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The Currency Board in Bulgaria: The First Two Years

Jeffrey B. Miller

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Send your comments and opinions to:
Publications Division
Bulgarian National Bank
1, Alexander Battenberg Square
1000 Sofia, Bulgaria
E-mail: dimova.l@bnbank.org

Web.site: www.bnb.bg

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SUMMARY: Bulgaria experienced a severe financial crisis in 1996 and early 1997. Several banks were closed, inflation reached hyperinflationary levels and output declined sharply. During this period proposals were put forward to establish a currency board. It was hoped that a currency board would restore confidence and help stabilize the economy.

The currency board was established in July 1997. In many respects the currency board has been a great success. From hyperinflationary levels in February 1997, inflation fell to very low levels in 1998 and early 1999. The dramatic fall in nominal interest rates made it possible for the government to reduce large government deficits. The economy has also begun to grow, albeit more slowly than might be hoped during a recovery period.

A currency board establishes a fixed exchange rate and relies on automatic mechanisms to restore macroeconomic equilibrium. In theory, like the gold standard, the money supply will automatically adjust when balance of payments disequilibria arise. A currency board restores confidence by relying on these automatic mechanisms and severely limiting the discretion of policymakers.

What distinguishes currency boards from other fixed exchange rate regimes is the credibility of the exchange rate fix. Confidence in the currency is maintained by promising never to change the exchange rate and allowing the public to openly exchange as much local currency for reserve currency as they wish. The credibility of a currency board depends on both economic and political factors. To sustain confidence, the currency board must have sufficient foreign currency reserves to honor the pledge to exchange local currency for reserve currency. Politically, the government must be prepared to maintain the fixed exchange rate when adverse circumstances arise. To build confidence in the currency board and make it difficult to change the exchange rate, the exchange rate was written into the law establishing the Bulgarian currency board. Whether there is the political will to sustain the board will not really be known, however, until there is a real test. Thus far the Bulgarian currency board has not been confronted with a real challenge, but growing current account imbalances, which are likely to become worse because of the war in Kosovo, may create problems in the near future.

While the currency board in Bulgaria has been enormously successful in bringing down inflation, it has only been in place for only two years. In this paper we take a longer-term perspective and assess not only the board's immediate impact, but also its prospects for the future. Two issues are of special concern. The first is Bulgaria's large foreign debt. Bulgaria has been able to service this debt since the crisis ended in 1997, but there is now greater dependence on inter-

Jeffrey B. Miller, University of Delaware, Newark, Delaware 19716 USA, E-mail: Millerj@be.udel.edu.

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NATIONAL FINANCIAL INSTITUTIONS. THE SECOND CONCERN IS WHETHER THE AUTOMATIC ADJUSTMENT MECHANISMS THAT MAINTAIN BALANCE OF PAYMENTS EQUILIBRIUM UNDER A CURRENCY BOARD ARRANGEMENT WILL BE EFFECTIVE. WITHOUT PROPER ADJUSTMENTS, IT WILL NOT BE POSSIBLE TO SUSTAIN THE CURRENCY BOARD IN THE LONG RUN.

ANALYSIS OF THESE AND OTHER QUESTIONS RAISED BY THE BULGARIAN EXPERIENCE REQUIRES A MORE DETAILED EXAMINATION OF THE ADVANTAGES AND DISADVANTAGES OF CURRENCY BOARDS. WILLIAMSON (1995) HAS PROVIDED A FRAMEWORK FOR ANALYZING THESE ISSUES. IN THE NEXT SECTION WE DESCRIBE THE BASIC STRUCTURE OF THE CURRENCY BOARD IN BULGARIA. IN SECTION II WE ANALYZE WHETHER FEATURES THAT WILLIAMSON HAS IDENTIFIED AS ADVANTAGES OF A CURRENCY BOARD HAVE INDEED BROUGHT ABOUT THE IMPROVEMENTS THAT WOULD BE ANTICIPATED. IN SECTION III WE EXAMINE FEATURES OF CURRENCY BOARD ARRANGEMENTS WHICH WILLIAMSON CONSIDERS TO BE DISADVANTAGES TO DETERMINE WHETHER THEY ARE LIKELY TO CAUSE SERIOUS FUTURE PROBLEMS FOR THE BULGARIAN ECONOMY. SECTION IV CONCLUDES.

I. The Structure of the Currency Board in Bulgaria

"A currency board is at bottom an arrangement that legislates a particular monetary rule: a rule that changes in the monetary base will be equal to the country's overall balance of payments surplus or deficit." (Williamson, 1995, p. 1). A currency board differs from a central bank in that all its assets are held in liquid reserve-currency assets. The assets of a currency board do *not* include domestic assets.[1] Because of this limitation the currency board cannot hold government debt or act as a 'lender of last resort' which lends money to troubled commercial banks.

Two factors that contributed to the Bulgarian financial crisis of 1996 −1997 were large government deficits and bad loans on commercial bank balance sheets. An attraction of the currency board is that by cutting off credit to both the government and commercial banks, the currency board disciplines both institutions.

When Bulgaria adopted a currency board in July 1997, it chose the Deutschemark as the reserve currency. This was somewhat controversial because the dollar was widely used and oil imports, which are very important, are priced in dollars. The Deutschemark had the advantage, however, that it was soon to be merged with the Euro, and Bulgaria hopes to join the European Union. With the adoption of the Euro in January 1999, the Bulgarian lev is now fixed to the Euro.

[1] *In Argentina the reserve currency is the US dollar and the currency board does hold some dollar-denominated government debt.*

The currency board in Bulgaria has a structure similar to the currency board established earlier in Estonia where there is a separation between the Issue Department and the Banking Department. In Bulgaria there is also a third division, the Banking Supervision Department. The Banking Supervision Department is the regulator of commercial banks. The Banking Department has reserves that can be used in a crisis situation to help banks. The heart of the currency board is the Issue Department. The balance sheet of the Issue Department for 25 June 1999 is presented in Table 1. All foreign currency assets are entered on the balance sheet of the Issue Department. Since the exchange rate is fixed at BGL 1000/DEM, the total foreign assets of the currency board were approximately DEM 5.1 billion (USD 2.7 billion).

An important difference between this balance sheet and the typical currency board balance sheet is the presence of government deposits and Banking Department deposits on the liability side of the account. Theoretically, the only liability of a currency board would be the monetary base. As Table 1 shows, government deposits and deposits of the Banking Department together are actually greater than the monetary base (M0).

The Banking Department provides a safety valve in the event of crisis. The high inflation and sharp depreciation of the lev that occurred during the financial crisis greatly reduced the value of the money supply. With more foreign currency reserves than were needed to provide coverage for M0, reserves were set aside for the Banking Department. Additional loans from the IMF have also made it possible to increase the size of the Banking Department.

This structure has important advantages for a country that has an ongoing IMF program and large foreign debt service obligations. With a currency board changes in foreign exchange reserves will affect the size of the money supply. With this structure IMF tranches and payments of foreign debt obligations do not affect the monetary base. This arrangement reduces the volatility of the money supply that would otherwise be affected by large movements in the BNB's holding of foreign currency reserves.[2]

[2] *IMF tranches actually pass through the Banking Department and borrowings from the IMF are a liability of the Banking Department. There is a four-week window after the tranche is received where the government can make a decision to borrow this money*

This arrangement has some additional consequences, however. First, because of these accounting features, the Bulgarian currency board does not satisfy Williamson's definition cited above. Changes in the monetary base will not be equal to the country's overall balance of payments surplus or deficit when the government is engaged in international transactions. International activities of the government are 'spontaneously sterilized' whether they are IMF tranches, foreign debt payments or receipts from privatization deals with foreign investors.[3]

Second, government deficits will automatically be financed by printing money. An increase in government spending will increase the monetary base and have the same effect on the money supply as a decision by a central bank to buy government bonds when the government deficit spends. For the same reasons, normal government receipts and payments will affect the size of the monetary base and create additional money supply volatility. To reduce this volatility, Nenovsky and Hristov (1998) have argued that government deposits should be held at a commercial bank instead of the currency board.

There are several trade-offs to be considered here. Government deposits were originally placed at the currency board because the banking system was considered to be too weak (Enoch and Gulde, 1997). If deposits were placed at a commercial bank, IMF tranches and debt service payments would create more money supply volatility than the present arrangements. Another alternative would be for the government to keep deposits at both the currency board and commercial banks. The deposits at the currency board could be used for IMF tranches and debt service, and the deposits at commercial banks could be used for normal government operations. A possible disadvantage of this arrangement is that the government could influence the size of the monetary base by moving deposits from one account to another.

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from the BNB. The government can then make payments from this account to service the foreign debt. (A special exception was written into the law establishing the currency board allowing the government to borrow these funds from the BNB.) (Enoch and Gulde, 1997)

Careful consideration is also given to how money from the World Bank affects the money supply. Money which is passed to the government and eventually spent by the government will affect the money supply, but the World Bank is careful that the original transfer of funds to the government does not significantly affect the monetary base.

[3] Sterilization is usually associated with situations where central banks try to stop monetary contractions when balance of payments deficits arise. The situation here is different since there is no discretionary policy action being taken.

From the viewpoint of a purist, none of these arrangements is ideal. Since the government's deposits and its international transactions are large, government activities will influence the size of the monetary base. Under ideal conditions, money supply adjustments under a currency board system should reflect only imbalances in the balance of payments.

II. Advantages of a Currency Board

Williamson (1995, p. 13) lists four advantages proponents claim for currency boards:

> "[a]that they assure convertibility; [b]that they instill macroeconomic discipline; [c]that they provide a guaranteed payments adjustment mechanism; [d]that because of those three features they create confidence in the monetary system and therefore promote trade, investment and growth.

Convertibility

A key aspect of a currency board is its guarantee of currency convertibility at a fixed exchange rate. To assure convertibility there must be adequate reserves to cover any demands for foreign currency. Only then is there a credible claim that citizens can always exchange the local currency for reserve currency. A standard criteria for judging sufficient coverage is that the currency board needs sufficient holdings of the reserve currency to cover the monetary base (M0). For a currency board where commercial banks hold their reserves at the currency board, sufficient reserves to cover M0 will be adequate to guarantee the fixed exchange rate but insufficient to prevent a banking crisis. Commercial banks themselves will not have sufficient foreign currency to guarantee the convertibility. People will be forced to withdraw money from the banks and present their demands for foreign currency at the currency board. The currency board will be able to honor these demands, but the withdrawals will bring about a contraction of bank liabilities and the money supply as banks are forced to call in their loans and sell other assets.

In Bulgaria gross foreign currency reserves far exceed the minimum requirements for coverage of M0. As Table 1 illustrates, the Issue De-

partment has foreign currency reserves of BGL 5.1 trillion and M0 is only BGL 2.2 trillion. At the end of June foreign currency reserves at the BNB were more than twice as large as M1. Indeed the ratio of broad money to foreign currency reserves was only 1.21. These figures suggest that the Bulgarian currency board should be able to honor its commitments to the exchange rate fix.

While there should be no immediate problems, the longer-term picture is not so rosy. At the end of 1998 Bulgaria's foreign debt was more than USD 10 billion. (This was a 4% increase over the 1997 end-year figure.) During 1998 debt service was almost USD 1.1 billion. Annual service obligations for 1999 – 2001 are in the same range. To put these figures in context, the government's deposits in Table 1 represent a little more than one year's annual payments. The total assets of the Issue Department are less than the debt service obligations over the next three years.

The future strength of the currency board depends on the management of these foreign debt service obligations. It is interesting to note that while servicing more than USD 1 billion in foreign debt in 1998, government balances at the BNB were almost the same in June 1999 as they were in June 1998.

In 1998 the foreign debt was managed largely by borrowing additional funds from official creditors, mainly the international financial institutions (IFIs), i.e. the IMF, World Bank, European Union, etc. While almost USD 500 million of the USD 1.1 billion in service obligations were payments to IFIs, Bulgaria's total indebtedness to IFIs increased by more than USD 300 million. Bulgaria is becoming more dependent on the IFIs to finance its foreign debt obligations.

Promises from the IFIs for 1999 fall far well below debt service obligations. IMF and World Bank loans are expected to total about USD 500 million and there are perhaps another USD 100 million from other sources. Recently there have been negotiations for additional loans.

Other potential sources of foreign currency reserves include foreign direct investment, portfolio investment and floating a Eurobond. Attracting private portfolio money or floating a Eurobond has been made more difficult by the financial crises in emerging markets, especially the crisis in Russia. The war in Kosovo has further highlighted prob-

lems in the region.[4] Efforts to attract foreign direct investment have focussed on privatization efforts. In 1997 foreign direct investment was USD 636 million, but the pace has slowed in 1998 to USD 436 million. The much anticipated sale of the Bulgarian Telecommunications Company (BTC) still has not been concluded (OECD, 1999). While the sale of BTC should bring in a substantial sum, many state-owned enterprises have deteriorated during the past decade, and their sale is unlikely to bring sufficient foreign currency flows to have a substantial impact on the underlying foreign debt problems.

Current account surpluses are another potential source of foreign currency reserves. We discuss these issues in more detail in Section III. Suffice it to say here that while the current account was in surplus in 1997, Bulgaria's current account fell into deficit in 1998 and the damage to roads and bridges in Yugoslavia during the war in Kosovo is making trade more difficult.

The high inflation that preceded the establishment of the currency board in Bulgaria created a situation where there were more than enough foreign exchange reserves to provide immediate cover for M0, but without the support of IFIs, the foreign debt problem could still threaten the viability of the board. Because of these debt problems, dependence on the IFIs has grown over the past two years. It is still too early to determine whether the stability provided by the currency board will provide sufficient impetus to the private sector to reverse this trend, but it is unlikely that these changes will occur quickly.

Macroeconomic Discipline

Advocates of currency boards argue that they will instill macroeconomic discipline. Williamson views fiscal policy, in particular, as a political problem that may or may not be solved by the establishment of a currency board.

Very weak commercial bank balance sheets and large government deficits helped bring on the Bulgarian financial crisis in 1996 – 1997. Proponents of the currency board hoped that the establishment of the currency board would signal a change of regime and greater economic discipline.

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[4] While the war in Kosovo has made it more difficult to attract private capital flows, it has strengthened Bulgaria's position in its negotiations to obtain additional funds from the IFIs.

During the period leading up to the crisis the BNB provided commercial banks with refinancing. The banks then loaned the money to enterprises. These loans were a form of implicit subsidy since there was little chance they would be repaid. "Until 1996, commercial credit was expanded to the nonfinancial sector in Bulgaria to a degree that was unprecedented relative to any other European transition economy." (OECD, 1999, p. 32).

Government attempts to recapitalize the banks failed. The government replaced bad loans to enterprises with government bonds. Banks then made additional loans, and their balance sheets did not improve. The government bonds increased the level of government debt and the interest obligations on this debt ballooned creating large government deficits. By 1996 interest payments were 17% of GDP.

The currency board has effectively brought an end to these problems. Since the Bulgarian currency board cannot hold domestic debt, it cannot refinance the banks nor can it hold government debt. The high inflation during the crisis reduced the value of the lev-denominated government debt from 70% of GDP in 1996 to less than 15% of GDP at the end of 1998. Interest rates also fell dramatically greatly reducing the servicing burden (OECD, 1999). The fiscal budget was in surplus in 1998. For 1999 the government projects a deficit of 2.8%, but the money is to be used to upgrade a badly deteriorating infrastructure.

The situation in the banking sector has also improved dramatically. The banks have reduced their exposure to the nonfinancial sector and the capitalization of the banks rose to 36.7% in 1998 (against the minimum requirement of 10%) (OECD, 1999). Initially the banks did little additional lending to the nonenterprise sector and expanded their cash holdings and their holdings of government bonds. As Table 2 illustrates, more recently banks have taken less conservative positions and have expanded the amount of lending to the nonfinancial sector and reduced their cash holdings.

After many years of struggling with inflation, inflation has also come down dramatically with the establishment of the currency board. At the end of the financial crisis in February 1997, monthly inflation was 240%. End-period CPI inflation for the year 1998 was 1.0% on an annual basis.

The experience with output growth has been positive but less spectacular. Output grew in 1998 by 3.5% after declining by 6.9% in 1997. This improvement is less impressive than it first appears. The financial crisis ended in the first quarter of 1997 and output was very low. GDP recovered some by the third quarter, but output has not grown since then (OECD, 1999).[5]

Evaluating the overall macroeconomic experience in Bulgaria during the first two years, the currency board has to be given high marks. The currency board was instituted at a time when people had little faith in macroeconomic policymakers and the economy was in a shambles. Inflation has come down to reasonable levels, the government's budget has been balanced, and the banks are taking greater care of their assets. These are certainly major accomplishments. While the economy has not really started to grow, the economy has been stabilized, and it is easier for economic decision makers to make new business plans with longer horizons.

Guaranteed Adjustment Mechanism

Under a currency board arrangement balance of payments (BOP) equilibrium is maintained through an automatic adjustment mechanism. As with the gold standard BOP deficits create outflows of foreign exchange reserves and a reduction of the money supply. The fall in the money supply forces interest rates upward and a contraction in the economy. This contraction will result in lower output and prices. The fall in output should be smaller if the fall in prices is greater. Higher interest rates create capital inflows. The fall in output depresses import demand and the fall in prices increases the competitiveness of exports. All three changes help restore BOP equilibrium. When there are BOP surpluses, the opposite forces act to restore equilibrium.

The long-term sustainability of the currency board depends on this mechanism. The automatic nature of the adjustment relies on a close relationship between foreign exchange reserves and the money supply. The Bulgarian currency board is designed to reduce the impact on the money supply when there are financial flows from the IMF and major debt service payments are made. This structure has the advantage of re-

[5] *The IMF's immediate post-Kosovo war projection for GDP growth in 1999 is 1.5%.*

ducing the volatility of M0 which would be caused by these flows, but it also means there is no longer a direct connection between BOP disequilibria and adjustments in the money supply. For example, if the BOP were in deficit, large government expenditures could be used to offset what otherwise would be a decline in M0. This would stop the contraction needed to restore BOP equilibrium.

Thus the design of the Bulgarian currency board has important advantages, but it also creates the danger that the additional flexibility between foreign exchange reserves and money supply will hinder the operation of the automatic adjustment mechanism which otherwise should ensure BOP equilibrium. In the long run this could affect confidence in the sustainability of the currency board.

Confidence in the Monetary System and Promotion of Trade, Investment and Growth

In Williamson's list of advantages for currency boards, the last point is that a currency board should create confidence and promote trade and growth. A recent empirical study by Ghosh, Gulde and Wolf (1998) finds that economies that adopt currency boards do have better inflation experiences, and this improved inflationary environment does promote better growth.

When the currency board was adopted in July 1997, there were immediate indicators of confidence in the exchange rate fix. As illustrated in Figure 1, interest rates fell dramatically as the establishment of the currency board was anticipated. Interest rates reached single-digit annualized levels once the board was in place.

These changes are to be expected since speculators will arbitrage between the Deutschemark and Bulgarian lev. The interest rate premium on lev securities is a measure of the additional risk in the Bulgarian market. The interest rate differential between the Deutschemark three-month LIBOR and the three-month Bulgarian government bond has been around 2% since the beginning of 1998.

This dramatic fall in nominal interest rates had two important effects. First, lower interest rates greatly reduced the government's domestic debt service obligations and helped the government gain control of its budget. Secondly, the fall in nominal interest rates occurred be-

fore inflation came down. At first real interest rates were negative, although they have recovered as inflation has also come down.

While the currency board has been able to stabilize the exchange rate, it has not brought a significant inflow of foreign capital. A number of privatization deals were completed in 1997. Foreign direct investment climbed, but the crisis in emerging markets and a slowdown in privatization reduced the level of foreign investment in 1998. *Per capita* foreign investment is much lower than most other Eastern European countries and even in 1997 it was still only USD 60 (OECD, 1999).

III. Disadvantages of a Currency Board

Williamson lists a number of disadvantages of a currency board. In this section we discuss only those problems which are most relevant to the Bulgarian case. These are: (a) the transition problem which arises when inflation leads to overvaluation of the real exchange rate; (b) the adjustment problem caused by BOP disequilibrium; (c) the crisis problem in the banking system because there is no lender of last resort; and (d) the political problem.[6]

Transition Problem

The transition problem is the problem of bringing inflation down quickly enough after the establishment of the currency board. Fixing the exchange rate should bring inflation down, but inflation can have a momentum that leads to an overvaluation of the real exchange rate. The gold standard mechanism will eventually correct the BOP imbalance that results, but the adjustment can be long and painful.

In Bulgaria there was some inflationary momentum, but it was short-lived. Following the very high inflation during the first half of the year, the CPI rose only 16% during the second half of 1997 and only

[6] *The other issues that Williamson discusses are: seigniorage, the start-up problem and the management problem. Currency boards allow countries to collect seigniorage where simply using another reserve country's currency does not. The start-up problem is the problem of collecting sufficient foreign currency reserves before establishing the currency board. The management problem is the inability of a country with a currency board to manage its monetary policy. This last problem is discussed below when the adjustment problem is analyzed.*

1% in the 1998. During the first four months of 1999, the price level actually fell a little.

To determine whether this inflation would cause an overvaluation of the lev depends on where the nominal exchange rate fix was initially set. Figure 2 plots the real exchange rate (lev/US dollar) deflated by the PPI for the period beginning in January 1990. As can be seen in the graph, the real exchange rate fluctuated dramatically during the period immediately preceding the establishment of the currency board. This made it more difficult to determine an appropriate nominal rate. The nominal exchange rate chosen secured a real rate in the middle of the range during the 1990s. Since the currency board system was implemented, the lev has actually depreciated against the dollar in real terms because of the appreciation of the dollar against the Deutschemark.

While the real exchange rate has not appreciated against the dollar, the balance on the current account has moved from surplus to deficit. So a transition problem has arisen. The current account surplus in 1997 was USD 426 million and the current account deficit in 1998 was USD 272 million. Preliminary figures for the first four months of 1999 show a continuing current account deficit of USD 320 million. The impact of the war in Kosovo is not reflected in these figures.

Most of this shift is occurring in the trade balance. As Table 3 illustrates, most of the change in the trade balance between 1997 and 1998 is due to a fall in exports. A comparison of first quarter statistics shows that the improvement in the economy since the first quarter of 1997 has led to an increase in imports, but the major overall factor leading to the deficit is the decrease in exports. Falling exports to the former Soviet Union (USD 338 million) account for more than half the decline. Exports to Turkey also fell by USD 100 million (22%). On the other hand, exports to the European Union, which now constitute one-half of all exports, were almost unchanged between 1997 and 1998. This suggests that the real appreciation of the lev against the Deutschemark did not have an immediate impact on exports to that region.

According to preliminary figures overall exports declined another 24% in 1999, first quarter 1998 to first quarter 1999 (see Table 3). Exports to the European Union fell 9%, and there were further declines in exports to the former Soviet Union. Exports to the former Soviet Union in 1999 were only one-third the level of the comparable period in 1997.

Thus, Bulgaria has a current account deficit problem as it transitions to a currency board, but continuing inflation did not play a central role. The BOP problems have different causes. Bulgaria has been hurt by the crisis in emerging markets, particularly the crisis in Russia and its affects on other countries in the region. However, between 1997 and 1998 the real problem was that Bulgaria was unable to expand its export trade in any other major region.

Adjustment Problem

Unlike other countries that have had a currency board for a longer period of time, the currency board in Bulgaria has not really been tested. This may soon change with the growing current account deficits. While there was no speculation against the lev when the Russian crisis occurred, continuing current account deficits could cause a contraction in the economy. Williamson refers to this as the adjustment problem.

The adjustment process unfolds when BOP deficits lead to a contraction in the monetary base, a fall in the money supply and a decline in aggregate demand. Either a fall in output or a decline in prices can improve the current account balance. The greater the decline in prices, the smaller the decline in output needed to bring about equilibrium.

Figure 3 plots the movement of the monetary base over the period of the currency board. It is clear from a comparison of Table 3 and the changes in Figure 3 that there are more factors affecting the monetary base than the changes in the current account. The dramatic increase in the monetary base in late 1997 when the currency board was first established reflects a portfolio readjustment following the hyperinflationary period that preceded it. Holding levs was a much safer bet than before. This created an inflow of foreign currency reserves.

Figure 3 also shows an increase in M0 during 1998 in spite of current account deficits. The first six months of 1999 show a sharp decline in M0 in January and then a slight decline after that. Because of the large swing in M0 in December (for both 1997 and 1998), it may be more useful to compare November 1998 and June 1999. Over this period M0 *declined* by BGL 54 billion (DEM 54 million) or 2.5%. Because there was a small increase in the money multiplier over this period the money supply actually *increased* by BGL 81 billion (DEM 81 million) or 1.3%. While current account figures are available only

through April 1999, the current account deficit from November to April was USD 385 million.

From these figures it does not appear that the current account deficit is creating a monetary contraction. On the other hand, the decline in exports is reducing aggregate demand. This should slow the growth of the economy. If the money supply contracted, this would reduce aggregate demand even more.

Under a currency board arrangement there is little that can be done to offset these contractionary pressures. In a more flexible environment expansionary fiscal or monetary policy might slow the contraction. If Bulgaria had a floating exchange rate, a depreciation of the real exchange rate might spur exports. None of these options exist under a currency board.

The impact of contractionary policies on prices can be very important. If prices are more flexible in a downward direction, the contraction in output should be less severe. Figure 4 shows the relationship between monthly CPI adjustments in Germany and Bulgaria. The increase in the CPI during the first six months of the currency board was higher in Bulgaria, but in 1998 the CPI increases were almost the same: 0.6% in Germany and 1.0% in Bulgaria. The volatility of price adjustments in Bulgaria was much greater. In several months Bulgarian prices fell, in part because food prices fell almost 5% in 1998. This suggests that Bulgarian prices might indeed fall more during a contraction than a country like Germany. This should ease the output effects of a contraction caused by the adjustment process that will take place under a currency board arrangement.

Current account deficits and BOP deficits are not equivalent. The current account deficit can be offset by increases in foreign investment. This is an alternative mechanism under which a currency board arrangement relies on growth in the economy to correct the current account imbalance. Under this scenario, foreign investment will lead to greater growth and an eventual reduction in the current account deficit. With this adjustment mechanism, which appears to be the pattern that is unfolding in Bulgaria, the viability of the currency board depends on the efficient use of foreign investment to increase productivity. It is too early to determine whether these productivity improvements are occurring in Bulgaria.

Crisis Problem

What Williamson refers to as the crisis problem arises because there is no 'lender of last resort' under a formal currency board. In Bulgaria there is more flexibility. When the currency board was established, a Banking Department was created to provide protection during a crisis. A substantial amount of money was put aside in the Banking Department and has increased since the board was created. In June 1999 the deposits of the Banking Department at the Issue Department were 140% of bank reserves (Table 1).

Offsetting this advantage is the small presence of foreign banks in Bulgaria. Most countries with currency boards have been countries where foreign banks were dominant, as with the British colonies. Hong Kong and Argentina are exceptions, but the presence of foreign banks in these countries is also greater than in Bulgaria. Argentina experienced a run on its banks in 1994 – 1995 during the Mexican debt crisis. The exchange rate was maintained, but reserve requirements were reduced by half – a very noncurrency board thing to do. The IMF provided large loans, and small banks were absorbed by large banks (Williamson, 1995). Since then Argentina has organized large lines of credit which can be called upon in the event of another crisis.

If banks have lines of credit in foreign currency upon which to draw, the contraction will be less severe. Foreign banks should be able to draw on their parent banking institutions for resources in the reserve currency, especially if their parent is in the reserve currency country. For Bulgaria today any bank from Euroland would serve this function. At present, foreign banks make up only a small portion of the commercial banking sector. This could change significantly if Bulbank, formerly the Foreign Trade Bank, is purchased by a foreign bank. Bulbank has approximately one-third of commercial banking assets in Bulgaria.

It is difficult to judge what will happen during a financial crisis, but one can interpret from portfolio behavior what economic agents perceive the risks to be. Under a currency board the risk of currency devaluation is reduced, but the risk of bank failure is greater. In Figure 5 the cash-to-deposit ratio is plotted for period beginning in December 1990.[7] As can be seen from the figure, the cash-to-deposit ratio rose

[7] *Deposits include both lev and foreign currency deposits.*

dramatically when the currency board was established. This rise reflects the greater confidence in the lev as people exchanged dollars for lev. But confidence in the banks is still weak.

The behavior of banks has also been conservative since the establishment of the currency board. Figure 6 shows the ratio of bank deposits to reserves. During the currency board period the required reserve ratio (also shown on the graph) was 11%. Until very recently banks have been holding reserves well above this level. As seen in Table 2, recently banks have become more aggressive and have reduced their cash holdings and extended more loans. In part this reflects changes in the procedures for determining compliance with the minimum reserve requirements, but it may also reflect pressures on bank profitability. It is difficult for banks to make profits if they are holding large cash balances and low interest paying government securities.

Political Problem

The last disadvantage that Williamson lists is the political problem. The question he raises is whether the currency board will really impose controls on the fiscal authority. He remains skeptical that this will necessarily be the case.

Thus far the currency board in Bulgaria has created an environment where the government has been able to control budget deficits. If there is a political problem, it is the appearance, perhaps, that the currency board is too strong. In political debate the government has used the currency board to deflect demands on the budget. This has created an environment where the greatest political threat to the currency board is not the fiscal actions of the present government, but the political attacks on the currency board.

IV. Conclusions

There are many challenges in the Balkans. After climbing one mountain, there is another mountain in your path. The Bulgarian economy has climbed a high mountain, but there are many challenges ahead. The currency board has brought needed discipline to the economy. The money supply is no longer growing too rapidly. Government budgets are now under control. Banks' lending is much more cau-

tious. The result is that inflation has come down dramatically, and the economy is beginning to grow.

Having met these challenges, there are others that still lie ahead. Bulgaria still has a very large foreign debt. The servicing of the debt is still a problem, and there is a heavy reliance on the IFIs to provide support for these payments. These problems have been made more difficult because the current account is now in deficit.

The current account deficit may well create serious challenges for the currency board. This deficit has arisen in large measure because of factors outside Bulgaria. Still declining exports are contractionary, and the currency board arrangement provides no mechanism for offsetting these forces. At the same time, Bulgaria is being spared an even more painful experience since the contraction is smaller than it would have been if the money supply had not continued to expand. Even if the money supply does not fall, a decline in output at this stage could create additional political problems

The longer-term solution to these problems, however, is growth. It is still too early to determine whether the increased stability brought on by the currency board and the inflow of new foreign capital will be sufficient to increase productivity. If productivity improves, Bulgarian goods will become more competitive and the current account will readjust. If productivity does not improve, then the long-term viability of the board will be in question.

The currency board in Bulgaria is beginning to mature as economic agents are gaining a better understanding of the constraints they now face. The government has more confidence now and has been contemplating a small deficit to improve infrastructure. Banks are beginning to lend more as they reduce their holdings of cash and government securities. The question now is whether the government and the banks can now proceed prudently when the constraints appear to be less severe.

The currency board has brought stability to the economy. The next stage will test whether these gains can be consolidated and longer-term growth can be achieved.

Table 1

WEEKLY BALANCE SHEET OF ISSUE DEPARTMENT AS OF 25 JUNE 1999

(million BGL)

ASSETS		LIABILITIES	
Cash and nostro accounts in foreign currency	1 174 463	Currency in circulation	1 623 821
Monetary gold	627 509	Bank deposits and current accounts	552 655
Foreign securities	3 291 183	Government deposits and accounts	2 196 484
Accrued interest receivable	57 241	Other depositors' accounts	367
		Accrued interest payable	414
		Banking Department deposit	776 655
ASSETS	5 150 396	LIABILITIES	5 150 396

Source: BNB.

Table 2

AGGREGATE BANK BALANCE SHEETS
(Percentages of major liability categories)

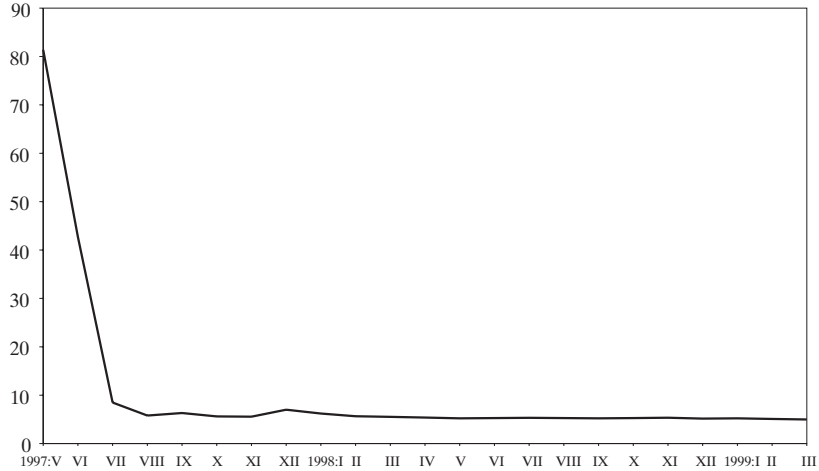
(%)

	1996	1997	1998		1999
	Dec.	Dec.	June	Dec.	Feb.
Cash	10	19	16	14	12
Government securities	24	24	25	20	21
Claims on banks and other financial institutions	24	29	28	32	30
Claims on nonfinancial institutions	39	22	23	27	29

Source: BNB

Figure 1

ANNUAL COMPOUND BASE INTEREST RATE

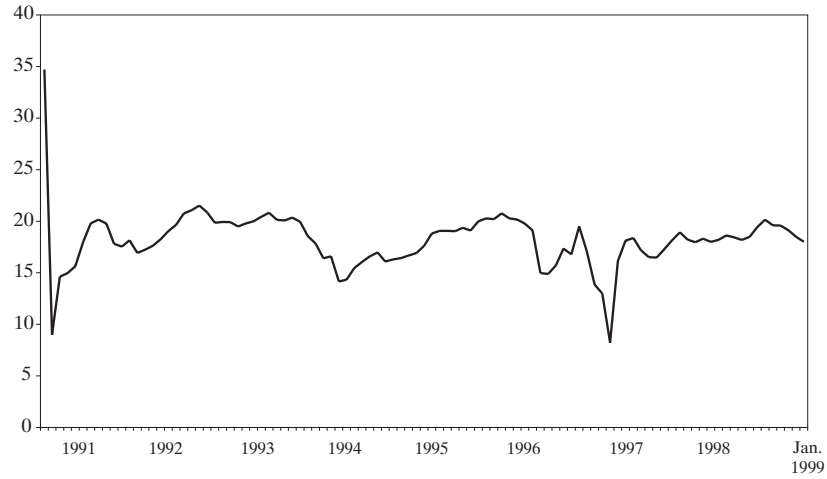


Source: BNB.

Figure 2

REAL EXCHANGE RATE (PPI)

(USD)



Source: BNB.

Table 3

BALANCE OF TRADE 1997 – 1998

(million USD)

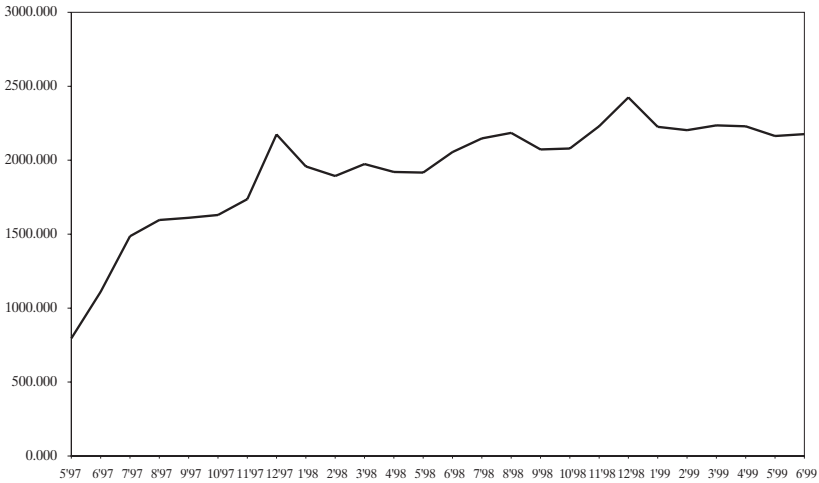
	Q1	Q2	Q3	Q4	Total
1997					
Trade balance	308.8	46.5	97.7	-72.6	380.4
Exports, fob	1190.9	1233.5	1272.0	1243.3	4939.7
Imports, fob	882.1	1187.0	1174.2	1315.9	4559.3
1998					
Trade balance	1.6	-68.9	-104.3	-157.9	-329.5
Exports, fob	1103.4	1113.0	1027.3	1050.2	4294.0
Imports, fob	1101.8	1181.9	1131.6	1208.2	4623.5
1999					
Trade balance	-165.7				
Exports, fob	865.8				
Imports, fob	1031.5				
Change between 1997 & 1998					
Trade balance	-307.2	-115.4	-201.0	-85.3	-709.9
Exports, fob	-87.5	-120.5	-244.7	-193.1	-645.7
Imports, fob	219.7	-5.1	-42.6	-107.7	64.2

Source: BNB.

Figure 3

MONETARY BASE

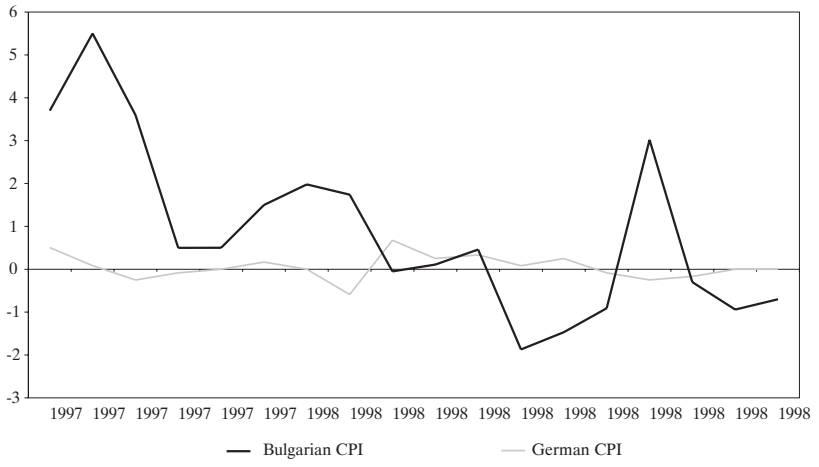
(billion BGL)



Source: BNB.

Figure 4

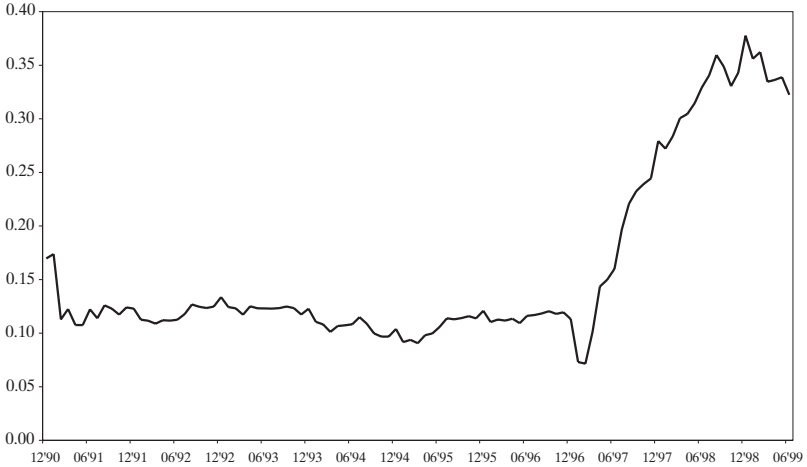
MONTHLY CPI CHANGES IN BULGARIA AND GERMANY



Sources: BNB, IMF: International Financial Statistics.

Figure 5

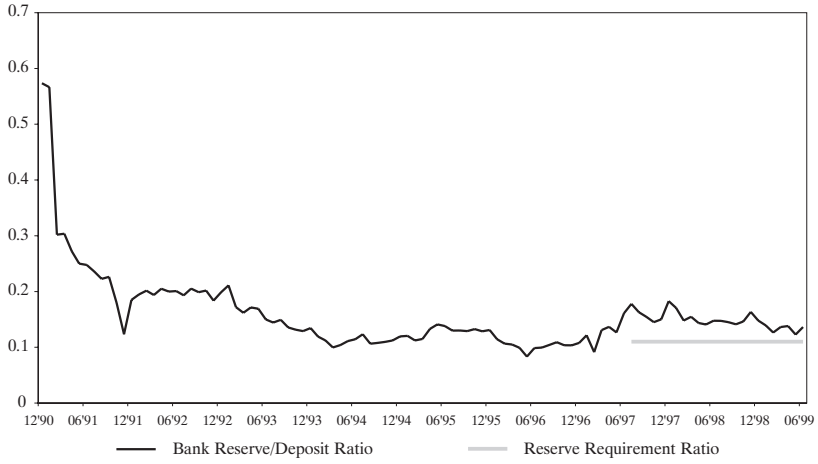
CASH/DEPOSIT RATIO



Source: BNB.

Figure 6

BANK RESERVE/DEPOSIT RATIO



Source: BNB.

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FOR CONTACT:

BULGARIAN NATIONAL BANK
Publications Division
1, Al. Battenberg Sq.
1000 Sofia
BULGARIA

Telephone (+ 359 2) 9145 1351, 9145 1271, 981 1391
Fax (+ 359 2) 980 2425, 980 6493