IMF Policy Discussion Paper

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PDP/99/3

INTERNATIONAL MONETARY FUND

Monetary and Exchange Affairs Department

The Role of the Currency Board in Bulgaria's Stabilization

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April 1999

Abstract

The introduction of a currency board on July 1, 1997 marked the end to a period of economic turmoil and "near hyperinflation" in Bulgaria. This paper summarizes the process leading to the choice of a currency board as a stabilization instrument, and its specific design. The use of a currency board was complicated and controversial because of serious structural problems, including a systemic banking crisis. The relative success therefore critically depended on a design of the currency board that was sufficiently "rule-based" to be credible, while allowing flexibility at the margin on account of the banking crisis. In addition, other supporting measures in the overall stabilization package, not least are those designed to ensure fiscal stability, also contributed to the viability of the system.

JEL Classification Numbers:E42, E58, F31

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Keywords: Currency board, banking crisis, stabilization policy

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[1]I am grateful to Warren Coats, Charles Enoch, Luc Everaert, Rex Ghosh, Alain Ize, Caryl McNeilly, Elizabeth Milne, Jodi Scarlatta, Guenter Taube and Holger Wolf for helpful comments on an earlier draft.

I. Introduction

After a number of failed stabilization attempts, Bulgaria introduced a currency board arrangement on July 1, 1997. This paper summarizes the stabilization process, documenting the initial conditions, the policy discussions surrounding the program design, and issues that arose during the implementation phase. It argues that the arrangement was well designed for the task at hand, combining a traditional rule-based exchange arrangement with a number of legal and structural measures to address the pressing banking sector and fiscal issues. In light of the interdependence of the measures, the success of Bulgaria's currency board stabilization must be attributed to a combination of elements, of which the currency board was a crucial, but not the only determining factor.

II. Initial Conditions and Policy Discussions

In late 1996, Bulgaria was in the midst of a banking crisis and entering a period of hyperinflation. At the same time, support for the government was rapidly declining and popular protest in favor of new elections was widespread. In view of at least two recent failed traditional stabilization programs, a perception was developing that to be credible a renewed stabilization attempt would require a visible, rule-based system, such as a currency board.[2] Nevertheless, the challenges posed by the initial situation at first seemed unsurmountable.

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[2]Bulgaria joined the Fund in 1990. Prior to the program in April 1997 that eventually launched the currency board, it had four stand-by agreements with the Fund (1991, 1992, 1994 and 1996); all but the first of these were not completed.

A. Macroeconomic and Structural Setting

The depth of the macroeconomic crisis was daunting. On an annual basis, inflation soared to almost 500 percent in January 1997 and, at more than 2000 percent in March, achieved "near-hyperinflationary" levels. The causes of the rapid acceleration in inflation included liquidity injections to support the weakening banking system, continued central bank financing of the budget deficit and—increasingly important—faltering confidence in the Bulgarian lev which continuously reduced domestic money demand. In an effort to soften the fall of the exchange rate—which depreciated from lev 487 to lev 1588 per US$1 in the first quarter of 1997—the central bank had depleted its international reserves to less than two months of imports. At the same time, falling output and collapsing compliance caused tax revenues to plummet to 14.7 percent of GDP (annualized) in February of 1997, down from almost 40 percent in previous years.[3] To finance the deficit, the government had to resort to issuing treasury bills with successively shorter maturities and higher interest rates. Real output, which had grown in 1994 and 1995 for the first time during the transition period, fell by more than 10 percent during 1996.

[3]The budgetary problem reflected initially a heavy domestic debt burden, which, in spite of significant primary surpluses, caused sizeable overall deficits. Closer to the height of the crisis, the fiscal problem was aggravated by faltering tax revenues.

Table 1: Bulgaria—Macroeconomic Constraints Prior to the Inception to the Currency Board and Initial Stabilization Results

	1994	1995	1996	Q1/1997	1997	1998[1]
Real GDP growth	1.8	2.1	-10.9	...	-6.9	5.0
Inflation[2]	121.9	32.9	310.8	2040.4	578.5	1.0
Fiscal balance (in percent of GDP)	-5.8	-6.4	-13.4	-52.1	-2.1	1.3
Bank financing of fiscal balance	5.5	4.9	14.5	40.7	-3.2	-0.3
Growth in reserve money	...	50.5	92.4	780.0	780.0	6.0
Growth in real broad money	-19.5	5.1	-45.4	-75.3	-32.3	2.8
BNB Credit to banks (in % of change in MO)	...	-7.8	122.4	67.5	4.5	. . .
Foreign reserves incl. gold (millions of U.S. dollars)	1311	1546	781	826	2474	3051
In month of imports	3.0	2.9	1.6	1.7	5.1	6.4
Nominal interest rate differential[3]	51.3	19.4	116.6	128.6	0.03	0.38[4]
Exchange rate (leva/U.S. dollar)	66.0	70.7	487.4	1021.9	1776.5	1675.1
(leva/DM)	42.8	49.3	313.4	946.9	1000.0	1000.0

Source: IMF.

[1]Projected
[2]Twelve-month change, end-period.
[3]End of year, differential between 3 month deposit rates in Bulgaria and Germany.
[4] November, actual

Structural problems, most notably in the banking sector, were equally severe. The banking crisis had been smoldering since at least 1995. A 1996 review found that out of ten state banks, which still accounted for more than 80 percent of banking sector assets, nine had negative capital and more than half of all state banks' portfolios were nonperforming. About half of the private banks, among them the largest and best known, were also technically

bankrupt. Rumors about the state of the banking sector led to several episodes of bank runs, in particular aimed at retrieving foreign exchange deposits.

A first round of bank closures in May of 1996 was limited to a subset of the known weak institutions and therefore was not sufficient to restore credibility in the banking sector. During the fall of 1996 the situation visibly deteriorated.[4] In late September 1996, the Bulgarian National Bank (BNB) placed nine additional banks under conservatorship which, together with the earlier interventions, amounted to the closure of about one-third of the Bulgarian banking sector. At the time of the closures, the BNB declared that this second round of bank closures was the final one and that the remaining banking institutions would remain open. Given this declaration, the BNB reacted to a further intensification of banking sector problems by injecting liquidity through its Lombard window and through repurchasing government bonds which, as discussed below, contributed to a worsening of inflation. By the end of the year the banking sector remained in a state of at best "fragile stability."

[4]Problems and delays in the payment system were clear symptoms of banking sector distress. Later, more obvious signs such as negative cash flow, mounting uncollected interest, and a further deterioration of the loan portfolio became apparent.

Box 1: What is a Currency Board?

How does a currency board differ from other exchange arrangements? What are major benefits and costs? The following box summarizes basic answers.

A currency board combines three elements, a fixed exchange rate to an "anchor currency," automatic convertibility—or the right to exchange domestic currency at this fixed rate whenever desired—and a long-term commitment to the system, often set out directly in the central bank law. The main reason for countries to consider a currency board is to pursue a visible anti-inflationary policy.

A currency board system can only be credible if the central bank holds sufficient official foreign exchange reserves to at least cover its entire monetary liabilities (M0). In this way, financial markets and the public at large can be assured that every domestic currency bill is backed by an equivalent amount of foreign currency in the official coffers. Demand for a "currency board currency" will therefore be higher than for currencies without a guarantee, as holders know that "rain or shine" their liquid money can be easily converted into a major foreign currency. Were it to come to such a "testing of the system," its architects contend that automatic stabilizers will prevent any major outflows of foreign currency. The mechanism works through changes in money supply within the currency board country—a contraction in the case of a flight into the anchor currency—which will lead to interest rate changes that, in turn, will induce a move of funds between the domestic and the anchor currency. This is essentially the same mechanism that also operates under a fixed exchange rate, but the exchange rate guarantee implied in the currency board rules ensures that the necessary interest rate changes and the attendant costs for the economy will be comparatively lower.

Economic credibility, low inflation, and lower interest rates are the immediately obvious advantages of a currency board. But potentially, currency boards can prove limiting, especially for countries with weak banking systems or prone to economic shocks. With a currency board in place, the central bank can no longer be an unlimited "lender of last resort" for banks in financial trouble. At most, it is limited to an emergency fund that is set aside at the time of the design of the currency board or, over time, funded from central bank profits. Another cost could be the inability to use financial policies, that is, adjustments of domestic interest or exchange rates, to stimulate the economy. Instead, under a currency board economic adjustment will have to come by way of wage and price adjustments, which can be both slower and more painful.

B. Policy Discussions

In light of the failed stabilization program of July 1996, there was growing awareness that a rapid restoration of normality would require a visible and credible departure from past policies.[5] In addition, stabilization would only be feasible if it credibly prevented financial indiscipline, reduced the overwhelming interest rate burden faced by the government and increased the attractiveness of the lev. It was also strongly felt that any dramatic change in policy required a high degree of official ownership of reform programs and widespread public support.

Against this background, an IMF mission in November 1996 initiated the first discussion with the Bulgarian authorities and major interest groups—including all political parties, trade unions, foreign donors, journalists and academics—on the merits of a currency board. The discussion at this point was controversial. Proponents of the plan felt that a currency board would offer an ideal solution to the principal cause of inflation, lavish central bank lending to banks and excessively high interest rates on government debt. Under the rule-based system, the central bank would lose its discretion, and inflation and real interest rates would be reduced toward the level of the anchor currency. The more credible policy

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[5]The July 1996 program followed a money-based stabilization approach and faltered mainly because of fiscal slippages.

environment would then provide a more fruitful framework for stability and growth. Empirical experience in other countries seemed consistent with these arguments.[6]

Critics of the currency board plan did not dispute the potential advantages but argued that Bulgaria did not have the necessary preconditions in place. Most important, the banking sector was weak, and the need for lender-of-last-resort lending could not credibly be ruled out. In addition, it was argued that strong seasonality in fiscal revenues would, in addition to bond issues, also require temporary access to central bank overdrafts. Finally, it was pointed out that reserves were low and a currency board might require a large up-front devaluation. On empirical grounds, opponents of the currency board plan argued that none of the countries that successfully introduced currency boards had faced a similar degree of banking sector difficulties.[7]

Given the complexity of the issues involved and the ongoing political problems, the decision and the design phase were protracted, lasting from November 1996 through mid-1997.[8] During the process, the government and the BNB also sought advice from independent

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[6]Examples of countries where such arrangements are successfully in place include inter alia Argentina, Estonia, Hong-Kong and Lithuania. See Baliño et al (1997) for details.

[7]In both Estonia and Lithuania, significant banking sector difficulties only emerged after the currency boards had been operating for a while. In addition, and in contrast to Estonia, Lithuania and most other transition economies, banking and financial services in Bulgaria were of significant size, with bank deposits prior to the hyperinflation amounting to about 40 percent of GDP.

[8]The political crisis of the fall of 1996 thwarted initial plans to implement the CBA effective February 1, 1997. Internal strife led to a complete political stalemate and the inability to run

(continued...)

academics. To minimize the potential disruptions from an unexpected worsening of the banking sector problems, the preparation included a full evaluation of the banking sector. The program also included supporting measures, in particular a significant strengthening of the central bank's banking supervision capabilities.

In addition to supporting policy measures, the near-hyperinflation of late 1996 and early 1997—while being difficult and costly from a distributional point of view—was crucial for the eventual viability of the currency board. It reduced the real value of the domestic debt overhang, which initially had been a threat to a balanced budget, thus enabling fiscal management without recourse to the central bank. Furthermore, the high inflation also allowed banks some breathing space by rapidly devaluing the size of their domestic currency liabilities, while at the same time increasing the real value of dollar-denominated government bonds held by the banks.[9]

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[8](...continued)
economic policy. No budget for 1997 was approved and the government resigned just before end-December.

[9]These so called "Zunkbonds" originated from a previous round of bank recapitalization. After the hyperinflation most state banks were long in foreign currency, due to their holding of "Zunks."

III. The Design and Implementation of the Bulgarian Currency Board

A. Design

The key features of a currency board that need to be decided upon at the outset of the planning process include the peg currency, the level of exchange rate, the currency board's organizational structure, and the exact operating principles and instruments.[10] In the Bulgarian case, these issues were all debated at some length. As to the peg currency, heated discussions between proponents of the U.S. dollar and the deutsche mark delayed a final decision on the anchor currency until late spring of 1997. Advocates of the U.S. dollar peg noted the widespread use of the dollar in informal transactions and as a store of value. Supporters of the deutsche mark suggested that its use would be more consistent with the country's trade structure and could foster the desire to integrate more fully with the European Community. The final decision in favor of the deutsche mark was made by a government-appointed committee of experts.

The level of the exchange rate—lev 1000 per DM 1—was officially only decided on June 5, 1997, the day Parliament passed the new BNB law. Yet, as it had been known for a while that under a currency board arrangement foreign reserves would have to cover the BNB's monetary liabilities, market participants had rationally expected a rate similar to the one eventually announced. Therefore, the market rate on May 31, 1997—some days before

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[10]Currency board arrangements differ quite significantly in specific details. See, for example, Baliño et. al. (1997), for a description of country-specific features.

the official announcement of this rate—was lev 922.41 per DM, close to the final conversion rate of lev 1000 per DM 1. The decision to opt for lev 1000 per DM 1, a "round number," was made as this would greatly enhance the visibility and transparency of the arrangement.

Early in the discussion on organization and design of the currency board, it was decided that transparency would be greatest under the "Bank of England Model." This involved the reorganization of the BNB into an Issue Department and a separate Banking Department.[11]

The Issue Department holds all the BNB's monetary liabilities, comprising banknotes and coins, deposits from banks and other nongovernmental depositors, the government deposits (the majority of which will comprise the fiscal reserve account, see below) and deposits of the Banking Department. These Issue Department liabilities are backed by assets in foreign exchange and gold, which must cover at least the full value of the liabilities at all times. The currency board mechanism requires that the Issue Department will issue and redeem monetary liabilities for the peg currency at the official exchange rate on demand and without limit. To ensure the adherence to the currency board rules, the Issue Department accounts are to be published weekly.

[11]The basic design of the currency board was set up during an MAE mission in December 1996. Estonia and Lithuania follow a similar design, while others, like Argentina and Hong Kong, maintain all accounts on a unified balance sheet.

A separate Banking Department was established in response to several of the defining features of the Bulgarian environment at the time. In particular, given the banking crisis, it was thought necessary that the currency board should have some "excess coverage," meaning more foreign exchange than was needed to cover the monetary liabilities of the central bank. These funds are kept as the Banking Department's deposit with the Issue Department, and can be used to make collateralized loans to commercial banks in the case of an acute liquidity crisis.[12] The Banking Department will also hold all other assets and claims on the Central Bank, including outstanding long-term loans to the Government and a long-term deposit by a commercial bank, and acts as the fiscal agent for Bulgaria's relations with the IMF. Banking Department claims and liabilities other than those related to IMF drawings, lending to commercial banks, and changes related to the deposit of central bank profits, will not be added to during the operation of the currency board.[13] [14] The full accounts, including the Issue and Banking Departments (Table 2), will be published monthly.

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[12]The Banking Department is responsible for monitoring financial market developments to keep usage of loans to banks to a minimum.

[13]Central bank profits would increase the deposit of the Banking Department with the Issue Department, with a balancing increase of the capital and reserve accounts in the Banking Department.

[14]The Banking Department is the "fiscal agent for Bulgaria's relations with the IMF." This means that IMF credit will be channeled through the Banking Department to be on-lent to the government or deposited to the Banking Department account at the Issue Department. Both operations do not affect the foreign reserve cover and were decided to be consistent with the currency board rules.

Table 2: Structure of BNB Accounts Under the Currency Board Arrangement

Assets	Liabilities
Issue Department	
Foreign reserves	Monetary liabilities
Foreign currency assets	Notes and coins issued
Domestic reserve gold [1]	Commercial bank reserves
	Nongovernment deposits
	Government deposits
	Banking Department deposits
Banking Department	
Deposit at Issue Department	Credit from the IMF
Credit to banks	Other long-term liabilities
Other assets	Provisions
	Capital and reserves

[1]Refers to Bulgaria's "strategic gold reserves" which by law cannot be sold or stored outside of the country.

B. Implementation of the Currency Board

Creating the legal basis

Once the currency board plan was decided upon, it became necessary to change the BNB law to provide an adequate legal basis for the new agreement. The document was drafted by a committee including the BNB legal department, the Ministry of Justice, and the Cabinet of the Prime Minister. Following up on other consensus building measures by the

authorities themselves, the IMF, in April 1997, sponsored a seminar for Bulgarian parliamentarians on issues related to currency boards. The law was passed by Parliament on June 5 to become effective on July 1, 1997.

Key provisions in the sections on structure and management, operations and monetary functions, and relations between the BNB and the state define the currency board. The crucial articles are the following:

- Article 19 defines the BNB structure to comprise three departments, the issue, banking, and banking supervision departments.

- Article 20 sets out the respective functions, consistent with the operating principles discussed earlier.

- Article 29 requires full coverage of all Issue Department liabilities by foreign reserves and gold.

- Article 30 defines the peg to the deutsche mark[15] and sets the exchange rate of lev 1000=DM 1.

[15]It also states that the peg will be to the euro after the deutsche mark enters the monetary union.

- Article 34 eliminates the BNB's ability to lend to banks, with the exception of narrowly defined credit from the Banking Department to temporarily illiquid but solvent banks.

- Article 46 notes that the BNB shall not extend credit to the State or any State Agency, (except for onlending of proceeds of purchases from the IMF, for which a clear procedure is being established).

Creating a stabilizing framework

In view of the macroeconomic and structural challenges, it was well recognized that the currency board plan could not gain credibility from the legal change alone. Instead, a set of measures and provisions to address the most likely "stress-factors" needed to be at hand. Such "stabilizers" were included both in law itself, as well as into the stabilization program, of which the currency board was the integral part.

Two key measures were introduced to end the previous large-scale monetary financing of the budget. First, given the magnitude of budgetary difficulties—even taking into account the reduction of the real debt burden after hyperinflation—it was recognized that IMF funds would have to be used to stabilize the budget. Hence the new BNB law allows on-lending of IMF purchases to the budget, but strict safeguards and transparency requirements apply. Second, the creation of the Fiscal Reserve Account (FRA) aimed to help avoid any short-term financing requirement of the budget. To that end, all central government deposits and the

accounts of the 12 major extra budgetary funds were consolidated in the FRA. The balance in the FRA—held in the Issue Department and fully covered by foreign reserves—shows at any point in time the funds available to the government.[16] Maintaining a minimum balance in the FRA, as required under the IMF program, would be an important stabilizer, as it provides public assurance that the government budget will be in a position to honor its commitments.

To increase credibility in the banking system, the currency board plan included the option of limited, yet sizeable, assistance through the Banking Department, in an amount of about US$300 million (equal to about one-fifth of Bulgaria's foreign reserves at the inception of the currency board). In addition, the Law on Banks was strengthened, giving the BNB more clearly established rights in dealing with problem banks. The program also included important adjustments to relevant prudential regulations, including prudential control on liquidity.[17] To ensure the adequate translation into practice of the new regulations and powers, the BNB embarked upon a major technical assistance program to enhance banking supervision, coordinated by the IMF and supported by the EU and USAID. Finally, under the stabilization program the authorities recapitalized one large state bank prior to moving to the currency board and pledged to renew efforts toward privatization of the remaining state banks

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[16]Including the State Fund for Reconstruction and Development, a principal borrower from international bodies such as the World Bank, the EBRD, and the European Union.

[17]Other features improving liquidity management among banks, in particular a reserve requirement regime that allows averaging of required reserve holdings, as well as the infrastructure to support smooth interbank transactions, had been instituted previously as part of ongoing reforms in the monetary operations framework.

and to institute a set of monitorable steps to improve banks' operating environment. Elimination of barriers to bank privatization was a key condition under the Fund program.

Reorganization and transition issues

With the legal basis secured and the overall elements of the stabilization program under way, the final task consisted of ensuring a smooth transition, allowing the successful launch of the currency board arrangement on July 1, 1997. This was complicated by the fact that new BNB management took office in May 1997, with only two months left to familiarize itself with the concepts of currency board arrangements and make final decisions. By early June, after the passage of the law, a number of issues still required urgent attention.

Restructuring the country's foreign exchange reserves to match the link with the deutsche mark was a first priority. Prior to the currency board plan, the BNB was accustomed to holding its reserves in a wide variety of instruments and currencies, including gold and other precious metals, different foreign currencies held in bank accounts, and bonds and minor other investments, including in commodities and different derivatives. Under the currency board, safeguarding the value of the foreign exchange holdings would become crucial, suggesting to opt for safe, mostly deutsche mark-denominated assets. This could include, for example, German government bonds of different maturity, possibly deutsche mark deposits with triple A-rated banks, and gold as principle assets.[18] While the BNB was aware that

[18]Except to minimize exchange rate exposure, funds needed to repay foreign loans

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currency mismatches had a potential to have a negative impact on the coverage ratio, there were some problems in the restructuring process. The main reasons were costs associated with the breakup of long-term contracts, as well as a "clash" with an implicit mentality within the Foreign Department of the BNB that had long seen revenue maximization—even if it involved a certain degree of risk taking—as its principle goal. In any event, the restructuring of the exchange reserves had to extend beyond the starting of the currency board. Yet, given the availability of excess cover, the currency board fundamentals were never endangered.

A second challenge to establishing a currency board had to do with the separation of the BNB's accounts into the new structure. While the overall framework appeared clear, a number of issues relating to accounts for common functions—for example administration —had been left undecided. In the end, an ad-hoc committee consisting of the deputy governor in charge, the head of the accounting department, and IMF advisors developed the final accounting framework. On June 30, 1997, the BNB prepared a closing balance on the basis of the former accounting framework, and on July 1, 1997 the currency board's opening balance was in accordance with the new structure of accounts.

Management of the domestic government debt was a further challenge to the implementation of the currency board. To avoid unusual swings in liquidity, the Ministry of Finance (MOF) agreed to avoid large liquidity injections on days where, due to previously

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[18](...continued)
denominated in other currencies, for which investments in the respective currencies will be maintained. While gold essentially poses the same problems as other non-deutsche mark assets, the BNB is, by law, not permitted to the sell the country's "strategic gold reserves."

bunched debt issues, large repayments would fall due. A committee of MOF and BNB managers was to consult regularly on this issue. To smooth implementation, a special treasury bill issue on June 30 was scheduled to absorbed an exceptionally large liquidity injection the same day.

The final implementation issues related to the logistics of the transition. In this regard, it was felt that an adequate supply of deutsche mark banknotes needed to be available in the BNB and its branches to reassure the public.[19] Given that the deutsche mark had not been frequently used before in transactions in Bulgaria, the BNB had to acquire the cash from abroad and send it in time to the distribution points, all of which was successfully accomplished.

[19]The Bulgarian currency board includes a provision that the public can exchange Bulgarian lev for deutsche mark and vice versa at the central bank and its branches. To cover the costs of the operations, there is a small spread; one deutsche mark is sold for lev 1000, whereas the BNB purchases the deutsche mark for lev 995.

IV. Implementation Experience and Conclusions

The introduction of the Bulgarian currency board on July 1, 1997 went smoothly, and—in line with appreciating pressure on the leva even prior to the actual regime shift—proceeded with virtually no attempts to "test the system." In about 1500 cash transactions at the BNB in Sofia and its branches throughout the country, the central bank bought more than DM 3 million, while selling less than DM 1000. In the interbank market, the BNB was also a large net purchaser of deutsche mark, bringing the total increase in reserves after the first day to more than DM 40 million.

Under the currency board, Bulgaria reduced inflation to 13 percent in mid-1998 which fell further to 1 percent by end 1998, while rebuilding reserves from less than US$800 million to more than US$3 billion, about 6.4 months of imports. The BNB basic interest rate, which had been above 200 percent at the height of the crisis, fell to 5.3 percent in October 1998. Retail interest rates were practically at the level of German rates ever since the inception of the currency board. Interestingly, and notwithstanding close economic ties, Bulgaria's stabilization process was not significantly disrupted by the Russian crisis of mid-1998.

The Bulgarian experience highlights the power of a credible rule-based system to rapidly changing perceptions and economic behavior. Nevertheless, the experience underscores three cautionary lessons. First, a currency board, while a simple monetary arrangement, requires more and different preparations than other types of stabilization programs. Since these changes can be time consuming, a currency board may not be possible

in cases where other preconditions are not yet fulfilled. Second, given that legal changes are involved, a currency board requires broad-based parliamentary support. Presumably, the Bulgarian support was due both to the earlier near-hyperinflation that had focused attention on the need for more "radical" solutions, as well as to a long consensus-building approach. The latter not only allowed passage of the law with a comfortable majority but also reassured the public. Third, a currency board is but one element of a stabilization program. While it will contribute to eliminating macroeconomic imbalances if properly designed, its long-term survival depends equally on the successful implementation of appropriately designed supporting measures.

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