at the dynamics of output in Bulgaria suggests that the speed of transition is in part to blame for the sharp decline in economic activity. As in most of the transition

[2] Bristow (1996) reports results from surveys conducted in the first four years of transition. The tables clearly show that between 55% and 66% of the public were approving of the old economic system throughout the period.
[3] See V. Ganev (1999) for a recent discussion of transfer pricing. Hillman, Mitov, and Peters (1995) provide one of the first accounts of the linkage between private and state-owned firms.
[4] "Competence" is used here in the sense of Rogoff (1990).
[5] An alternative explanation for slow speed of reforms and the collapse of economic activity based on the insufficient level of social capital is provided by G. Ganev (1999).

economies, output in Bulgaria declined in the first three years. However, unlike countries that implemented large-scale reforms, in the following five years the economy in Bulgaria failed to regain lost ground. While structural changes and improved accounting could explain the initial fall in measured GDP, the persistence of the decline is attributed primarily to the absence of reforms and to the inability of successive governments to create environment for economic growth. The sequence of economic crises can be linked to monetary and financial developments in the economy. Yet, the main source of the protracted decline in economic activity was the slow pace of privatization, restructuring and deregulation, which basically meant that loss-makers had to be subsidized over a long period of time. Furthermore, in the process of propping up unsustainable economic structures, the government channeled subsidies via the banking sector by instructing some of the largest state-owned banks to lend to loss-making enterprises knowing that these loans were of very doubtful quality.

In addition to the sharp and protracted decline of economic activity over the period of 1989-1997, another key characteristic of the Bulgarian transition is the high and variable inflation prior to June 1997. Several studies have explored the causal factors for inflation with the common finding that monetary policy does not appear to be a significant determinant of inflation in econometric regressions.[6] One possible explanation for this controversial result is that policy actions undertaken by the central bank before 1997 lacked credibility and were not implemented in a timely manner. Indeed, this paper uses impulse responses from vector autoregressions to document the puzzling dynamics of inflation after a monetary policy tightening. This result is consistent with the argument that policy actions designed to reduce inflation might turn unsustainable *ex post* and instead of reducing inflation these actions lead to faster price increases. This argument is reminiscent of the Sargent and Wallace (1981) result that monetary policy tightening today leads to inflation if the need to finance deficits by printing money in the future increases.

Although the central bank was independent on paper, the government intervened on several occasions in the conduct of monetary policy. Simple models of time-inconsistency of optimal plans, where governments instruct the monetary authority to pursue easy policy before elections, are probably of little relevance to the current analysis.

[6] See, for example, Minassian, 1997.

It is very difficult to find any evidence that a Phillips-curve relationship was exploited in Bulgaria. Certainly in periods even of moderate inflation, any attempt to use the Phillips curve for short-term gains is unlikely to bring any benefits. The second channel of government intervention, which amounts to implicit or explicit financing of budget deficits, is more relevant for this case. In addition to the simple extension of direct credit from the Bulgarian National Bank to the government, a more "sophisticated" version of seigniorage financing was also put in place. The loss-making state-owned enterprises were directly subsidized by commercial banks, thus creating a quasi-fiscal liability of the government and indirectly of the central bank. This method of subsidizing led to high inflation and directly deteriorated the balance sheet of the banking sector thus creating conditions for bank runs and financial panics.

The inconsistency of macroeconomic policies threw the country into hyperinflation in the beginning of 1997. The cataclysmic developments of the first two months of that year led to a change in the government and for the first time in the post-communist era, a government with a clear mandate for a thorough reform was elected. Shortly after taking office, the new government started implementing a comprehensive stabilization program, which was built around the introduction of a currency board arrangement as of July 1, 1997. The success of the new program up to now has been quite remarkable: inflation dropped to single-digit numbers, the banking sector recovered swiftly, any possibility for direct financing of the budget was practically eliminated, tax collection improved, and, most importantly, economic behavior changed. However, there are still some problems. Will the real sector be viable enough to bear the strains of the currency board straightjacket? How will the government manage deterioration in the balance of payments? Is there a need for an exit strategy discussion at this point? More generally, is there a safe exit from the currency board arrangement without financial turmoil? Two years after the implementation of the board, the benefits and the costs of this institution become quite visible. On the one hand, Bulgaria enjoys macroeconomic stability. On the other hand, the crisis in Kosovo and the turmoil on the world financial markets reduced capital inflows and thus significantly restricted monetary growth when the economy started recovering from the recent crisis.

The next section provides an overview of the main economic developments in

Bulgaria from 1989 to 1999. Section III focuses on monetary policy and the banking sector discussing the sequence of banking crises and the economic collapse of 1996-97 and providing some econometric evidence on the effects of monetary policy on inflation and unemployment. The stabilization package of July 1997 and the operation of the currency board are analyzed in Section IV. The last section concludes.

II. Economic Transition in Bulgaria: The Facts.

The dynamics of output is reported on Figure 1. In addition to a real GDP index (1988 = 100) the figure documents changes in the government for the given period. Frequent political reshuffling reported on this figure was one of the immediate reasons for the failure of the reforms in the first eight years. The initial stabilization program was introduced in February 1991 with large-scale price liberalization and restrictions on the growth rate of money. From the graph it seems that the Bulgarian economy followed a standard adjustment of the real sector after this stabilization package with output sharply declining to its lowest level two years after the start of the program. The dynamics resembled initially the bust-boom cycle in money-based stabilizations. The boom unfortunately was never realized. The economy recovered slightly in 1994 and 1995 only to start another tailspin in 1996. By the end of 1995 it was clear that the stabilization package of February 1991 had failed.

Of the components of GDP the sharpest decline is in investment from 35% of output in the end of the 1980s to about 10% in the second half of the 1990s. One clear factor for this fall is the decline in saving. The budget deficit increased dramatically reaching -11% of GDP in certain years causing some crowding out of investment and private saving also declined with consumption share rising from 59% in 1988 to over 80% in most of the 1990s. Had the stabilization program and the structural reform in Bulgaria been successful, the return to investment at this point would have been very high and foreign capital would have stepped in. This increase in inflows would have caused current account deficits but at the same time would have filled in the gap between domestic saving and investment. For several reasons, however, new capital did not flow in. First and foremost, the slow pace of economic reform created general macroeconomic instability leaving wide-open the possibility of sharp depreciations. Second, in the first half of 1990

the Bulgarian government declared unilaterally a moratorium on debt repayment, thus effectively cutting the economy from world capital markets. The negotiations and debt rescheduling took more than three years and according to the IMF country report for 1999 even by the end of 1998 Bulgaria had not gained full access to foreign capital markets. The evolution of foreign debt and its structure are reported on Figure 2.

The collapse of output in the first years of transition is clearly manifested also in the sharp increase in the rate of unemployment (Figure 3). The extent of job destruction has been quite significant, which shows that there was an initial round of restructuring. The two years of positive economic growth in the first half of the decade are also reflected in the decline of the number of unemployed. One should note however, that the figures reported in this graph understate the true unemployment rate since they are based on the number of registered unemployed. Also, many workers were forced into early retirement, which again keeps the rate relatively low. A more informative metric for evaluation of the dynamics of the labor market are the rates of job destruction and job creation. Unfortunately, there are no data which will allow us to pin down precisely these rates, but Figure 4 constructs total job destruction and creation as well as relocation, by assuming that the public sector has primarily destroyed jobs, while private sector has been creating jobs.[7] The figure presents net flows in the private sector as job creation, and net flows in the public sector as job destruction. Evidently, despite the decline in official unemployment the net effect in 1998 is actually reduction in employment. More worrying is the fact that the private sector has not been able to absorb in the last two years the workers laid off from the public sector. One can also see that relative to the two turbulent years, 1996 and 1997, the last year on the graph is a period of "chill" on the labor market with declining destruction and creation. The evolution of the real wage has also been disappointing as evidenced by Figure 5. Currently Bulgaria has one of the lowest wage rates in dollar terms among Central and Eastern European countries.

The monetary sector has been instrumental in propagating instability throughout the system and in deepening the extent of economic collapse. With lax supervision and inconsistent monetary policy, the central bank has contributed significantly to the acceleration of the banking and financial crises. The continuous refinancing of the

[7] Under certain conditions this measure is equivalent to the one in Davis and Haltiwanger (1992).

insolvent commercial banks and the attempt to stop inflation by increasing interest rates created a vicious circle by deteriorating both the health of the banking sector and the state of government balances. This theme will be discussed in detail in the next section. Figure 6 reports the evolution of interest rates, inflation, and the rate of depreciation against the US dollar before the introduction of the currency board.

Fiscal policy has been more restrictive at first glance. As Figure 7 indicates, even though the overall budget was mostly in deficit, successive governments have run primary surpluses. One of the trademarks of Bulgarian governments, however, was the ability to redress primary deficits as bad loans of state-owned commercial banks. Indeed, the books of the government suggest that subsidies have declined from over 20% at the start of the transition to less than 2% of GDP in two years. More generally, there were substantial changes both on the revenue side and the expenditure side over the past ten years. Total revenue declined rapidly from about 58.9% in 1989 to less than 32% of GDP in 1997 with a similar decline in expenditures. The only item on the expenditure side that was increasing steadily until 1997 were interest expenditures, which reached 19.7% of GDP in 1996. The government was caught in its own trap. High interest rates imposed by the central bank meant further deterioration of the budget. Low interest rates led to inflation and rapid depreciation of the currency. The deterioration of the value of the lev translated in an increase of the foreign debt burden. The inconsistency was further complicated by the involvement of the banking sector in the process of implicit subsidizing of loss-makers.

After the introduction of the comprehensive stabilization package in July 1997, the fiscal situation in Bulgaria improved dramatically. Although by the end of 1997 the overall balance was still in deficit, the trend towards improvement was clear. For the first four months of 1998, the overall balance was in surplus with the first quarter revenues reaching 33% of the annual figure while expenditures reaching only 21%. The key factors for this turnaround were the sharp decline in interest rates and the increase in tax collection. Under a three-year agreement with the IMF, the government has proposed a long list of fiscal policy measures targeted at further improving collection of taxes, restriction on expenses, and a reform in the overall tax policy.

The inconsistency of fiscal and monetary policies in the period between 1993 and 1996 was an immediate result of the slow structural reform. The process of economic

restructuring was driven primarily by the change of the ownership structure in the economy via restitution, privatization, and emergence of private enterprises. Restitution was a transfer of ownership from the state to private citizens of commercial real estate, land and housing. This transfer was in effect reversal of the nationalization process that took place in late 1940s and early 1950s. Ten years after the start of the transition, there are still unresolved issues with the housing restitution and to a lesser degree with land restitution. The relatively undisputed denationalization of commercial real estate led to the initial boom in the retail and other services sectors. On the background of the slow process of privatization of state-owned enterprises, the restitution was the initial spark for the creation of an entrepreneurial culture in the country and at some point the single driving factor for the growth of small private firms. The restitution, together with the creation of new private firms, is the primary explanatory factor for the increase in the share of the private services sector from 20% in 1991 to over 50% in 1995. Privatization of state-owned enterprises, however, was lagging behind. Table 1 shows that, as of 1998, there were still about 20-25% of state-owned enterprises (SOEs) to be privatized. In terms of value added, these firms constitute a much larger part of the industrial base. Table 2 reports the share of the private sector in industrial production. Despite the increased importance of the private sector in GDP, industrial output was still dominated by SOEs in the first half of 1998.

The process of privatization in Bulgaria followed complicated rules with successive parliaments introducing new amendments (a total of 15 amendments) to the 1992 Law on Privatization. Three agencies are in charge of privatization: (1) branch ministries; (2) municipalities; (3) Privatization agency (PA). The latter deals primarily with large enterprises, while the other two are in charge of the small and medium-size ones. There is also a whole range of methods of privatization: (1) direct sales (via auctions, tenders, negotiations, with or without assistance of privatization consultants, sales of pools of enterprises or parts of one enterprise, debt-equity swaps); (2) sale of a package of shares on the Bulgarian Stock Exchange; (3) management and employee buy-outs (MEBOs); and (4) mass privatization via vouchers. When assessing the progress of privatization, however, it should be taken into account that there is an inconsistency in the treatment of ownership by the Commercial Code and the Privatization Agency. The code specifies a

range of decisions that must be taken with a qualified majority of 2/3, while the PA considers an enterprise privatized if the state owns less than 50% of the firm. Hence some firms that are currently considered privatized by the PA are in effect still under state control to a certain degree (IMF, 1999).

Turning to the balance of payments, throughout the period Bulgaria did not experience any substantial capital inflow. Not surprisingly by mid-1996 it had the lowest level of foreign direct investment per capita of all CEE countries ($69 per capita). Most of the FDI in Bulgaria are actually small projects for less than $1,000 (65% of all projects).[8] The swift reforms of 1997 returned some confidence in Bulgaria and the capital account turned into a surplus of 401 million USD compared to the deficit of -715 million USD in 1996. One can clearly see in the data the reversal starting from the second quarter of 1997, when capital inflows started picking up together with an improvement in the trade balance. On the trade side, the detrimental effect of the slow process of economic restructuring on the export performance of the country was further amplified by the wars in neighboring Yugoslavia. Even though competitiveness indices based on unit labor costs or real wages speak in favor of Bulgarian producers, it seems that these advantages have not been translated in solid export performance.

III. Monetary policy and the banking sector from 1990 to July 1997

In the first years of transition monetary policy in Bulgaria attempted to stabilize macroeconomic conditions by targeting the growth rate of monetary aggregates. The exchange rate regime was liberalized in 1991 and given the low level of reserves and the insulation from the world financial markets caused by the moratorium on debt repayment, the central bank did not have much choice in terms of the exchange rate regime. The only viable option was a floating rate, with possible interventions by the central bank targeted at smoothing large fluctuations. Although throughout the whole period the legislation specified that the ultimate goal of the central bank is to ensure stability of the national currency, there have been several episodes when the bank has not met this goal in any meaningful interpretation. There were clear conflicts between the bank and the

[8] See OECD (1997): Bulgaria.

government. For example, there was an attempt to "guide" the Bulgarian lev into a relatively mild depreciation in 1995 which necessarily required high interest rates. These rates affected the budget adversely and pressures to lower the base interest rates were exerted on the central bank. Lowering interest rates led inevitably to currency substitution and an exchange rate crisis.

Despite the importance attached to exchange rate stability in the Constitution of the Bulgarian National Bank, there have never been specified formal rules for intervention on the foreign exchange market. The central bank tried on several occasions to use the exchange rate as a nominal anchor. Sharp depreciations of the Bulgarian lev are preceded by a run-down of foreign reserves. This evidence is only suggestive, but is certainly consistent with the claim that the central bank has been trying on several occasions to defend the lev with most of the attempts being unsuccessful. Alternative interpretations are also possible, of course, even though these are less plausible. For example, the reduction of the reserves could be an endogenous response to other developments in the economy, which in turn might have also caused the depreciation of the lev.

Before the introduction of the currency board BNB controlled money supply via several instruments:

Credit ceilings. From the very beginning of the transition period BNB used credit ceilings as an instrument of monetary policy. At the same time, they have used these ceilings as an operational target. Initially credit ceilings were determined on quarterly basis, and after 1992 on a monthly basis. Each bank was assigned a quota on credit expansion, and banks exceeding their quota were sanctioned with higher reserve requirements (up to the legally allowed maximum of 15%). This instrument had many deficiencies. First, it was very difficult to impose discipline on banks and the number of banks with fines increased over time. Second, government credit was not included in the aggregate target for credit extension, as well as all credits to the agricultural sector. Eventually, the central bank discontinued the use of direct credit controls as a monetary policy instrument in favor of conventional instruments of monetary policy.

Direct financing of budget deficits. Despite the fact that by law the BNB is relatively independent from the legislative and executive branches of the state in its conduct of monetary policy activities, in practice the bank had to satisfy the needs of the

budget on several occasions. The legal structure in Bulgaria puts the Budget Act only after the Constitution of the country. If there is a conflict between a specific law and the budget, then the conflict is automatically resolved in favor of the budget. Thus, in 1991 and 1992 the State Budget Act overrode concrete articles in the Law on the BNB which were specifying the extent and the nature of central bank lending to the government. Direct credit to the government was predominantly used in 1991 and 1992, and then in 1996. In the latter year, the BNB extended at least eight direct loans to the government, two of which were in direct conflict with the law on the BNB. The loans were much larger than the provisioned amount of 5% of revenues and they were extended for a period of 15 years with a 5-year grace period. [9]

Refinancing of commercial banks. There are four types of refinancing facilities: Lombard loans, discount loans, overdrafts, and unsecured loans. In 1994 Lombard loans constituted some 80% of all loans to commercial banks. After June 1995, there was a structural break in the series for refinancing with some 84% of loans being unsecured loans and overdrafts. This was a result of bailouts of several commercial banks. In preparation for the currency board the Bank stopped refinancing in the beginning of 1997.

Open market operations. OMO came into practice after the development of the primary and secondary market for government securities. The BNB started using this facility in 1993 and by 1995 it turned into the major instrument of monetary policy. Most of the operations (up to 90%) were in the form of repurchase agreements. On June 13, 1997 the central bank ceased its participation on the open market.

Reserve requirements. The BNB started using the reserve requirements extensively as policy tools in 1994. For example in 1995 there were several changes in policy: First, reserve requirements were increased from 10 to 12%, then banks were allowed to hold up to 50% of required reserves in foreign exchange, the interest rate on reserves was changed twice. Finally, in July 1995, reserve requirements were decreased to 11%. It is important to note that decreases in reserve requirements were accompanied with a specific requirement that the released funds will be used for purchases of government securities or

[9] Christov (1997) calculates the index of central bank independence for the BNB and finds that formally BNB is as independent as the Greek central bank and more independent than the Danish one. In fact, among the set of developing countries considered initially by Cukierman, Webb, and Neyapti (1992), BNB is one of the most independent banks.

as deposits in the State Deposit Insurance fund. The use of reserve requirements as a monetary policy instrument in the period between 1994 and 1996 was complemented with many other detailed requirements. For example, there were restrictions on the amount of cash holdings qualifying as reserves, on the amount of foreign currency holdings that can be counted towards satisfying requirements, and there were continuous changes in the interest rates on deposits at the Central Bank.

It is difficult to evaluate the role of monetary authorities in the crises of 1994 and 1996-97. Taken at face value, all crises in Bulgaria had a significant monetary component: surges in inflation, banking sector instability, and sharp depreciations are results of poor management of monetary policy. Notwithstanding this evidence against the central bank, one must admit that a great deal of the blame is with the government. There are two main issues which were pivotal in the collapse of the economy. First, the continuous seigniorage financing of deficits which culminated in December 1996 was one of the main reason for the surges in inflation. Second, the inability of the government to deal with the bad loans from the socialist period and its unwillingness to restructure promptly the real sector in the economy were the key culprits for the hyperinflationary burst in the beginning of 1997. The nexus of the calamities in the two years preceding the introduction of the currency board is tied around the developments of the banking sector.

The banking sector

Over the last ten years the banking sector in Bulgaria has experienced dramatic shifts. With the start of the transition period, there were seven sectoral banks in charge of financing different branches in the economy. In addition to these seven sectoral banks, there were also two special banks-- the State Savings Bank, which was holding the deposits of the population, and the Foreign Trade Bank, which was responsible for international operations. Apart from these nine banks, fifty-nine new commercial banks were created from the branches of the Bulgarian National Bank. Table 3 gives the evolution of the number of banks for this period. The initial proliferation of banks was later reversed mainly by means of a sequence of consolidations. In 1991 a Bank Consolidation Company was set up with the goal to manage the process of consolidation of the state-owned banks as well as to promote privatization of these banks. In the

beginning of 1997, none of the banks were privatized, but there was some progress in the last two years, although the largest bank, Bulbank, is not privatized as of mid-1999. The consolidation efforts of the government explain the downward trend in the number of banks for the first half of the sample. Bankruptcy legislation was underdeveloped before 1996 and did not permit any radical measures against insolvent banks and therefore the process of closing down banks started only in 1996. By the end of 1997 some 15 banks were undergoing a process of liquidation.

The poor performance of some of the banks is in part linked to the issue of bad debts. The first governments after the collapse of the communist regime underestimated the threat of bad loans to the health of the banking sector. In 1991 the government took *ad hoc* measures by issuing securities and swapping them for bad loans incurred on lending before 1990. This measure was partial since it covered some 35% of the bad loans. Only towards the end of 1993, the Parliament passed the Bad Loans Act -- a comprehensive law for dealing with non-performing loans. This act was supposed to ease the burden on commercial banks by transforming bad debts into government obligations. However, about 40% of these securities (called ZUNKs, which is the abbreviation of the Bad Loans Act) paid interest rates in certain times equal only to 1/3 of the base interest rates. This interest rate gap, which was also manifested as an interest differential between some bank assets (ZUNKs) and liabilities, e.g. time deposits, aggravated the position of many of the state-owned banks because they were earning less then what they had to pay to attract depositors. Furthermore, shortly after the introduction of these instruments, monetary policy turned tight thus increasing the spread between the market rates and the rates paid on ZUNKs. By the end of the year the central bank had to change its course of action in order to save the whole system from collapse. They drastically slashed interest rates from 72 to 34% and started widespread refinancing of the troubled commercial banks. This illustrates again the inconsistency of the policy mix in Bulgaria. The monetary authority had to pursue conflicting goals: to keep inflation in check, which required high interest rates, and to be in charge of the banking sector under the constraint that some of the banks were forced to receive on their assets only a fraction of what they had to pay as interest on their liabilities.[10]

[10] See OECD (1997) for further details on the bad loans issue.

In addition to mismanaging the bad loans in the banking sector, the government encouraged state-owned banks to extend loans to loss-making SOEs to keep the latter afloat. This was a form of giving hidden subsidies to some large enterprises. Obviously this channel of subsidizing loss-makers worsened dramatically the balance sheets of the lending banks. Initially the troubled banks were continuously bailed out by the central bank. The amount of Lombard loans skyrocketed in 1994 and 1995, to stop only after the government replaced bad loans with securities in accordance with the above-mentioned Bad Loans Act. Refinancing stopped briefly only to pick up again six months later. At this point the intricate complexity of incoherent policies was a trap for the government itself putting the economy on an explosive path. With the issue of bonds related to the Bad Loans Act, the government doubled the amount of its outstanding debt. High interest rates then increased the budget deficit and the BNB had to cut the interest rate in half (from 72% in the beginning of 1995 to 34% in August 1995). At the same time refinancing started again because newly issued bad loans had worsened the position of several big banks. Inflationary pressures increased and in the beginning of 1996 the BNB raised the base rates several times. This change in monetary policy stance led to a further increase in the budget deficit and to deterioration of banks' balance sheets partly because of the ZUNK holdings that were paying only a fraction of the base rate. High interest rates were needed to stop the depreciation of the currency so that external debt is easier to honor, but at the same time high interest rates led to an increase in the internal debt service. Without any option left the government was forced at the end of 1996 to ask for a long-term direct credit from the central bank to the amount of 115 billion BGL. To put this number in perspective, the monetary base in November 1996 was 193 billion BGL. Realizing the implications of this inflationary financing, the public swiftly switched from lev-denominated deposits into foreign currency, thus speeding up the economic collapse.[11]

This scenario shows the importance of timely structural reform. In addition to the state-owned loss makers, private firms had also their share in bad loans. About half of the new non-performing loans were loans to private firms. Thus the lesson is more general than simply the effects of slow restructuring. The lack of bank supervision, the inability of the BNB to act promptly and close down insolvent banks and the implicit promise of

[11] See also Avramov (1996) for analysis of the difficulties in Bulgarian banking.

continuous bailout led to an increase in moral hazard type behavior. Insider lending seemed to be widespread with the central bank being unable to control it. Only after banking supervision became well defined and the costs of failure increased, commercial banks became more prudent.

Data analysis

Most of the narratives in the previous paragraphs are impossible to capture in any econometric study. Yet, we can learn something about the dynamics of the economy in the transition period by looking closer at the data. First, we summarize the monetary sector developments with a vector autoregression (VAR). Monetary VARs have become over the last decade a standard methodology for the study of monetary policy effects on the macroeconomy. To understand the basic idea of evaluating the impact of monetary policy, I start with the following framework proposed by Bernanke and Blinder (1992) and developed further by Bernanke and Mihov (1998). Suppose the "true" economic structure is

$$(1) \quad \mathbf{Y}_t = \sum_{i=0}^{k} \mathbf{B}_i \mathbf{Y}_{t-i} + \sum_{i=0}^{k} \mathbf{C}_i p_{t-i} + \mathbf{A}^y \mathbf{v}_t^y$$

$$(2) \quad p_t = \sum_{i=0}^{k} \mathbf{D}_i \mathbf{Y}_{t-i} + \sum_{i=1}^{k} g_i p_{t-i} + v_t^p .$$

Equations (1) and (2) define an unrestricted linear dynamic model which allows both contemporaneous values and up to k lags of any variable to appear in any equation. Boldface letters are used to indicate vectors or matrices of variables or coefficients. In particular, $\mathbf{Y}$ is a vector of macroeconomic variables, and p is a variable indicating the stance of policy, e.g. a short-term nominal interest rate like the call rate in Germany or federal funds rate in the US.[12] Equation (2) predicts current policy stance given current and lagged values of macroeconomic variables and lagged policy variables, while equation (1) describes a set of structural relationships in the rest of the economy. The vector $\mathbf{v}^y$ and the scalar v^p are mutually uncorrelated "primitive" or "structural" error terms. The goal is to find the appropriate measure of policy stance and then to trace the dynamic effects of changes in this measure on the economy.

I use monthly data for the rate of unemployment, the exchange rate, and inflation for 1991:4 to 1997:6 (ending with the introduction of the currency board). As a policy variable, I include the base interest rate. The model is estimated with two lags of each variable. The reason for this parsimonious specification is that we want to focus of the short run relationships between the variables. Moreover, given the sample size, a longer lag length will result in reduction in efficiency and may lead to the possibility that one-time events have a very significant impact on the dynamics of the system.

The results are presented in Figure 8. The figure depicts the responses of the four endogenous variables after a monetary policy tightening measured as one standard deviation increase in the interest rate. First, one should note the persistence of the interest rate response: the horizon of the increase is more than twelve months. Second, policy tightening leads to a statistically significant increase in unemployment. It is difficult to calculate a sacrifice ratio from this graph, since these are responses only to unanticipated increases in the base rate. The evidence, however, is suggestive of the costs of disinflation, or even a general increase in the nominal interest rate to fight speculative runs on the currency. The figure also shows that policy tightening is followed by an increase in inflation, which is certainly a paradoxical result. The history of the Bulgarian transition, however, does provide a clue. One possibility is that in the presence of inflation inertia attempts to fight inflation will give results only after two years or more. More plausibly, however, we need a better measure of expected inflation. The VAR captures only some mechanisms of expectations formation. If the true story is more along the lines of the "unpleasant monetarist arithmetic" modeled by Sargent and Wallace (1981), then the VAR simply captures the reaction of the public to changes in expectations of future inflation. Namely, the tightening of monetary policy almost automatically widens the budget deficit and thus presupposes easing of policy in the future or even direct financing of the budget deficit by printing money. In this case, the public expects the deterioration of the value of the domestic currency and money demand collapses, as demonstrated by high inflation and depreciation.

This VAR summarizes the average response to an increase in the base interest rate. It is interesting, however, to study in more detail the period of 1996-97 when the

[12] This discussion follows somewhat Bernanke and Mihov (1998). They, however, allow the correct

widespread banking and economic crises led to a hyperinflationary burst. To this end, I turn to a simple decomposition of the price level into components as proposed by Bernanke and Mihov (1999). The starting point is the following tautological expression for the price level at time t:

$$P_t = \frac{P_t}{M_t} \frac{M_t}{Base_t} \frac{Base_t}{e_t * Res_t} Res_t * e_t$$

where P_t = the price level (CPI)

M_t = the nominal money supply (here, M1)

$Base_t$ = the monetary base

Res_t = international reserves of the central bank (foreign assets plus gold reserves), valued in USD

e_t = exchange rate lev/$.

This equation may be viewed as a decomposition of the price level into:

(1) *The inverse of real money balances*. Changes in this ratio are usually interpreted as reflecting changes in the quantity of real money balances that the public desires to hold. Implicitly, this interpretation relies on the assumption that prices adjust rapidly to equate the real money stock and real money demand. Changes in real money demand can arise from a variety of sources, including changes in real output, changes in expected inflation (as embodied in nominal interest rates), and changes in the payments technology.

(2) *The "money multiplier."* In fractional-reserve banking systems, the quantity of "inside money" (M1) is a multiple of the quantity of "outside money" (the monetary base). Sharp variations in the money multiplier---which must be associated with large changes in the ratios of currency and bank reserves to deposits---are typically associated with banking panics or at least problems in the banking system.

(3) *Currency backing ratio*. An increase in this ratio can signal, for example,

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measure of monetary policy to be a combination of several policy variables.

excessive money creation without the necessary increase in international reserves. Figure 9 displays the movements in these ratios over the period from December 1995 to March 1998. These are percentage changes over the previous quarter. One can clearly see on the first graph that money demand has collapsed (recall that on the graph I plot the inverse money demand) in the most severe crisis in the beginning of 1997. Given the basic shifters in this ratio, the only plausible explanation is that expected inflation changed dramatically in this period. This result is not extremely surprising, given the above-mentioned direct credit to the government of 115 billion leva (a 66% increase in the monetary base). Certainly theoretical models can easily rationalize this result. Both standard models along the lines of Cagan (1956) and dynamic general equilibrium models with explicit microfoundations like Obstfeld and Rogoff (1995, 1996) predict that changes in future growth paths of money will lead immediately as they become known to a discrete jump in the price level. Hence it is not much of a surprise that in this volatile environment it is hard to find predictive role for *past* monetary growth.

The overall assessment of monetary policy in Bulgaria in the first eight years of transition does not speak in favor of the policy pursued by the central bank. The uncertainty created by volatile inflation and the inability to supervise the banking sector led to dramatic economic developments. The hyperinflation and the banking crises, however, taught both the future government and the public that a profound structural change was on the agenda. The delay in the reform only increased its cost and made a waste of the sacrifices associated with the first stabilization package of 1991.

IV. The Currency Board

The inability of successive governments to achieve macroeconomic stability showed that the country needed some drastic measures. The IMF suggested replacing the central bank with a currency board arrangement as early as the fall of 1996. This step was justified with two simple arguments. First, governments intervened continuously in the work of the central bank and, second, the central bank itself was pouring endlessly funds into completely insolvent banks. Two years after the start of the July 1997 stabilization the reform seems to be very successful in bringing down inflation and restoring prospects for

robust economic recovery. The most important condition for the success of the program was the dramatic change in economic behavior. Whether this change is a result of the new stabilization package or a legacy of the hyperinflationary chaos of January and February 1997 is difficult to tell. Most probably the success is due to both factors and one could only speculate what would have happened to the currency board if it were not preceded by the economic and financial collapse.

Structure and specificity

The currency board in Bulgaria has its own specificity, yet its closest cousins are the boards in Estonia and Lithuania. The Bulgarian National Bank is preserved as an institution with functions typical of a standard central bank, including bank supervision and a limited lender of last resort function. The organization of the bank is currently the following:[13]

The *Managing Board* consists of seven members: the Governor of the bank, three Deputy Governors, and three members who are not involved in the operations of the bank. The deputy governors are heads of the three departments in the bank: Issue, Banking, and Bank Supervision. The members of the board are appointed for a period of six years. The initial board, however, has members whose terms expire earlier in order to ensure smooth rotation with one member being replaced every year except for the Governor and the Head of the Issue Department who are replaced in the same year. The President appoints the three outside members while the Parliament approves the rest.

Issue Department. This department functions as a currency board with 100% backing of the currency in circulation plus commercial banks deposits with liquid foreign assets. The asset side of the department consists of cash, deposits in foreign banks, highly liquid foreign securities, and monetary gold. It is important to note that the Bulgarian currency board has a "broad" based backing rule. In addition to currency in circulation, it fully backs all other liquid liabilities of the central bank like commercial banks deposits, government deposits, and the deposit of the banking department (see Table 4).

Banking Department. The banking department can serve as a lender of last resort

[13] There are many papers describing the operations of the currency board arrangement in Bulgaria and its impact on the economy in the first years. See Avramov (1999), Gulde (1999), Yotzov et al. (1997), among others.

but only if there is a systemic risk in the banking sector and only up to the value of its deposit in the Issue Department. In addition, it serves as the intermediary between the IMF and the government; it is also in charge of continuous monitoring of the liquidity in the banking system, as well as the conditions on the financial markets.

Banking Supervision Department. This department deals with the regulation and supervision of commercial banks. It proposes to the managing board licensing of new commercial banks, analyses the solvency of operational commercial banks, and can initiate bankruptcy procedures.

As of July 1, 1997 the Bulgarian lev was fixed at the rate of 1000 lev/DM. There are no access restrictions and the bank can charge a fixed fee of up to 0.5%. There are special provisions in the law designed to limit the exchange rate risk for the BNB. First, the bank exchanges Bulgarian leva only for Deutsche Marks. Second, there are restrictions on the mismatch between the assets and liabilities denominated in one currency. The credibility of the board is ensured in part by stipulating that the exchange rate cannot be changed by the Central Bank, but must be voted by the Parliament. In the beginning of July 1999 on the basis of this provision a monetary reform was introduced replacing 1000 old leva for a one new lev. Hence the fixed exchange rate has become 1 lev = 1DM after July 4, 1999. In addition, the Bulgarian currency board operates in a relatively transparent way. The Issue Department is required to publish its balance sheet on a weekly basis.

Under the currency board only reserve requirements are retained as an instrument for monetary control. Up to this point reserve requirements have not been used to affect money supply and it is tacitly accepted that this instrument will be used rarely and only after consultation with the IMF. One specific change in the new law is that the previous ceiling of 15% is now abolished. Currently, the minimum required reserves ratio is at 11%, but it can be increased without any pre-specified limit, provided the conditions in the banking sector convince the IMF and the BNB to do so.

The Issue Department ensures full convertibility for a number of liabilities. It has to back fully the currency in circulation and the lev deposits of commercial banks with instruments denominated in DM. It can, however, keep also assets and liabilities in other currencies. To reduce the exchange rate risk, the law stipulates that the mismatch between liabilities and assets denominated in one currency cannot exceed 2% in either direction.

The Bulgarian National Bank can also invest in highly liquid debt instruments issued by foreign governments, central banks, etc. as long as these instruments have one of the two highest ratings given by at least two internationally recognized agencies.

Although the function of lender of last resort is preserved in the current situation, it is quite limited in at least three respects: (1) [macroeconomic conditions] there must be sufficient evidence that there is a systemic risk in the banking sector; (2) [credit requirements] the bank(s) to which lender-of-last-resort credit is extended must be solvent, the maturity of the credit cannot exceed three months, and the loan must be fully collateralized with gold, foreign exchange or other highly liquid assets; (3) [amount] there is also a maximum amount of this type of credit and it is given by the deposit of the Banking Department with the Issue Department.[14] The initial deposit of the Banking Department was determined as the amount of international reserves above the monetary liabilities of the Issue Department. Every week, this deposit is determined on a residual principle after deducting from foreign reserves, the amount of currency issued, bank reserves and deposits of the government and other agencies. This deposit, which indicates the ability of the BNB to act as a lender of last resort, has fluctuated between 500 billion and 1 trillion BGL (i.e. 500 million and 1 billion DM) in the course of two years. To ensure that the amount does not evaporate before a crisis hits the economy, the government has decided, in accordance with the 1998 three-year agreement with the IMF, to establish a floor on the deposit of the Banking Department. For the first half of 1999 this floor was set at 630 million DM. To further increase the credibility of central bank policies and to reduce rent-seeking behavior, BNB is required to consult with the IMF whenever the outstanding lending from the Banking Department to banks exceeds 1.8 million DM (i.e. when it reaches less then 0.3% of the floor on the Banking Department deposit).

Economic effects of the stabilization

The introduction of the currency board led immediately to positive developments in the economy. Figure 10 summarizes the evolution of some key variables in 1997. Although it is still early to compare the Bulgarian case to other exchange rate based

[14] As of June 4, 1999, this deposit stood at 806 billion leva.

stabilizations, it is notable that the dynamics of most macro variables in the initial months is quite similar to the developments in Argentina following the introduction of their currency board. Economic activity recovered almost immediately with output growing at 4% in 1998 (see Figure 1). Remonetization in both cases started in the year of the reform, and in Bulgaria it even preceded the introduction of the currency board, signifying that the forthcoming reform was credible. This credibility was manifested also in the fast growth of foreign exchange reserves in the central bank. Interest rates dropped for the first time to single-digit numbers and in the first year of the currency board the interest rate differential between the yield on Bulgarian government securities and the three-month inter-bank offer rate in Germany fluctuated between 100 and 300 basis points. The spread has not been significantly perturbed by the crisis in Asia or by the financial turmoil in Russia. Inflation declined from 500% to 1% in the course of one year. In terms of bringing down interest rates and inflation the currency board in Bulgaria is among the most successful exchange rate based stabilizations.

The long-term success of the July 1997 stabilization depends on the extent of the structural reform, on fiscal discipline, and on the health of the banking sector. The economy is still quite susceptible to internal and external shocks and in particular to financial crises.[15] To evaluate the possibility of a speculative attack on the currency Nenovsky and Hristov (1997) construct several of the popular crisis indicators. First, they construct the ratio of quasi-money to the assets of the currency board. Of course, indices of this sort are hard to interpret in many cases. One would expect that a country with well-developed banking sector would have this index exceeding one without this fact suggesting any sort of risk for the system. In countries like Bulgaria, however, movements in this index might signify emerging instability. If the index exceeds one there are not enough reserves to cover possible conversion of this quasi-money into foreign assets. When the index starts falling sharply, then it is clear that the confidence in the banking sector has diminished and a banking crisis might be approaching. For the period after the introduction of the currency board this index has been fluctuating mildly around one, which suggests relative stability.

Several other indicators relating broad monetary aggregates and international

[15] For a comprehensive analysis of internal and external vulnerability see Avramov (1999).

reserves can also be constructed. In general, all of these indicators suggest that at this point the currency board arrangement is quite stable. Reserves are sufficient to cover almost all of M2. The authors also analyze the state of the banking sector by constructing balance sheet ratios, reporting maturity of extended funds on the inter-bank market, etc. The picture emerging from these indicators is that the banking sector now is quite passive. Credit-to-deposit ratio has decreased dramatically, which indicates the unwillingness of banks to extend credit.[16] With the introduction of the currency board, banks' behavior changed significantly. Under the tight financial constraint, they showed clear preference for higher liquidity (see Figure 11) doubling the amount of reserves. At the same time there was a dramatic decline in claims on the non-financial sector: from 40% of the assets to less than 25%. Combined with the overall decline of commercial banks' assets from 120% to 30% of GDP over 1996-1997, the total share of loans in GDP collapsed from 67% in 1996 to 10% in 1997.

Figure 12 provides information on the credit conditions in the country by plotting the spread between the monthly interest rates on short-term loans and one-month deposits. First, we can see that the introduction of the currency board in July 1997 led to a sharp decrease in the spread. Indeed, interest rates on credit fell from about 20% per month to 1% and since the spread is highly correlated with the level (correlation is about 0.90), the spread also declined. Recalling the abrupt decrease in loans as a percentage of total assets reported on Figure 11, one is certainly tempted to invoke some story about a credit channel or credit rationing as a primary explanation of these comovements. Indeed, a simultaneous decline in interest rates (spreads) and credit activity is par excellence evidence consistent with credit rationing. But a more detailed analysis might also show that it was a fall in credit demand that is underlying changes in total loans outstanding. It is not only that loans have gone down as a percentage of assets, but also the ratio of loans to GDP has plummeted from 67% in 1996 to 10% in 1997, as described above. It is impossible to determine the direction of causality between credit and output in this case. Yet, given the dramatic fall, it seems implausible that a story based on an endogenous fall in the demand for loans can explain why the demand for loans has declined more than five times.

[16] Below I mention alternative theories that can also explain this trend.

Bank loans do remain a primary source of outside financing for Bulgarian firms. There is enough evidence to believe that the introduction of new regulation targeted at strengthening the health of the banking system had a significant effect on bank lending practices. Banks have become extremely cautious in extending loans because: (1) they are now required to report every large credit they make; (2) provisioning for loans has a very steep schedule when loan is not performing and this provisioning is strictly supervised; (3) the uncertainty surrounding the future of the economy increased dramatically in the beginning of 1997 and has not yet diminished, and (4) banks know that the lender-of-last-resort function of the central bank has been significantly curtailed and therefore they have shown clear preference for more liquid instruments.

Many of these shifts in banks behavior were in fact prompted by improvements in legislation and regulation. The central bank introduced significant changes in bank supervision leading to a large number of regulations, additional personnel in charge of supervision, and simplification of the procedures for dealing with problem banks. In 1997 fifteen banks with poor solvency positions were declared bankrupt. The remaining thirty-four banks are closely supervised and together with the increased soundness of banking practices, this resulted in a dramatic improvement in the banking sector. In the first half of 1997, for example, banks started to improve their capital adequacy. By the year-end the average capital adequacy ratio was 26.86% compared with about 10-11% in the previous two years. For the first quarter of 1998 it has slightly gone down to 22.6%, but at the present time there is no bank not fulfilling the legal barrier.

Another danger for the macroeconomic stability of Bulgaria comes from the balance of payments dynamics. Despite the fact that inflation in Bulgaria was the same as in the EU and therefore the real exchange rate has not changed dramatically over the course of 1998 and the first half of 1999, the trade balance turned into significant deficit over the first six months of 1999 amounting to some -540 million US dollars. Combined with insufficient capital inflows, the overall current account deficit led to loss of foreign reserves by the BNB. If this situation persists for a long period of time, one might call into question the stability of the currency board. There are several important points related to a newly-emerged debate on what to do with the current account deficits. First and foremost, the deficit is a result of the discrepancy between saving and investment. Having current

account deficits in the transitional period to a market economy is something to be expected. The initial decline in incomes has led to a reduction in saving which translated into a sharp decline in investment. With the return of stability, lending to the country should resume and investors should borrow from abroad to purchase capital. Second, the currency board system relies on self-adjusting mechanisms for correcting external and internal imbalances. The validity of the claim that market forces will easily restore equilibrium is yet to be tested. As long as current account deficits do not lead to persistent losses of foreign reserves, there are no immediate dangers to the economy. If however there are no inflows, the deficit will be financed by central bank's reserves, which will set in motion some self-correcting mechanisms. One possibility is that the loss of reserves will lead automatically to monetary contraction and therefore to declining prices. The fall in the price level will improve the competitiveness of the Bulgarian products and this will lead eventually to the elimination of the deficit. How long it will take for this mechanism to correct the disequilibrium is still an open question. The danger, of course, is whether the self-correction will be completed before the economy sets on another explosive path.

In view of these dangers, there have always been many opponents of the currency board, especially among economists. The reason for this opposition is that the currency board might turn out to be a very expensive stabilization device exactly because of the slow operation of the self-adjusting mechanisms in the wage and price setting and because monetary policy might be a very important factor in creating the environment for economic growth.[17] Periodically the "exit strategy debate" reappears on front pages.[18] There are three options popularly considered for the strategy to end the currency board arrangement: (1) fixed or flexible exchange rate with a fully-fledged central bank; (2) monetary union with the EMU members; (3) "euroization", i.e. adopting the Euro as a legal tender without entering the EMU.

From a theoretical point of view, the first option is probably the most desirable. For practical reasons, it is the least feasible one. The problem with this system seems to be the inability to create a truly independent central bank. Anything short of a currency board

[17] The canonical example is Argentina in 1995. After the Mexican peso crisis, the Tequila effect overwhelmed most of the Latin America. Only Argentina, because of the currency board constraint, saw its output collapsing by the same magnitude as in Mexico.

[18] See again Avramov (1999) for a lucid discussion of the exit strategy debate.

in Bulgaria leads to government intervention in monetary policy. The second option seems to be the most probable at this point. Bulgaria has very strong claims on joining the EU and eventually the EMU. The time horizon is yet unclear, but if the first two years of the currency board are any guide, then Bulgaria might join the union in th enext ten years. The only question related to this outcome is whether the system will resist speculative attacks and adverse developments by the time the country joins the monetary union. Finally, the unilateral adoption of the euro might in fact be very close to the operation of the currency board. The loss of seigniorage is often cited as a monetary cost in this case, but note that it is not clear what the overall welfare impact is. If one has to pay a higher risk premium for the luxury of having own currency and no monetary policy, then it is easy to imagine that the elimination of this premium can easily outweigh the monetary cost of lost seigniorage. As to the lender of last resort and the ability to change reserve requirements, the features in the Bulgarian currency board that make it look like a central bank, it is not clear why these should go away with the giving up of the own currency. The bank supervision department can be separated and given the authority to change reserve requirements. The lender of last resort function can also be preserved in a separate facility or within the supervisory body. Recall that this function is limited in Bulgaria to the value of the banking department deposit with the issue department. Hence, at least theoretically there is not much of a difference between the currency board and euroization.

Two years after the introduction of the board, it seems that all these options are in the distant future. Both the currency board and the financial sector are quite stable, and the trade deficit of the first six months of 1999 does not yet present a trend in external balances. One recent suggestion for dealing with current account deficits, if they persist, is to implement a one-time devaluation within the currency board arrangement. In addition to being completely infeasible, it is hard to imagine that this policy will be welfare improving because of the credibility loss. If parity changes, then it will not be long before investors or even speculators see another "sign" of coming devaluation. This sounds like a prescription for recurrent crises.

V. Conclusions and Challenges

Bulgaria's road to a market economy has been a very difficult one with a

cumulative decline in GDP from its 1989 level of 37%. I have argued in this paper that the case of Bulgaria shows clearly the pitfalls of partial reform. Slow privatization led to piling-up of losses by the SOEs. To continue operating, these enterprises were financed by commercial bank and thus the inefficiency of the real economy translated into financial instability. The accumulation of bad loans on commercial banks' portfolios forced the central bank to inject continuously extensive amounts of liquidity in the system via refinancing. At the same time the BNB was somewhat concerned about inflation and rapid depreciation of the exchange rate and tried to raise on several occasions the interest rates. This rate hikes further deteriorated the position of the commercial banks thus creating more demand for refinancing. The government also saw its interest burden increasing with the high rates of interest. At some point the system broke down and ended in hyperinflation.

With the introduction of the currency board in July 1997, the country started the process of transition (privatization, deregulation, etc.) once again. Over the last years, it has been quite successful in curbing inflation, closing down the big loss-makers, insulating the banking sector from the unproductive SOEs, and improving its balances. There are, however, many challenges still to be faced by the policy-makers. First and foremost, the privatization of the SOEs and commercial banks is not yet completed. From the very beginning of the transition, it must be recognized that the fiscal revenue of privatization is a very small part of the story and should not be made the number one objective. It seems relatively clear that any forward-looking model will deliver a predominance of the efficiency gain from privatization over the short-term fiscal gain. Hence, the speed of privatization is more relevant than the price. The Bulgarian experience is clear evidence to this effect.

Second, the currency board has operated very successfully over the last two years. But is this the arrangement Bulgaria wants to keep in the future? The equilibrium adjustment will be very painful (in terms of unemployment) if the real exchange rate appreciates and the current account turns into a deficit without sizable foreign investment in the economy. The monetary base will have to shrink and prices must adjust downwards. Historical evidence shows that deflationary adjustment is usually related to deep and prolonged recessions or even depressions. The question then is, how long will the public

be willing to endure this adjustment. It seems clear from the experience of Singapore in the early 1970s that it is not a disaster if one abandons a currency board from the position of strength. As any fixed exchange rate arrangement, however, leaving the currency board at a time of recession is bound to cause economic calamity. Overall, it seems that the economy is recovering steadily from the collapse of 1996-7, despite the exogenous shocks like worldwide financial crises or the war in neighboring Yugoslavia. The question is, will it continue to grow at its potential level after four or five years when the currency board might become a restrainer instead of stabilizer.

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Table 1: Privatization of SOEs

(1993: 11 000 state-owned enterprises to be privatized)

	1993	1994	1995	1996	1997	1998
Privatization transactions	115	549	1522	3090	914	1201
Proceeds (mln USD)	72.2	232.8	181.9	416.6	608	530

Table 2: Private Sector in Industrial Production

	1991	1992	1993	1994	1995	1996	1997	1998
Share of industry in GDP	37.4	40.5	35.0	35.4	32.7	32.4	29.4	33.0
Share of private sector in industrial output	6.5	10.7	18.3	18.9	27.7	28.7	42.7	40.0

Table 3: Commercial Banks In Bulgaria

	1990	1991	1992	1993	1994	1995	1996	1997
Total Private Foreign	70 2 0	78 10 0	59 14 0	41 18 1	45 25 3	47 29 5	31 15 7	34 18 10

Table 4: Balance Sheet of the BNB Issue Department

(December 31, 1997, in bln of BGL)

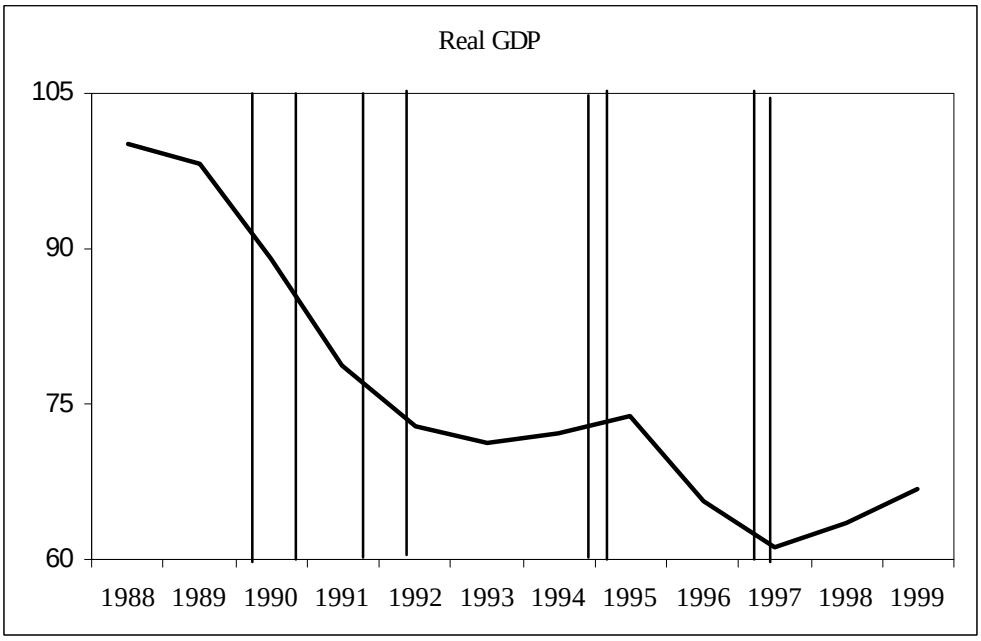
Assets		**Liabilities**	
Cash and accounts in foreign currency	2264	Currency in circulation	1420
Monetary gold	644	Bank deposits and current accounts	858
Foreign securities	1495	Government deposits and accounts	1601
Accrued interest receivable	9	Other depositors' accounts	25
		Accrued interest payable	2
		Banking department deposit	506
Total	**4412**	**Total**	**4412**

Balance Sheet of the BNB Banking Department

(December 31, 1997, in bln of BGL)

Assets		**Liabilities**	
Nonmonetary gold and other precious metals	83	Borrowings from IMF	1675
Investments in securities	283	Liabilities to other financial institutions	1033
Loans and advances to banks	20	Accrued interest payable	1
Receivables from government	1632	Other liabilities	10
Bulgaria's IMF quota and other IFIs	1041		
Accrued interest receivable	1	Capital	20
Equity investments in domestic entities	2	Reserves	676
Fixed assets	97	Retained profit	257
Other assets	7		
Deposit with the Issue Department	506		
Total	**3671**	**Total**	**3671**

Figure 1: Index of Real GDP (1989 = 100)



Notes: The vertical lines are dates when there was a change in the government.

Figure 2

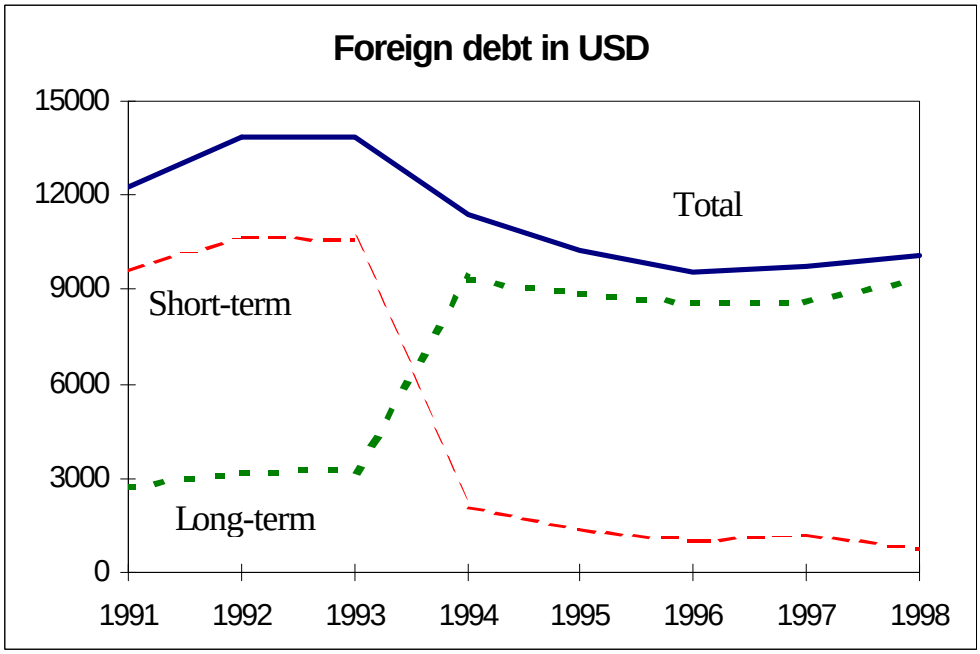

Foreign debt in USD
15000
12000
9000
6000
3000
0
1991
1992
1993
1994
1995
1996
1997
1998
Total
Short-term
Long-term

Figure 3

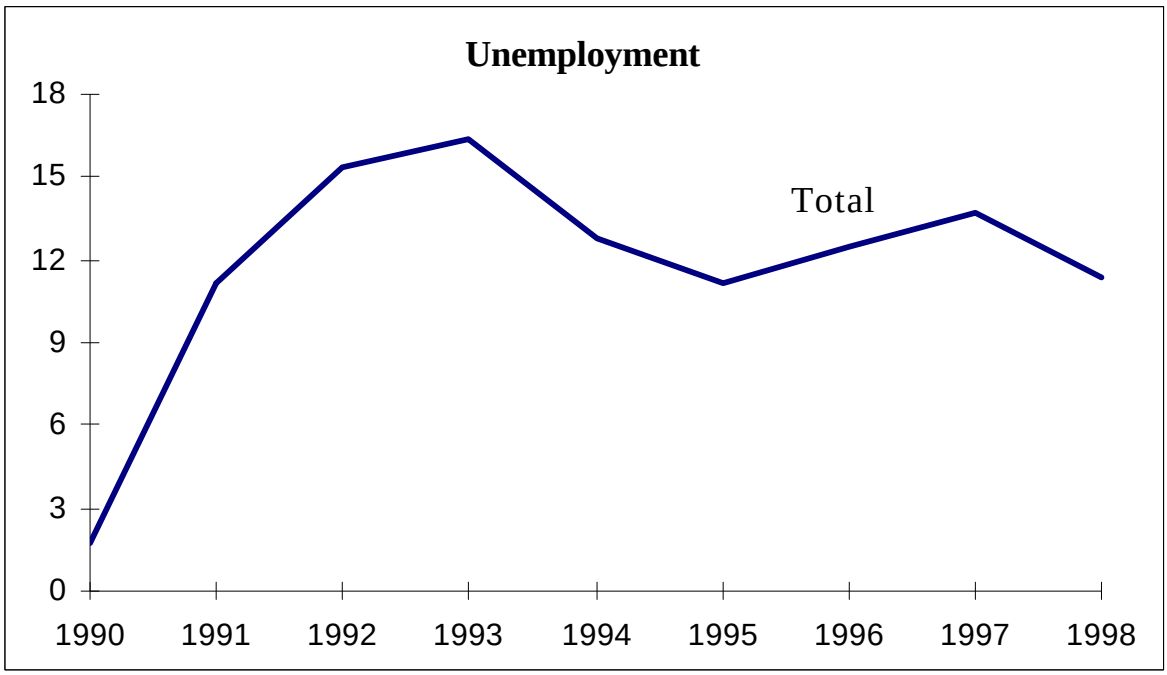

Unemployment
18
15
12
9
6
3
0
Total
1990
1991
1992
1993
1994
1995
1996
1997
1998

Figure 4

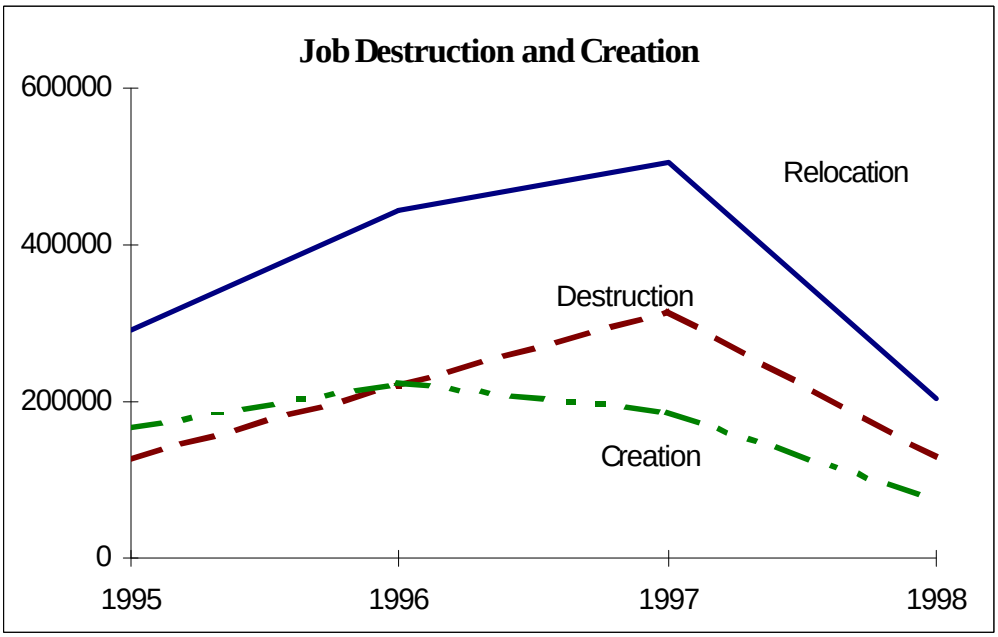
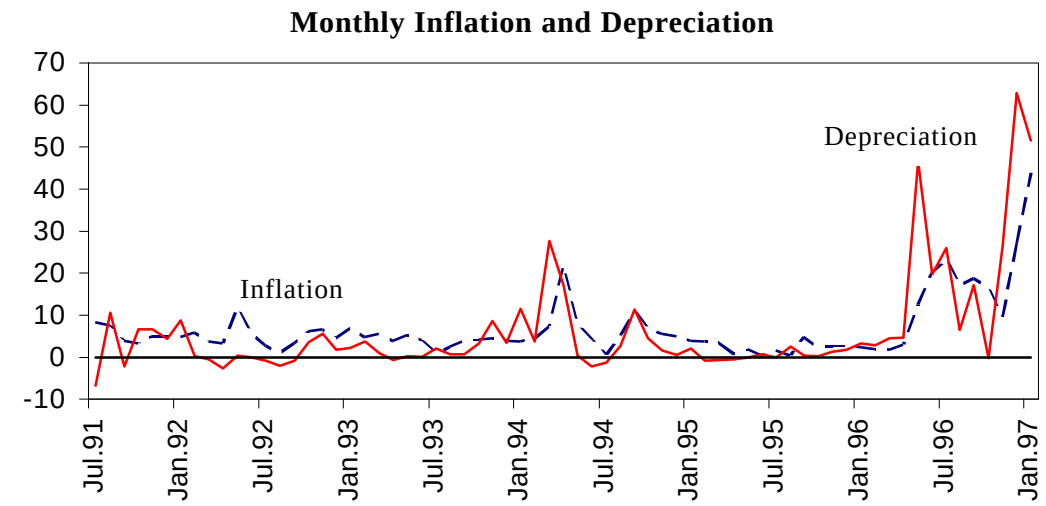

Job Destruction and Creation
600000
400000
200000
0
1995
1996
1997
1998
Relocation
Destruction
Creation

Figure 5


Real wages in the public sector (1994 leva)
7000
6000
5000
4000
3000
Total
1992
1993
1994
1995
1996
1997
1998

Figure 6


Monthly Inflation and Depreciation
70
60
50
40
30
20
10
0
-10
Depreciation
Inflation
Jul.91
Jan.92
Jul.92
Jan.93
Jul.93
Jan.94
Jul.94
Jan.95
Jul.95
Jan.96
Jul.96
Jan.97

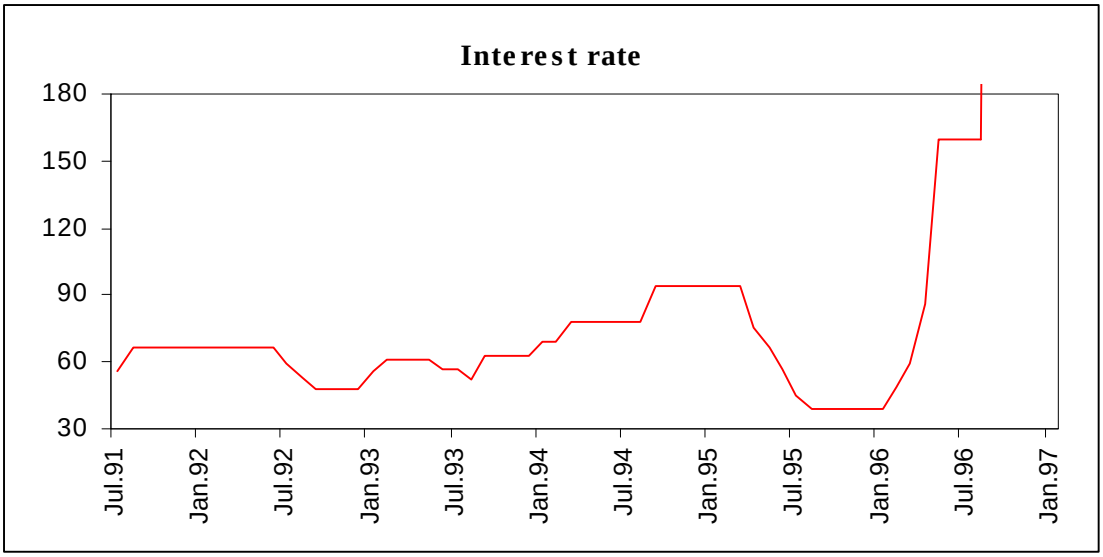

Interest rate
180
150
120
90
60
30
Jul.91
Jan.92
Jul.92
Jan.93
Jul.93
Jan.94
Jul.94
Jan.95
Jul.95
Jan.96
Jul.96
Jan.97

Figure 7

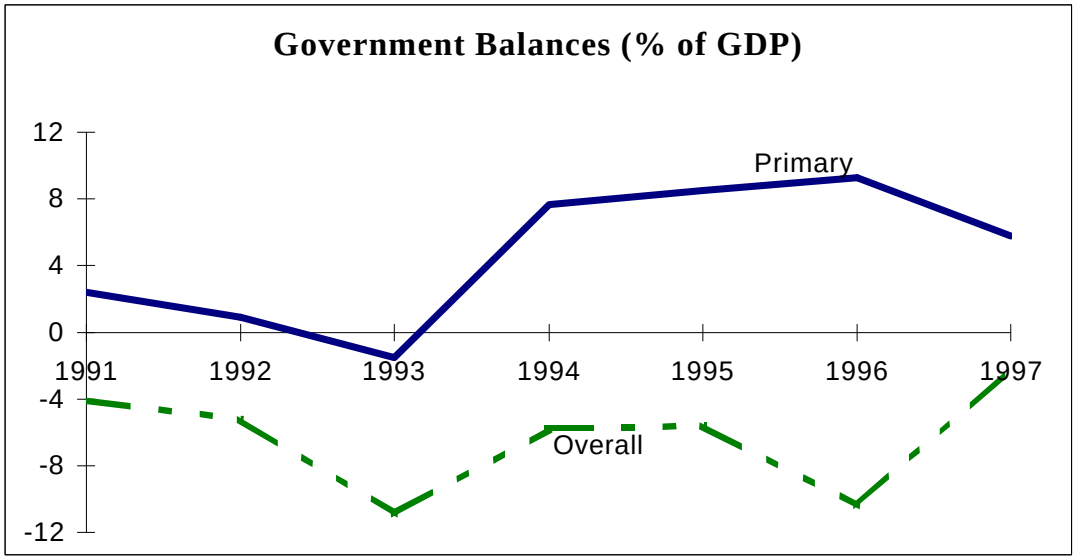
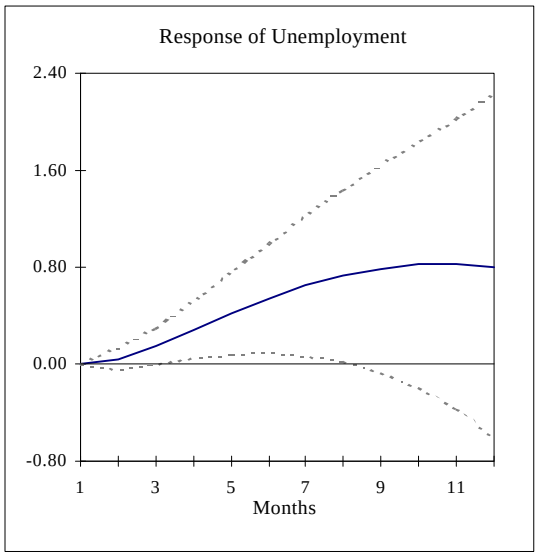
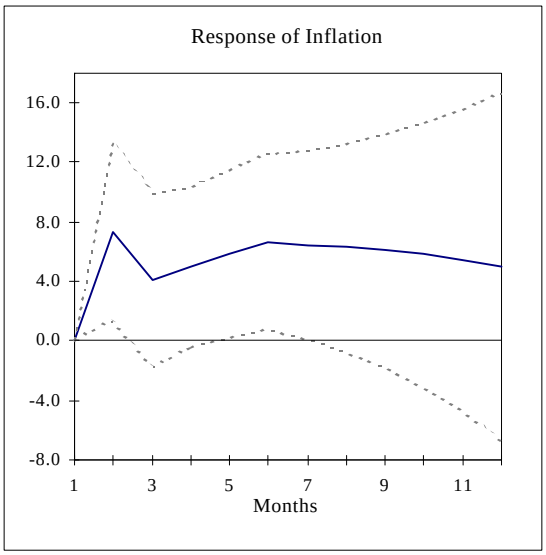
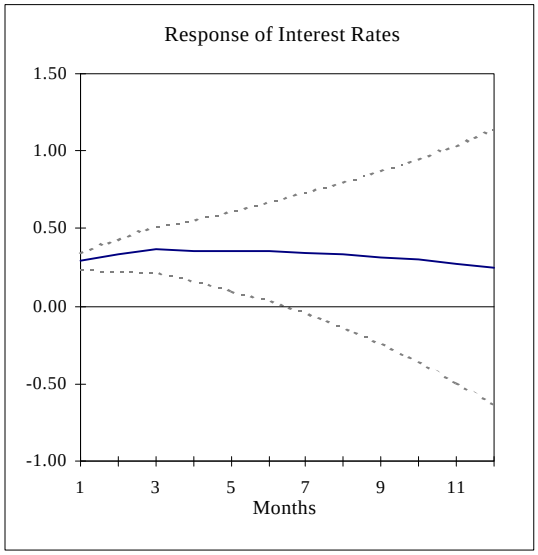

Government Balances (% of GDP)
12
8
4
0
-4
-8
-12
1991
1992
1993
1994
1995
1996
1997
Primary
Overall

Figure 8: VAR results







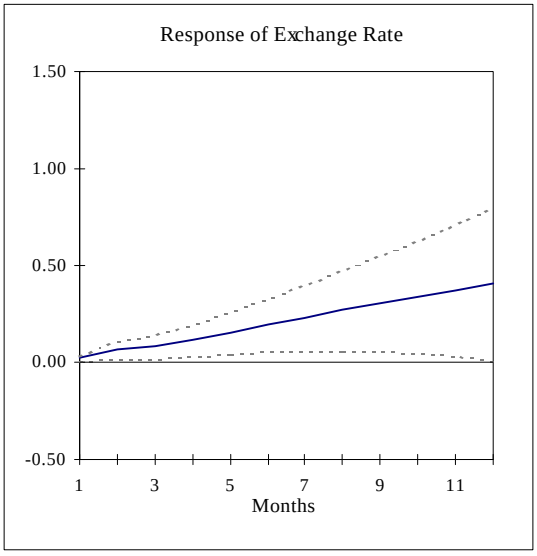
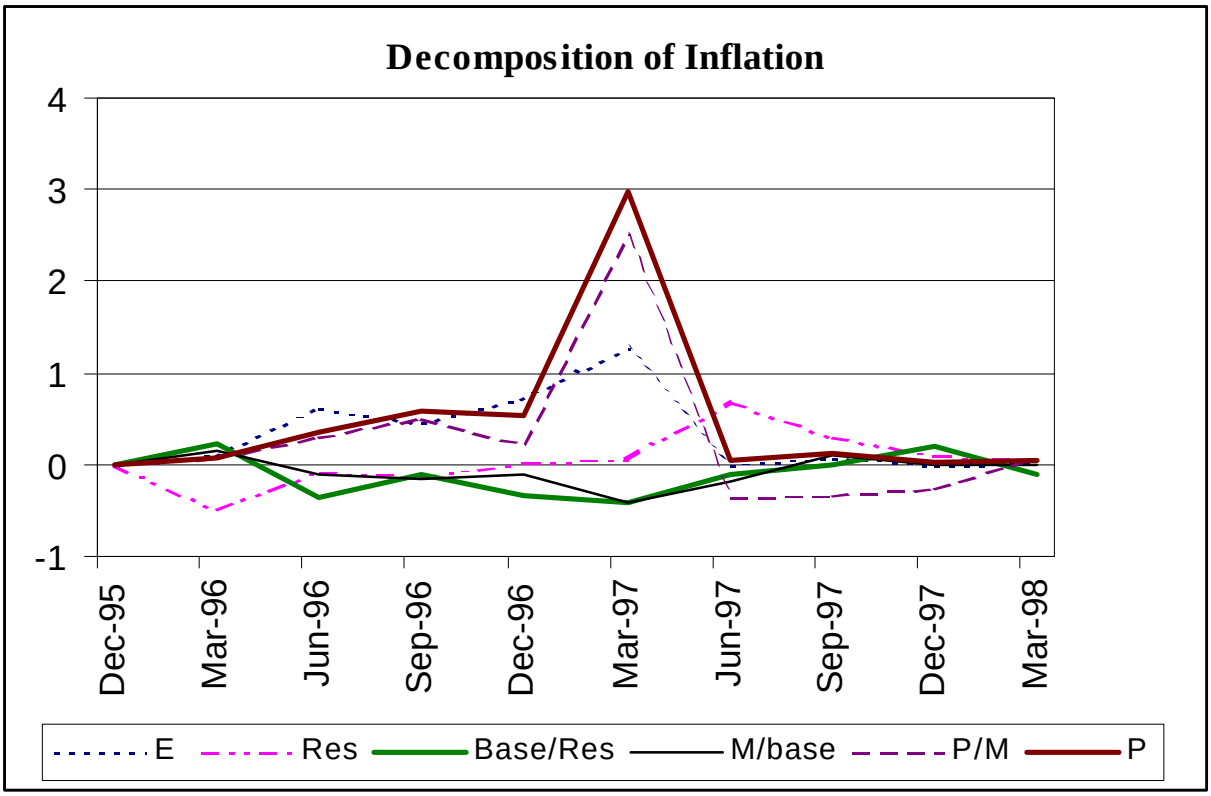


Figure 9


Decomposition of Inflation
4
3
2
1
0
-1
Dec-95
Mar-96
Jun-96
Sep-96
Dec-96
Mar-97
Jun-97
Sep-97
Dec-97
Mar-98
E
Res
Base/Res
M/base
P/M
P

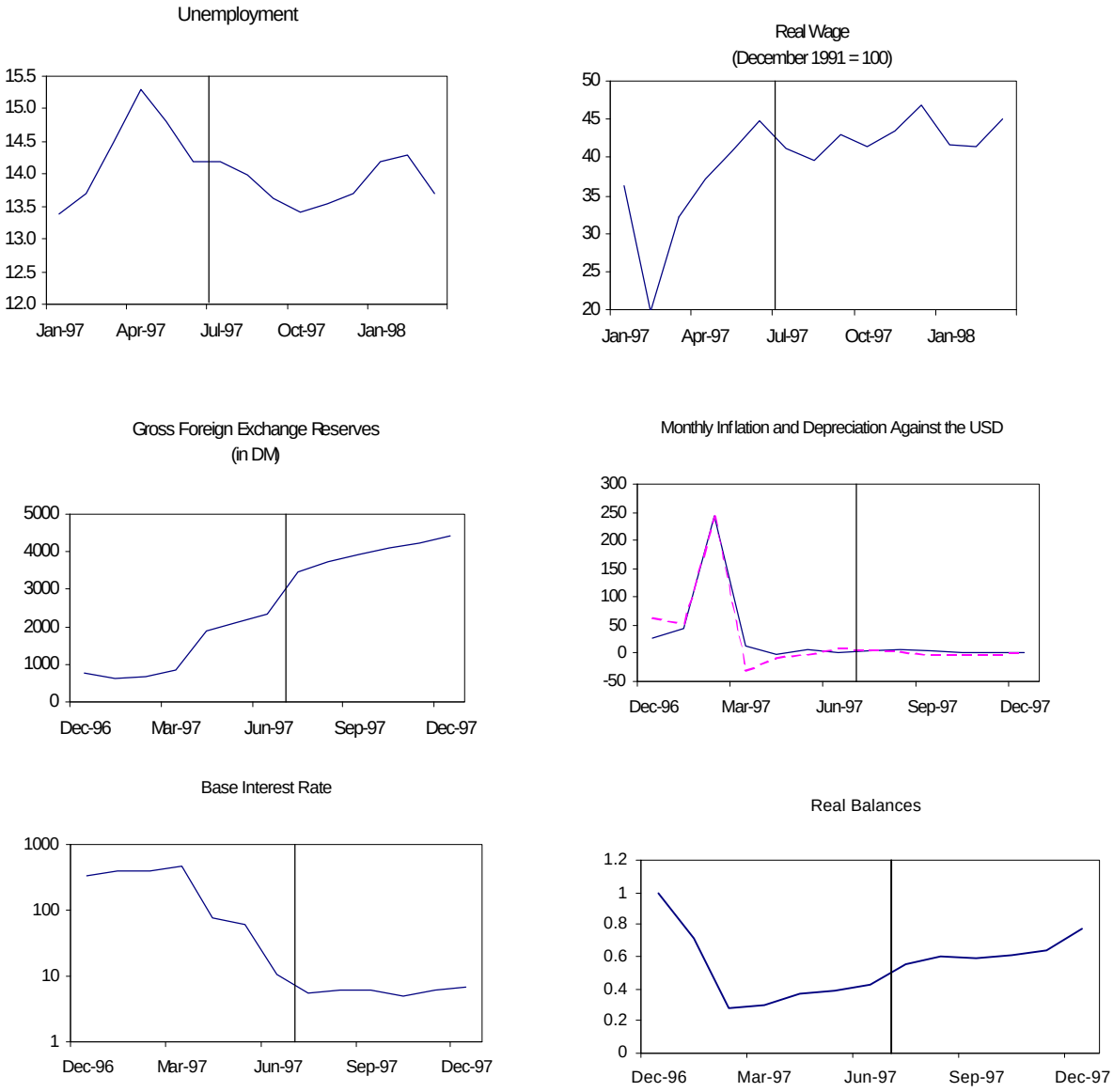


FIGURE 10

Bulgaria: Key Macroeconomic Variables (1997)

Figure 11

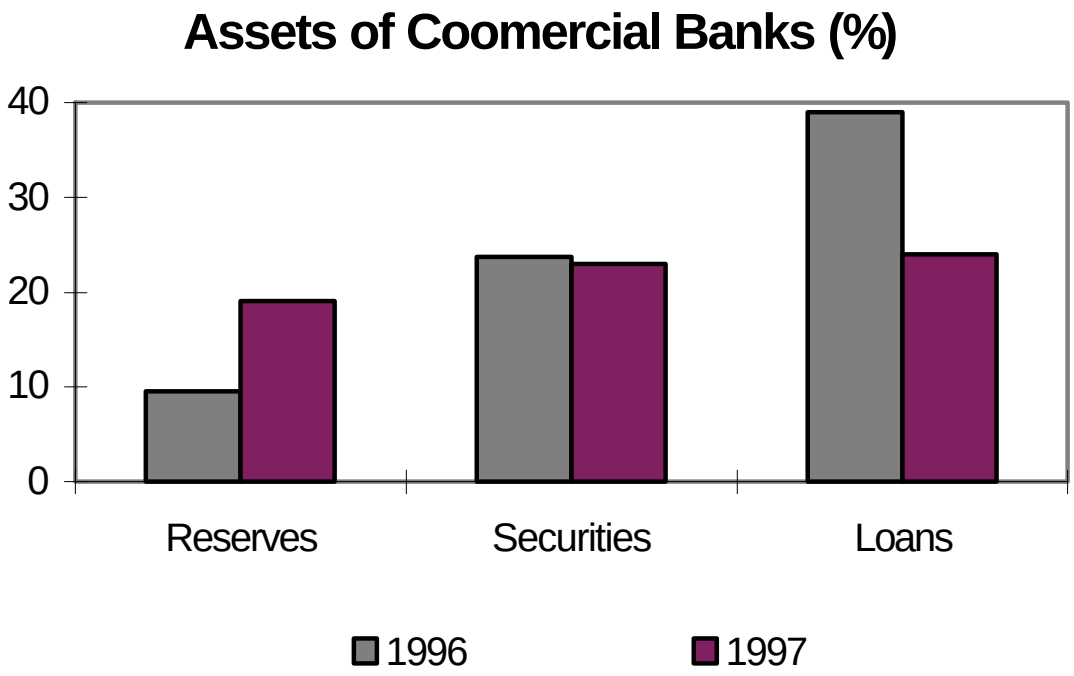
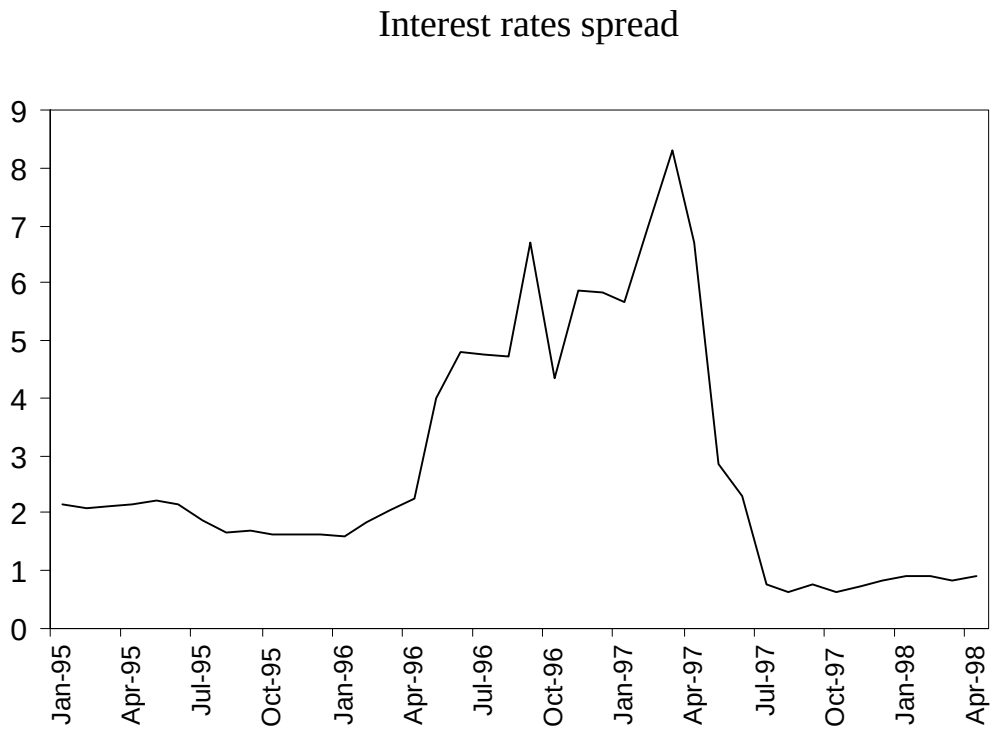

Assets of Coomercial Banks (%)
40
30
20
10
0
Reserves
Securities
Loans
1996
1997

Figure 12


Interest rates spread
9
8
7
6
5
4
3
2
1
0
Jan-95
Apr-95
Jul-95
Oct-95
Jan-96
Apr-96
Jul-96
Oct-96
Jan-97
Apr-97
Jul-97
Oct-97
Jan-98
Apr-98