

Currency board solution in Bulgaria

Kristofor N. Pavlov

June 1999

This research has been made possible through a NATO Fellowship.

CONTENT

INTRODUCTION	3
PART I	5
WHAT IS A CURRENCY BOARD? OPERATING PRINCIPLES	5
<i>Comparison between Currency Board arrangement and Central Banking</i>	5
<i>Fiscal considerations</i>	12
<i>Banking implications</i>	14
<i>Lender of last resort function under a Currency Board</i>	16
PART 2	22
MONETARY REFORM AND DEVELOPMENT OF BULGARIAN ECONOMY	22
<i>Was the Currency Board mechanism possible in 1990? Historical remarks</i>	22
<i>Institutionalisation of Currency Board mechanism in Bulgaria</i>	28
<i>Strengthening prudential guidelines</i>	32
<i>Deposit insurance and moral hazard problem</i>	36
PART III	39
CURRENCY BOARD AND THE PROCESS OF FURTHER INTEGRATION OF BULGARIA IN THE ECONOMIC STRUCTURES OF UNITED EUROPE	39
<i>Implications for the economic policy going forward</i>	39
<i>Currency substitution</i>	41
<i>Currency Substitution and credibility of the exchange rate peg</i>	47
SUMMARY AND CONCLUSION	48

Introduction

In most countries the management of currency perceived as the issue and redemption of notes and coins is bundled with other monetary tasks of the central bank. Undertaking these tasks gives the central bank flexibility and discretion but also breeds uncertainty about its basic objectives. The associated policy trade-offs may reflect political pressures on top of usual considerations of monetary stability. The diversity of public interests often sends confusing signals to the central bank, and the complexity of monetary outcomes and their potential causes in turn often sends similarly confusing signals to the public. Moreover, the “time inconsistency” of optimal policies (Kydland and Prescott 1977; Blackburn and Christensen 1989) may undermine the central bank’s credibility. For these reasons many economists have advocated narrowing central bank mandates – for example, to focus only on monetary stability instead of some combination of objectives regarding inflation and unemployment control while creating a stimulus for real growth of the economy. Some recommends reducing a central bank’s flexibility by committing itself voluntarily to achieving a predetermined rate for money supply, growth or inflation.

One possible way of narrowing central bank mandate is to delegate the issuance and redemption of currency to a separate institution, often called an “independent currency authority”. For example, an independent currency authority might issue domestic currency that is convertible to a specified foreign currency at a predetermined fixed exchange rate while this commitment is backed up by holding a foreign reserve cover equal to 100 percent of the domestic currency nominal value. Such an independent currency authority is known as a Currency Board (CB), and the prefix “orthodox” is sometimes added in order to distinguished from other more specific variants.

Other independent currency authorities arrangements might include those under which the currency authority although not formally independent of the central bank, nevertheless operates under a great deal of autonomy.

In 1997 Bulgaria opted for a CB in which the outstanding stock of high powered money is fully backed by foreign reserves and legally convertible into deutsche marks. The domestic currency BGL was pegged to DEM at a fixed rate of 1000 BGL for 1 DEM from the date of its establishment to 1st of July 1999 and 1 BGL for 1 DEM afterwards. Theoretically those functions of a central bank that are not delegated to the independent currency authority might have been handled in a variety of ways. In Bulgaria the non – issuance and redemption of currency issues of the Bulgarian National Bank (BNB), such as lender of last resort function, supervision and licensing of commercial banks are operated by separate departments within central bank.

This material considers how Bulgarian CB operates since its establishment in 1997. Description is given to some important economic and political considerations under which CB was chosen and introduced. The first chapter outlines the basic constraints and attractions CB arrangement imposes on the banking system and to the fiscal policy. In the same chapter the operating principals of the CB, are emphasised by comparing it with main features of central banking. In section 4 of the first chapter special attention has been given to lender of last resort function under a CB.

Second chapter focuses mainly to CB establishment in Bulgaria. This chapter consequently examines the fiscal considerations and changes required on the micro level for CB to be successful, and banking arrangements and the corresponding extra banking discipline imposed.

Third part concentrates on the future options available. Special consideration has been given to the fact that, although CB is considered to be a type of monetary arrangement that increases vulnerability of the local economy from external shocks, in Bulgarian case CB succeeded to survive several periods of external instability, including the economic aftermath from the war in Kosovo and Russia caused turbulence on the international financial markets in 1998. In line with country's attempts to join EURO zone this paper finishes with section describing the author's view about currency substitution as a possible future option for Bulgaria.

Part I

What is a Currency Board? Operating Principles

Comparison between Currency Board arrangement and Central Banking

A central bank is a monetary authority that has discretionary monopoly control of the supply of the reserves of commercial banks. Usually this implies a monopoly of the supply of notes (paper currency) and coins. Discretionary control means the ability to choose a monetary policy at will, at least partly unconstrained by rules while reserves in this case means a medium in settlement of payments.

Unlike central banking, currency board (CB) is unfamiliar to most of the people, maybe this is the reason why the best way to explain what is the CB is by comparing it with central banking. In the past CB has existed in more than 70 countries including such a huge economy as this of Russia. Today CB is in use in some countries most notably Hong Kong, Estonia, Argentina and off course Bulgaria.

By definition CB is a monetary institution that issues notes and coins fully backed by a foreign reserve currency and fully convertible into the reserve currency at a fixed exchange rate on demand. The reserve currency is a convertible foreign currency or a commodity chosen for its expected stability. The country that issues the reserve currency is called reserve country. As reserves, a CB holds low-risk, interest earning securities and other assets payable in the reserve currency, equal to 100 per cent or slightly more of its domestic currency denominated liabilities, as set by law.

A CB earns profits from the difference between the return on the reserve currency securities and other interest earning instruments it holds and expenses of maintaining its notes and coins in circulation. It remits to the government profit beyond what is needed to cover its operational expenses and to maintain its reserves at the level prescribed by law. A CB does not have

discretionary control over the quantity of notes, coins and deposits it supplies (See Russian currency and finance. A CB approach to reform. Steve Hanke, Lars Jonung and Kurt Schuler). Market forces are the only one responsible for determining the quantity of overall money supply in a CB system.

The CB includes certain simple rules of behaviour concerning interest rates, convertibility and government's finance which in a typical case are established by law. Typical CB usually supplies notes and coins only, whereas a typical central bank also supplies deposits (to compare the main features between CB and central banking see Table N1). Some CB in the past has accepted deposits however. The deposits of a typical CB are subject to the same reserve requirements as its notes and coins. Although recently there are many cases where the CB issues some deposits liabilities along with notes and coins this additional complication is minor and do not significantly changes the picture. As in the case with central banking, notes and coins in circulation plus deposits held by commercial banks at the CB constitute the monetary base. Similarly deposits of the public at commercial banks and notes and coins held by the public constitute the money supply. Notes and coins in circulation whether held by the public or by commercial banks constitute cash. A typical CB maintains a truly fixed exchange rate with the reserve currency. The exchange rate is permanent, or at most can be altered only in emergencies. The exchange rate commitment should be written into constituting law for CB establishment. A typical central bank, in contrast, maintains a pegged or floating exchange rate rather than a truly fixed one. A pegged exchange rate is constant for the time being in terms of a reserve currency, but carries no credible long-term guarantee of remaining at its current level. A floating exchange rate is not maintained constant in terms of any reserve currency. When a typical central bank suffers heavy political or speculative pressure to devalue the national currency, it devalues. Allegedly fixed exchange rates maintained by central banks in reality have typically been pegged exchange rates.

As reserve assets against its domestic currency denominated liabilities a typical CB holds securities, bank deposits and other debt instruments of highest quality ranked issuers and off course small amount of notes in reserve currency in case the CB authority has its own network of branches where to exchange domestic currency for reserve one.

A CB holds foreign reserves of 100 per cent or slightly more of its domestic currency denominated liabilities. It is worth-mentioning that the so-called “quasi” CB of Argentina, because the size of its economy, represents an interesting exception in this respect. The reserve to domestic currency denominated liabilities ratio in Argentina’s CB may vary in a situation of crises well below the 100% threshold. This is possible because Central Bank of Argentina is allowed to cover some of its monetary base with reserve currency denominated securities issued by the Ministry of Finance of Argentina (For more details see “The Lender of Last Resort Function under a CB. The case of Argentina.” G. Caprio, M.Dooley, D.Leipzig and C.Walsh). This issue deserves a special attention in the phase of CB introduction, due to the obvious interrelations between reserve to monetary base ratio, the level of foreign exchange peg, and the potential of the central bank to act as a lender of last resort at the expense of the excess of 100% reserve to monetary base cover. (For more details see “The CB: Preconditions and some quantitative aspects”, Nikolai Georgiev, 1997). In fact many CB holds maximum of 105 or 110 per cent foreign reserves to have a lost protecting margin in case the securities in their portfolios lost value because of possible market turbulence. A typical central bank in contrast has variable foreign reserves. It is not required to maintain any binding ratio of foreign reserves to liabilities. A typical central bank often has domestic currency assets also, which a CB does not.

Maybe the most important difference is the full convertibility the CB ensures for its domestic currency denominated liabilities. It exchanges its notes and coins for reserve currency at its stated fixed exchange rate without limits. Anybody who has reserve currency can exchange it for CB notes and coins at the fixed rate, anybody who has CB notes and coins can exchange them for

reserve currency at the fixed rate. It should be stressed however, that CB is unable to guarantee the convertibility of bank deposits into CB liabilities. Commercial banks themselves are responsible for holding enough reserves to satisfy demands arising from their contractual obligations. The commercial banks are free in their choice which ratio of reserves against their own liabilities is prudent, especially in case of so-called “orthodox” CB where minimum reserve requirements does not exist. In other words M0 is backed 100 per cent by foreign reserves in a CB system, but broader measures of the money supply such as M1, M2, and M3 are not. A typical central bank, in contrast, has limited convertibility of its currency. Most of the central banks world-wide have partly convertible or even inconvertible national currencies, while only the central banks of developed countries and in a few developing countries has fully convertible domestic currencies.

For CB to work, a mechanism should be put in place to enforce the convertibility rule. Obviously on a first place currency should not be put in circulation without being paid for. This is fundamentally an administrative problem, and therefore not a particularly difficult one, which can be addressed with a combination of accounting and auditing procedures and of course penalisation of malfeasance. Second prerequisite is availability of a foreign currency of a sufficient quantity. This is a reserve stocks problem that couldn't be underestimated. In Argentina, because the size of the economy, this turned out to be a very difficult issue. The domestic money supply necessary to be backed by a reserve currency appeared to be of such an magnitude that a decision was taken domestic government debt to be partially used as an exchange standard. In Bulgarian case this was also a substantial hardship. Although the size of the Bulgarian economy was negligent, especially after a long period (1989 – 1997) of production decline, the country had a very severe reserve problem with a foreign debt to GDP ratio of almost 160%. Under these circumstances, the reserve shortage was compensated through increased borrowing from IMF, WB and G-7 countries.

In case 100% reserve coverage is maintained, resources for convertibility are guaranteed and auditing is simplified. Some authors argue that it is possible to reduce the degree of cover below 100% without running a sufficient risk of reserve-depleting speculative attack. One alternative, when CB is imposed on a previously unbacked currency, is to cover only a fraction of the initial currency stock, while committing of 100 percent coverage for any subsequently issued currency. It appears however that this might be very confusing for the public, especially when peoples lack financial sophistication to understand the ways various monetary regimes are functioning.

A typical CB has a rule-bound monetary policy, it is not allowed to alter the exchange rate, nor it is allowed to alter reserve ration or the regulations affecting commercial banks. A CB merely exchanges its notes and coins for reserve currency at a fixed rate in a quantities demanded by commercial banks and the public. When the demand for money changes, the role of the CB is passive. Market forces themselves are the only determinants of the money supply. The typical central bank in contrast has a partly or completely discretionary monetary policy. A central bank can alter at will or with the approval of the government, the exchange rate, its ratio of foreign reserves, or the regulations affecting commercial banks.

A typical CB is not a lender of last resort whereas the central bank usually is. As it will be discussed in more details in later chapters so-called "quasi" CB could perform lender of last resort functions without contradictions with its convertibility commitment. This is possible however, only in case when lender of last resort function is performed only at the expense of excess of reserves over the 100% reserve requirement. With other words lender of last resort function do not lose its importance under a CB, because the overall convertibility of the financial system is a unity of two basic ingredients, convertibility of commercial bank liabilities into CB liabilities, and convertibility of CB liabilities into reserve currency. Therefore as long as a CB exist the convertibility of domestic currency denominated liabilities into reserve currency

is guaranteed, the convertibility of commercial bank liabilities into reserve currency is responsibility of commercial bank themselves.

The activities of a typical CB are transparent, because it is a very simple institution. It is merely a sort of warehouse for reserve currency securities that back its notes and coins in circulation. Because a typical CB is rule-bound and transparent, it is considered therefore well protected from political pressure, as opposite to the central bank that in many cases turned out to be politicised.

A typical CB has high credibility. Its 100 per cent foreign reserve requirement, rule-bound monetary policy, transparency, and protection from political pressure enable it to maintain convertibility in a stable manner. A typical central bank, in contrast, has low credibility. Some exceptionally good central banks, which exist mainly in developed countries, have very high credibility, but the majority does not (Russian Currency and Finance, St. Hanke, Ljonung and K.Schuler 1993).

A national currency managed by a CB must be perceived as a reliable store of value. Otherwise people will be unwilling to hold the currency even for transaction purposes, or such willingness might be so volatile that it destabilises goods and factor markets. It is helpful to distinguish between two types of principles that are compatible with above-mentioned requirement. The first group of principals are these connected with issuance and redemption of the domestic currency and the second applies to the mechanisms for ensuring that established rules can and will be followed.

Any license to print currency at will and forgo redemption is suspect. Moreover when rules for issuance and redemption are established consideration should be given to the fact that significant asymmetry between the terms for issuance and those for redemption could be exploited by independent currency authority itself or outsider arbitrageurs. In effect, the only viable rule is an "exchange of equivalents", whereby domestic currency is traded for something else that is highly regarded to have stable and equal value. To ensure fair treatment domestic currency should be issued and redeemed on demand according to a preannounced exchange schedule. One

exchange standard that should be avoided is domestic debt instruments, no matter whether government or commercial (See Independent Currency Authorities, Kent Osband and Delano Villanueva, IMF Staff Papers Vol.40 March 1993). Otherwise debtors could use CB as a money pump destroying the balance of the economy and losing as a result the independence of the CB from fiscal and banking pressures. The exclusion of domestic debt leaves an independent currency authority with two possible types of exchange standard. One is a directly consumable, but standardised and durable commodity, such as gold or oil. The other is off course some stable foreign currency. Theoretically independent currency authority may use also a basket of goods or foreign currencies. Such a standard although is not unmanageable, would be more complicated to administer and less transparent to the public. From the mid-nineteenth century until World War 1, the major international currencies and most of the colonial currencies were effectively tight through independent currency authorities to gold, either directly or through the gold linked pound sterling. Obviously the latter has the advantage of being cheaper to transport and hold than gold. After the gold standard was abandoned in the early 1930s, the attraction of a commodity standard for small countries diminished further, while the transaction cost advantage of foreign currency remained getting more and more important. Hence, we can assume that the rules for issuance and redemption of domestic currency can be summarised as a preannounced exchange rate schedule against a foreign currency, with full convertibility on demand.

A typical CB cannot finance spending by the domestic government or the domestic state enterprises because it is not allowed to lend them by law. It earns seigniorage only from interest differentials, as opposite to the central bank which main source of seigniorage earnings is inflation. A typical CB cannot create inflation because it does not control the ultimate reserves of the monetary system. For instance, the CB system of Hong Kong uses the U.S.\$ as its reserve currency. The ultimate reserves of Hong Kong CB system are therefore U.S.\$ monetary base, which is supplied by the US Federal Reserve

System rather than by the Hong Kong exchange Fund (for more details see S.Hanke, L.Jonung and K.Schuler "Russian currency and finance", 1993). Like any system of fixed exchange rates, a CB system may transmit inflation from the reserve country, but it can not create inflation self-sufficiently because it cannot increase the monetary base independently of the monetary authority of the reserve country. It can be concluded therefore, that the choice of the CB obviously assumes narrowing the policy maker's options in both fiscal and monetary policy spheres.

Fiscal considerations

By demanding a preannounced amount from the reserve currency for every unit of domestic currency it issues and offering a convertibility on demand, the CB prevents discretionary printing of currency to cover fiscal indebtedness. It also precludes the surprise devaluation of existing fiscal claims on the government, such as promise to be paid a given wage or pension, or the devaluation of outstanding government debt denominated in domestic currency. Therefore it could be summarised that CB precludes recourse of the inflation tax as a discretionary taxing instrument. As a result of these constraints, CB arrangement makes it harder the budget to be manipulated in a reckless and irresponsible manner which in turn enhances investor's confidence and overall credibility of the system. If capital markets are perfect the CB fiscal restrictions would matter only to the extent that they affect the present value of government revenue and expenditures (See K.Osband and D.Villanueva, IMF Staff Papers, March 1993).

Similar considerations would apply to revenues from seigniorage and the inflation tax. If we assume perfect capital markets, the government would obtain the inflation tax on currency in circulation at a rate of interest that is a function of the domestic rate of inflation plus the world real rate of interest. The public's willingness to hold currency, which is the other main influence on the revenue from the inflation tax, depends negatively on the expected rate of interest. To the extent that future inflation is correctly anticipated, a central bank

should generate as much revenue from an inflation tax as the CB. Therefore the main long-term fiscal advantage central bank has is a result of its perceived feature to inflict inflation surprises. Of course if the central bank intensify the supply of currency beyond what is expected in the short-term the government can collect additional real tax revenues as a result from instantaneously adjustment of the prices and the real money holdings to the corresponding new equilibrium levels. Obviously nominal fiscal obligations can also be devalued in this fashion. By contrast an independent currency authority emission is a passive response changes in domestic currency money demand. Therefore the ability of the central bank to surprise the markets is rather disadvantage, since agents fearing inflationary surprises coming from the central bank's behaviour may reduce their domestic currency holdings or demand a substantial risk premium in exchange. Moreover, attempts to manipulate inflation undermines the real economy a problem which CB arrangement can mitigate, since it clearly accords higher priorities to price stability and convertibility than to inflation tax as a source for budget revenues. To better understand the trade-offs between precommitment and flexibility, it is worth reflecting on why there must be binding constraints on the government's ability to finance fiscal deficits by using inflation-creating tools. It is rarely the urgency and the size of government's financing needs that make credit difficult to access. Private capital markets, in case they are enough liberalised, can mobilise any amount of funds which might be necessary. The main consideration in sovereign lending as in most other lending is default risk. If the market is feared that the government can repay the debt but will not, then the government needs to convince creditors it is committed to earmark a share of its future budget revenues for debt repayments. Therefore whether emphases will be placed on lack of credit or lack of reserves, the main reason why a government might encounter hurdles in attempting to finance its fiscal deficit is that in the past it has rarely run a budget surplus. In these circumstances replacing CB with central banking will not help. The public will suspect, not without cause, that the government will manipulate central bank policies to

increase inflation tax incomes. The public likely respond will be decreased demand for domestic currency and other domestic assets.

Suppose however that a government that is determined to follow a responsible fiscal policy is temporarily stuck with bad or uncertain reputation, so that it cannot borrow all it wishes. In that context discretionary central bank offers some short-term fiscal advantage which appears to be very tempting. However, the decisions in the monetary sphere should always be long-term oriented. In these circumstances the very decision to establish a CB, by distancing government from such a temptations, will encourage more responsible budget planning, which in turn will be very helpful to restore government's fiscal reputation and reopen the doors to credit market sooner. It is possible however, the CB restraints on discretionary monetary financing to be undermined substantially. One danger is that government may simply override the CB charter. Another is that commercial banks might be obliged to lend to government at a favourable interest rate – for example by requiring them to maintain part of their reserves for liquidity management purposes in low-yielding government securities. This danger is especially realistic when substantial part of commercial banks are under governmental control, but not privately owned as it was when the CB was introduced in Bulgaria in 1997. In this case the difference between actual yields and free market yields may be viewed as a noncash form of seigniorage. The counterproductiveness of such evasive measures is obvious and therefore, should be avoided.

Banking implications

In addition to the fiscal discipline cited above, the smooth operation of independent currency authority requires extra discipline from the commercial banking system as well. The independent currency authority has no responsibility to convert directly deposits with commercial banks into currency. Indeed its chartered should forbid it since it could erode the reserve cover. Hence there is a necessity for commercial bank to maintain extra reserves of domestic or reserve currencies in order to ensure enough liquidity for it's

normal functioning. Theoretically there are two possible alternatives, besides not necessarily mutually exclusive. One way is to encourage international branch banking. The other is to establish a separate monetary agency with adequate holdings of foreign reserves and credit lines opened from abroad to back up the domestic banks in a possible disastrous environment. The international banking option is straightforward. Recall from previous sections of this chapter that domestic currency under a CB can be viewed as a proxy for the reserve currency. Therefore there is no natural monetary obstacle to the entry of banks from the monetary zone of the reserve currency or any bank with enough holdings of the reserve currency. An important prerequisite for successful attraction of these banks therefore is to establish licensing procedures, reporting requirements, banking supervision requirements and tax rules similar to those of the reserve currency country. The authorities should ensure two other important things, compliance with prudential banking regulations and smooth functioning of domestic interbank market, since the last is an important mechanism to supply reserve liquidity to locally owned banks. If the penetration of international banks is not very deep, or if additional backing for commercial banks is desired the policy makers may consider the possibility to set up alongside the independent currency authority a separate monetary agency that can provide within a certain limits discount facilities to commercial banks under a very limited range of events. Indeed, access to the discount window in question should be tightly restricted, because the monetary agency cannot risk exhausting its foreign assets. Its quite possible if the CB introduction is seriously under consideration this option to be most important way to guarantee that some lender of last resort function still exist. For example in Bulgaria as it is described in chapter two CB arrangement was introduced after a period of very serious turbulence in the financial system. In less than an two years period, preceding CB establishment 18 commercial banks with total market presents of almost 25% has been declared bankrupt and placed under receivership. At that time the foreign banks market penetration on the domestic market measured by their portion in the internal credit was less than 5% of the

local market, and therefore to rely on substantial foreign banks presence as a resolution to the liquidity problem was unrealistic. To expect rush of foreign investor immediately after the CB establishment was also inadequate assumption because of the same reasons. In this environment decision was a combination of measures to be undertaken which include among other things strengthening prudential regulations, clear commitment to commercial banks privatisation, increased capital adequacy requirements and off course establishment of a separate monetary authority capable to act as a lender of last resort. The capability of the so called banking department to act as a lender of last resort was made a function of the performance of the government budget. As it will be described later in this chapter, technically this was made possible by including government deposit in the liability side of the banking department balance sheet. From the perspective of the present days this appeared to be a very good idea since the budget performance after CB introduction surpassed expectations. The government's ability to run its budget on surplus caused increase in the amount of the deposit the banking department maintain with the issuing department thus broadening the systems lender of last resort capability. This in turn further improved the credibility of the pursued policy and was very helpful positive expectations to be created. Beside the improved lender of last resort capability and enhanced credibility the stable budget performance made it possible the net borrowing from domestic market to be close to zero throughout 1998 and 1999. This fact had a very positive impact on the domestic interest rates, since the government had discontinued to examine pressure on interest rates by increasing the demand of funds necessary to balance the budget.

Lender of last resort function under a Currency Board

The functioning of a central bank as a lender of last resort for financial institutions has a long history. The evolution of dominant commercial banks, such as the Bank of England and other European commercial banks, from

private institutions to government agencies were strongly influenced by the perceived inability of private institutions to halt financial panic.

By definition any system in which the value of bank liabilities do not decline automatically as a consequence of decline in value of corresponding assets could be viable only if a lender of last resort function is willing and able to transfer wealth to depositors (for more details see “The lender of last resort function under a Currency Board. The case of Argentina” G.Caprio, M.Dooley, D.Leipziger and C.Walsh). This implicit liability taken on by such a lender of last resort can be and should be reduced in a number of ways but not entirely eliminated. The lender of last resort steps in because bank failures entail economic costs related both to breakdown of the payments system and the special role banks play in evaluating credit risks. The analytical argument for this government function has been refined considerably in recent years. There is now widespread understanding that asymmetric information inherent to financial intermediation and therefore to banking institutions makes them prone to self-perpetuating declines in assets value during a panic. The solution currently in place in industrial countries is that institution benefiting from lender of last resort facilities subject to a specific constraints both with respect to their investment decisions and capital and liabilities mixture and structure.

The underlying problem for a CB can be considered as a conflict of interests between two policy objectives and one instrument. The instrument is the board's stock of international reserves. The first policy objective is off course convertibility of board's domestic currency denominated liabilities into foreign exchange at a permanently fixed exchange rate which commitment appears to be credible because the chosen reserve ratio of 100%. The second policy, namely “lender of last resort commitment”, is often implicit and represents the maintenance of convertibility of some class of commercial bank's liabilities into reserve currency or deposits with CB. The maintenance of convertibility between bank's deposits and cash or deposits at the CB is not a logical necessity for a CB mechanism. In fact “orthodox” CB is precluded from discounting domestic assets in attempts to support their domestic

currency value. The absence of such a commitment means that the market value of domestic bank deposits must reflect the market valuation of the foreign exchange value of the bank's net worth. Because bank deposits need not be convertible at par for cash, a run on banks suspected of insolvency is possible only if the bank maintains convertibility. If this is impossible either the bank is liquidated or the deposits at such a bank are traded at discount relative to cash. In case of systemic crisis therefore the commitment of a CB to convert its own liabilities into foreign exchange may be of little practical importance in the face of declines in the market value of bank's assets. In a most likely event where only some bank's solvency is doubtful, there might be a run to save banks given that the suspected banks are able to maintain convertibility of its liabilities into cash. Observations on the many crises of systemic character, including Bulgarian one supports this argument unambiguously.

The rules of the game for the "orthodox" CB could be that banks suspend convertibility of their liabilities when depositor's demand for cash exceeds bank's liquidity reserves. Bank deposits would then trade at discount relative to the CB "cash" liabilities with discount varying as a function of public's concern about given bank's net worth. This ensures that the important role of banks as financial intermediaries will be maintained. Such a policy defeats however the main objective of the CB, that is, to maintain the foreign currency value of domestic money. The possible policy imperative here is to protect the value of domestic currency by defending the integrity of (some of) the commercial banks.

The credibility of any lender of last resort depends on two important considerations. First, in the event of a general decline in value of commercial banks' assets, the lender must have access to sufficient cash to meet any resulting deposit drain. Second, the lender must have an incentive to buy assets at prices that the market, in that time, considers unrealistic. This second condition explains why private insurance schemes from third party should not be expected to be robust. At the same time, it also points out why clearinghouse associations of relatively small number of banks have been

more successful. In the debate about the role of the lender of last resort function under the CB, several examples from history and the present are worth mentioning. In most of the following examples there was no explicit lender of last resort. However in many instances of crises some lender of last resort appears to have emerged. In fact in cases of especially severe shocks all governments appear to have been very eager to intervene in order to mitigate the burden on depositor's wealth. Though, many theoretical options exist to make the financial system more robust, the legal restrictions and societies' preferences limit the scope of applicable options.

The most popular example of a CB is that of Hong Kong prior to 1972 and more recently since 1983. Although the Hong Kong Monetary Authority itself has not performed lender of last resort function, the government did in fact step in using its own substantial reserves. Another option used successfully in Hong Kong is high concentration in banking system along with diversification of risks outside the Hong Kong's economy. Although there are a large number of banks, about 165 in 1990, only one bank was controlling 90% of total market share in the areas of householder deposits and loans to non-financial institutions, being concurrently significantly diversified outside Hong Kong (Freris, 1991). Therefore the Hong Kong's solution to the bank stability problem has been a mixture of high concentration, excellent diversification and maintenance of a large stock of extra reserves for cases when interventions are necessary.

In Canada, nationwide diversification through unlimited branching certainly has contributed to the safety of the financial system. In all its history Canada had only 30-60 banks and enjoyed a markedly lower failure rate than for example the United States. Canadian bank stability was also supplemented by high minimum capital requirements and double-liability laws. Nevertheless it was judged necessary for the government to intervene in some cases. Lender of last resort function was first legitimized in 1914 Finance Act giving to the Ministry of Finance power for such an intervention. The depth of the depression which the U.S. economy experienced in the 1930's and the inevitable repercussions spurred

the demand for institutionalisation of the capacity of expanding money, and the Central Bank of Canada was established in 1935.

Scotland's free banking era is also instructive. From 1695 to 1844, Scotland effectively had a two-tiered system. There were three large limited-liability banks controlling dominant share of the financial activities and numerous small banks whose owners faced unlimited liability. During the first part of the above mentioned period, the unlimited-liability banks negated the threat of runs by offering an option clause on their bank notes, to the effect that they promised to pay either the fixed sum or on demand or six months later that sum plus 5%. Bank runs were said to be unknown in Scotland, whereas they were common in England. To the extent that the option clause averted runs, it no doubt reflected that the deferred payment had a positive net present value. Also the ability to increase supply of money freely by issuing bank notes, disciplined both by unlimited liability and by the threat of adverse clearing, helped to make the banking system viable even without central bank.

And last but not least the experience of individual U.S. states during the so-called pre-Federal Reserve era is also relevant for countries with CBs. Essentially there were two regulatory regimes in place for much of U.S. history; unit banking which prohibited any branching within states, and branch banking where within-state branching was allowed while the inter-state branching wasn't. Following the closure of Second Bank of the United States in 1837, the so-called free banking era began. Banking was significantly more robust in the states with branching, both because banks were more diversified and fewer in numbers. Banks in the south, where branching concept was in place succeeded to survive in 1837 and 1857 crises by co-ordinating temporary suspensions and resumptions of convertibility of their deposit-liabilities into cash. In some states branching was made more robust by adopting unlimited mutual liability laws for clearing house members. As consequence the bankers was given an incentive to monitor one another, which turned out to work quite well at least while the number of institutions involved remained limited. Also in

some instances double-liability laws were introduced which not surprisingly led to a higher capital to assets ratios and lower failure rates.

On the opposite extreme unit banking states saw significant failures during these crises, and in attempt to respond to this challenge they created a liability insurance schemes all of which eventually failed. It's become obvious, therefore that countries considering adoption of a CB regimes should institute the most robust regulatory system possible. The key elements of such a system include diversification and incentive compatible regulation. As most developing countries, which are the most likely candidates for CB introduction, are small and undiversified by nature, limiting banks to focus their investment activities only within their borders will leave them with a large amount of "undiversifiable" risk. Allowing banks to open branches abroad or at least to maintain a more diversified global portfolio from geographical stand point, will reduce the scope of "undiversifiable" risk and so contribute to their ability to withstand shocks of local character. In addition arbitrarily raising capital adequacy requirements well above the Basle standards - a path chosen in Argentina and in Bulgaria - would help to improve the incentive compatibility of banking. Bank concentrations also appear to be useful as a prerequisite encouraging prudence in bank's behaviour.

It must be pointed out however that regulatory arrangements cannot eliminate the possibility of systemic banking crisis, simply because they cannot eliminate systemic risk, and indeed in Hong Kong and Canada the budget in effect became a lender of last resort. Therefore since it's obvious, that some risks do not subject to diversification, it is important that authorities consider how lender of last resort support will be provided when it is needed. There are no compelling reasons why that support to be provided by institution other than a central bank. A specifically designed fund or the budget itself could coup with this task with the same success as central bank does. If it is a fund however it is crucial that it have large resources relative to the risks faced. In the absence of the resources in question, swap lines with foreign commercial banks or other

external entities could fill this gap, just as was the case with safeguarding the Polish foreign exchange rate peg in the beginning of 1990's.

Part 2

Monetary reform and development of Bulgarian economy

Was the Currency Board mechanism possible in 1990? Historical remarks.

The development of Bulgarian economy between the beginning of the transition process and a point well past the onset of the economic crisis of 1996/1997 was shaped to a large extent by the country's political situation. Although the old regime - the Zhivkov government - had already been replaced in 1989, a fundamental political change did not take place until the spring of 1997. Unlike in other transition countries, in Bulgaria the socialist successors to the former ruling party were not removed from power in elections during the initial post-communist period. If this had happened in Bulgaria as well, it would probably have led to rapid, possibly painful reforms, which however, would have laid the groundwork for a subsequent recovery in a completely overhauled economic system. Unfortunately this sort of transformation did not take place in Bulgaria.

After 1989 the successors to the Bulgarian Communist party continued to exert a decisive influence on the composition of the country's government and on government policies, and except during the period November 1991 - October 1992, they retained this influence up until the spring of 1997. Attempts to implement reforms to extent that they were undertaken at all, usually proved to be quite indecisive. For this reason, it proved impossible to even begin to dismantle the structures that had been inherited from the past. The old links between politics and economy still existed and indeed were cultivated to the benefit of both sides of the relationship. Such contacts were not only maintained in areas where they had always be strong - due above all to the

slow pace of privatisation, they were also expanded to include the private sector and the financial system in particular. The amalgamation of unhealthy political influence and private interest and the resulting systematic personal enrichment not only constrained economic development but also turned out the main underlying cause for the 1997 economic collapse.

It should be noted, though that Bulgaria's economic situation at the beginning of the transition process was considerably more difficult than that of the other Central and Eastern European countries. Perhaps the most serious problem was the absolute extent of dependence of its trade with the other East European countries, and especially Soviet Union. Roughly 80% of all transactions were carried out with other COMECON countries and as rule involved machinery and construction. As a result Bulgaria was hit particularly hard by the collapse of the Communist trading block.

The other important constraint Bulgaria faced as it entered the new, post 1989 world was its financial legacy from the Communist era in the form of high level of foreign indebtedness reaching 125% of GDP at the end of 1995. The country discontinued servicing of its foreign obligations in 1990, and uncertainty regarding the resolution of this problem caused exclusion of the country from participation in IMF and WB programs which in turn made it difficult for policymakers to address the problems in proper priority.

Bulgaria has experienced "extreme inflation" of at least 50% annually (1993 being an exception) since the collapse of centrally planned economy in 1989. At the beginning of 1997 the country turned out to be on the verge of hyperinflation, which by definition means increases in the consumer price index of at least 50% monthly for at least three consecutive months (See tables 2 and 5). Extreme inflation became the most important problem of the country and was largely responsible for the economic decline and accompanying social unrest. If the extreme inflation was not discontinued this would have jeopardised country's transition to a market economy and the stability of the political grounds of the society. Recently many observers of the 1997's crises described it as a situation where the country was on the threshold of civil war.

As one might easily guess Bulgaria's inflation was caused by Central Bank of Bulgaria. The BNB financed the government budget deficit - which comprises the deficit of the government itself and of state owned enterprises - by increasing money supply. A combination of more government spending and less tax revenues from a declining economy caused budget deficit to reach values in the range of 4,4 to 10,9 per cent of GDP for the period 1992 to 1997. The 1994 crisis has its origins in unexpectedly low inflation rates in 1993. Between August and October, Central Bank of Bulgaria gradually reduced its base interest rate from 60% p.a. to 52% p.a. and as a consequence in months thereafter the BGL came under strong downward pressure on the foreign currency market. After initial interventions, which drained BNB's foreign exchange holdings to US\$ 600 million, the BNB ceased by local currency. The resulting devaluation of the BGL caused the inflation rate to shoot up. After a brief period of tranquillity, another wave of deep devaluation emerged, causing the inflation to shoot up again. As a result, the overall situation remained unstable until well into the first half of 1995. However, the real economy was affected by the monetary turbulence only in so far as the real devaluation of the BGL boosted exports and moved the trade balance into surplus. Although inflation shouted up twice, both times it faded away relatively soon, and as a result investment activity remained largely unaffected by monetary developments. The same is true for the banking system. Although at times there were sizeable outflows of funds from foreign currency accounts, the combined amount of these withdrawals was not so great as to pose a serious treat to the stability of the overall system. After a short time, the outflow stopped and the volume of foreign currency deposits began to rise again. Moreover, until the trend reversed itself the BNB was in any case able to offset the decline in bank's liquidity with injections of funds through its rediscount mechanisms.

By the beginning of 1996, however the period of relative calm was over. This time there was a greater turbulence, leading not only to a run on the banks and collapse of the country's cashless payment system, but also to massive decline in real economic activity. As in 1994, the chain of events leading up the

crisis began with a sharp drop in inflation rates to which the BNB responded by lowering key interest rate from 92% in March 1995 to 39% in August 1995 (See tables 2 and 5). This reaction of BNB was mainly result of the pressure exerted on the central bank by socialist government, which in view of the heavy burden placed on the budget, by high interest payment on increasing internal debt, wanted to see rates to go down. Although, the last series of rate cuts had been followed by drops in the exchange rates and a substantial increase in inflation, the BNB waited for quite some time to take action on interest rates. The decision to keep interest rates at relatively low levels for the time being was prompted not only by fiscal considerations but also by the generally favourable data on economic growth and employment. It appears as well, that Central Bank undervalued the fact that attempts to reach an agreement with IMF failed which rose serious concern about the country's ability to serve its foreign obligation, in amount of US\$ 1 billion, scheduled for the next financial year. As a result the BNB initially attempted to stabilise the exchange rate merely through interventions on foreign-currency markets. It was not until the beginning of 1996 that the BNB began to rise interest rates, with several increases being announced in rapid succession. By spring, however its foreign exchange reserves were almost exhausted reaching a dangerous level of US\$ 600 million. Right after the Central Bank's inability to continue to support national currency was perceived by the market, sharp decline in exchange rate along with corresponding rise in inflation took place (in summer of 1996 inflation rose over 20% p.m., even though the BNB had in meantime risen its base rate to 160% annually – See Table N5).

The severity of the crisis was exacerbated above all by the disastrous financial situation within the banking sector, which has been brought on by the accumulation over the years of a large stock of non-performing loans. Bad-loan portfolios of the banks involved on the one hand “subsidised” loans that had been granted to the state owned enterprises, and on the other, loans that had proved to be uncollectable simply because they were result of acts of frauds and embezzlements - successful schemes to exploit the banking system by

persons in position of influence within Bulgaria's economy and political sphere. When in early 1996 only 4 of the country's 46 banks reported a positive operating result for 1995 and the aggregate net worth of the banking system was revealed to be negative, it became obvious to all concerned that the serious problems faced by the country's banks had not been addressed. The outflow of deposits, especially foreign-currency deposits, which had already begun in late 1995, accelerated at the beginning of 1996 and by the middle of the year the first banks became illiquid. By spring of 1997 the Bulgarian banking system had already lost 50% of all private sector deposits that had been maintained in foreign currencies (See Table N7). Of 46 banks in existence at the beginning of 1996 a total of 18 have been placed under conservatorship and consequently were declared bankrupt. The lack of confidence in both the banking system and local currency became obvious and the flight toward "save heaven" of dollar began. The lack of confidence manifested itself in the behaviour of various indicators of the depth of financial mediation (See Table N6). Here we can see evidence of a rise in the volume of currency in circulation and a massive drop in M2 in relative terms. The CS in the Bulgarian economy was reflected not only by the increased importance of hard currencies as a means of payment and unit of account - a phenomenon whose extent is difficult or even impossible to quantify - but also in a sharp rise in the share of total bank deposits denominated in foreign currencies. At the same time hyperinflation wiped out the liabilities of the economic agents concerned transferring wealth from creditors to debtors. In mid of the crisis the interest rate on deposits in local currency was more than 150% negative in real terms. Bulgaria increasingly became a "dollarised" cash economy. It was becoming more and more obvious that this situation is unsustainable and extreme inflation contains the source of its own destruction. Finally, at the beginning of 1997 the BGL collapsed, and in the month of February alone the inflation rate came to no less than 243% (See Tables N2 and N5). The social unrest spreaded out the country and reached a level where the outcome from the financial crisis had to be sought not only with mechanisms of purely financial

character but also with revision of political status quo. Premature common elections were won by the UDF - main anti-Communist political formation and fall of the economy was halted.

To end extreme inflation and provide one of the necessary preconditions for rapid sustainable economic growth Bulgaria needed a sound currency. By definition sound currency is one that is stable, credible and fully convertible. Stability means that current annual inflation is low enough to be measured in single digits. Credibility means that money issuer creates confidence that inflation not only is, but will remain low. Full convertibility means that currency can buy domestic and foreign goods and services, including buying foreign currencies at market rates without restrictions. Apparently, to create a local currency which smoothly performs the three functions of money, as they are described in the monetary theory turned out to be unattainable task for BNB in a period 1989 - 1997. Not surprisingly the option of creating a CB began to be discussed as the most possible outcome from the currency crisis. The first time when the CB concept was presented and offered as possible solution of country's currency problems was in 1991. In his publication "Monetary reform and the development of the Bulgarian economy", Steve Hanke professor of Applied Economics at The John Hopkins University in Baltimore introduced CB Mechanism as a tool able to provide instant credibility of Bulgaria's forthcoming monetary reform. In 1991 however a possibility of introduction of such a monetary regime was discussed, only among very few people, mostly advisors of some policymakers in position of influence. Among other things, one reason why the CB concept was not found attractive solution of the country's currency problems was the fact that about that time CB system existed only in few of more than sixty places that once had it. The most notable examples in 1991 were Hong Kong and Singapore. Estonia and Argentina introduced CB arrangement not until 1992.

Institutionalisation of Currency Board mechanism in Bulgaria

With the passage of the new Central Bank Law, the BNB was required to maintain the fixed exchange rate against D-mark (and after Euro introduction against Euro) and to fully back all of its national currency denominated liabilities with foreign exchange reserves. To enable it to fulfil its functions the BNB was divided up into three departments with the following assignments:

1. Issue Department: issue of domestic currency and related activities in the foreign exchange market; macroeconomic assessments and analysis.

2. Banking Department: responsible for the BNB's banking functions. These include tasks such as account management for the public sector budgets, serving as an agent for the management of the public debt, and the implementation of international credit programs. In the events of serious banking crises threatening the overall system performs the function of lender of last resort within the limits of reserves exceeding 100 per cent reserve requirement.

3. Banking Supervision Department: licensing and oversight of the country's commercial banks.

Each of the departments is headed by a vice-governor who, like the governor of the BNB is appointed by the national assemble to serve a six years term. The governor and the vice-governors are prohibited from engaging in any other activities for which they can receive a monetary remuneration. The other three members of the central bank's council are to be appointed by the president. Under a very limited scope of circumstances the members of BNB council can be removed from office by authorities, which has appointed them. However, the members of the council are not subject in any way or form to the authority of other government agencies.

The way CB operates was intended to be simple and transparent in order to maximise credibility. Under the Governor of the BNB are the Economic

and Monetary Research Department, and the departments, that are essential to the effective functioning of the whole BNB including Information Technology, International Relations, Legal, Personnel Management and Public Relations. The Fiscal Services Department will continue to provide auction processing services for the issue of Government securities, registration of deals on the secondary market and will also advise Ministry of Finance on debt management strategy.

The assets of the Issue Department (See Table N3) are the foreign reserves of the BNB, and its liabilities are currency in circulation and deposits from non-government – primarily minimum reserve requirements of commercial banks and the deposit of the Banking Department. The Issue Department may accept foreign currency deposits from the government and from banks, and executes foreign payments orders. Therefore, through the accounts with Issue Department are executed, domestic payments and receipts of the government and daily traffic of the interbank settlement.

The Deputy Governor in charge of Issue Department is responsible for ensuring that the operating rules of the department are followed at any time. According to the law these rules include:

- The department buys or sells its BGL liabilities at a fixed exchange rate for the peg currency on demand.
- BGL liabilities are exchanged one-for-one, e.g., domestic currency is to be sold for an equal quantity of deposits at the issue department.
- The issue department never provides credit to any account holder, including never making any payment that would leave an account overdrawn.
- Any foreign currency deposit liability is to be matched by high quality foreign currency assets of the same denomination that is the department takes no foreign exchange risk.
- All other foreign reserves should be maintained in a form of high-credit-quality assets denominated in the reserve currency, or shall be domestic reserve gold.

- Applicable interest rates on deposits are to be set by the Managing Board, and are based on, and not higher, the rates received on the matched foreign exchange assets.

The Issue Department therefore manages all liquid foreign exchange reserves of the Central Bank plus the domestic reserve gold as was mentioned above. As Table shows the Issue Department started its operations with sufficient quantity of foreign reserves to cover more than 100% all its BGL and foreign exchange liabilities. To assure confidence in the latter, BNB is obliged to disclose on a weekly basis information about extent of foreign reserves coverage. According to the law if the Banking Department – when acting as a lender of last resort, is to extend credit to commercial bank, it does so by ordering a transfer of funds from its deposit at the Issue Department to the account of the respective bank. In this case therefore the Issue Department simply executes transaction from the fully backed deposit of Banking Department provided that the ordered amount will not cause the account to overdrawn. The Issue Department makes profit from seigniorage, which eventually is transferred, to the deposit of Banking Department, thus increasing its capacity to act as a lender of last resort.

Along with its objective – to act as a lender of last resort under a restricted scope of circumstances, Banking Department is responsible for calculating and enforcing minimum reserves requirements and act as a fiscal agent for the Bulgarian Government. The Banking Department may provide credit to the government only on the basis of making a purchase from the IMF in excess of its needs to ensure confidence in the banking system (See Table N4).

The banking department does not perform open market operations with free reserves, as such operations may reduce the transparency of the CB and impair confidence in the strength of the banking department. Fluctuations in demand for liquidity are to be met by capital inflows and outflows, including flows of domestically held foreign currency. Fluctuations in liquidity reflecting movements in the net fiscal position may be offset to some extent by cost-

minimising debt management in a form of either reduced primary security issues or outright purchases on the secondary market in case budget is currently running on surplus.

The operational expenses and revenues of the BNB all go through the deposit of banking department. The government and banks pay all transaction fees, interest and maturities on credit to this account. Salaries to BNB staff and all other overhead expenses are reflected in a debit to the account of the banking department at the issue department. This arrangement ensures that any operating loss of the BNB does not impair the reserve cover maintained by the issue department.

In this context it is worth-mentioning that the choice of DEM as a reserve currency turned out to be a very reasonable decision, although at the point of time when it was taken most of the transaction and savings deposits were rather USD denominated. There are two main reasons making the choice of the DEM for reserve currency rationale. First of all this created necessary prerequisites for eventual integration of Bulgarian economy into the EURO area. Secondly since DEM depreciated more than 10% against USD Bulgarian export gained further competitiveness – an important development taking into consideration that since its introduction the inflation differential between Bulgarian economy and reserve country is almost 15%. For the period from 01.07.1997 to 30.05.1998 or 11 months, since the introduction of the CB, accumulated inflation in Bulgaria reached 21%. This was mainly due to the well known lag effects in the economy and to some extent to the inflation resulting from the processes of deregulation of energy sector prices that coincided in time with the CB introduction. The depreciation of DEM therefore compensated the competitiveness lost from accumulated inflation differential. The remaining difference in amount of 5% (inflation differential in Germany and Bulgaria and depreciation of reserve currency against USD) actually is not a matter of concern if we recall that when the exchange rate was chosen the BGL was deliberately overdepreciated in response of inflation differential which decision makers had perceived in advance.

Strengthening prudential guidelines

Under the new arrangement, a particularly important role has been assigned to the head of the banking supervision department. While the central bank council, establishes norms and standards for the banking system, the head of banking supervision department is responsible for their enforcement. This reflects the lessons learned from the negative experiences of the past, when the banking supervisory authority collected information (in so far as it was able) about the financial performance of commercial banks, but was not in a position at its own discretion to take any measures in response. In these respect a fundamental legislative change has been done which enables banking supervision to determine, without having to consult or obtain approval of any other officials and entities, what penalties and enforcement procedures should be imposed on commercial banks violating the minimum regulatory standards. Financial institutions subject to such sanctions have no recourse to law, i.e. they may not take legal actions to have them lifted, which is a serious achievement when compared with the past. The only judgement requiring a court ruling is bank liquidation. However, if the banking supervision department can demonstrate in a comprehensive way that supervisory standards have been violated, the responsible court compelled to rule in its favour. As a result, the central banks position vis-à-vis the commercial banks were strengthened considerably.

While the BNB's regulatory and supervisory mandate was substantially expanded, its ability to rescue banks which have run into problems has been very sharply restricted. It is only allowed to lend under very serious crises, which threatens to bring down the entire system. Even in these circumstances BNB is allowed to grant only short-term, only collateralised with liquid assets (gold, first class securities, and foreign currency deposits are eligible), and only to solvent institutions. As was already mentioned the permissible volume of such lending is also restricted: it may not be greater than the difference between the BNB's foreign exchange reserves and its domestic currency denominated liabilities,

so as to ensure that fixed foreign exchange rate commitment is credible at any time. Loans of any type to government agencies or entities are also prohibited.

Accordingly, the BNB's monetary policy is limited to the execution of transactions on the foreign exchange market by use of exchange rate of 1000 BGL per 1 DEM (deviation in amount of 0.05% including commissions are permissible). This actually means that the BNB no longer has any room for manoeuvre in so far as monetary policy is concerned: the size of the money supply and domestic interest rates movements are a function of inflows and outflows of foreign currency. Accordingly the base rate published by the central bank is a function of the interest rates achieved on short term government securities primary market and is not consequently determined autonomously by central bank as was in the past.

Lessons learned from the experience of recent years are also reflected in the Banking Law passed on 25 June 1997. This legislation also grants The BNB very far-reaching powers. The BNB is not only given great scope to reject applications for banking licences, it can also influence the selection of management personnel at individual banks since no one may be appointed to a management position at a Bulgarian bank if he/she has not been given a certificate by the central bank in confirmation that he/she is properly qualified for the job in question. In addition disclosure requirements with respect to all relationships of an economic or financial nature among members of a bank's management and employees have been strengthened. Narrow limits have been introduced with regard to credit relationships with associated enterprises and related parties, i.e. connected and insider lending activities. The entire management of the bank must unanimously approve loans to natural persons or legal entities falling in these categories. Moreover, the sum of all loans to associated entities and related parties, with the exception of those granted to bank employees, may not exceed 1% of the paid-in share capital. Loans to bank employees may not be for amounts more than twice as great as his/her annual salary.

The law provides for the establishment of an internal audit department at each bank to monitor its operation. This department is not only obliged to provide information to regulatory authorities when asked, it is also bound to inform the BNB of its own accord of any violations of existing standards which come to its attention. The law also sets certain minimum financial standards which banks must comply with. In addition a detailed norms and regulations for their implementation have been issued with regard to certain basic rules set forth in the Banking Law. These relates above all to:

- Liquidity management, where, as opposite to one might expect, were not put forth concrete applicable minimum limits. Rather, the ordinance in question sets forth certain procedures and methods to be utilised. Liquidity standard may set by the BNB on a case-by-case basis for individual banks, but otherwise the BNB only monitors the liquidity situation of specific institutions. This represents a very flexible decision, although it is not in line with Basle standards, which contributes to the credibility of the whole financial system, since the BNB has discretionary power to enforce more conservative standards on banks in case of financial crises;

- Internal audit functions;
- Sale of pledged assets (collateral);
- Government securities market;
- Risk assessment and provisioning in lending.

The various norms and regulations issued clearly reflects the intention on the part of those who had drafted them to create an extensive, detailed framework governing the activities of the country's commercial banks which is to ensure that individual banks does not face excessive business risks, and thus rule out the possibility of systemic risk of significant magnitude. This is underscored, for example, by the very extensive powers and authority granted to the commercial bank's internal audit department. The independence of the "parallel structure" in monitoring and control functions of the commercial banks far exceeds that of a normal internal audit department, which is usually seen as a tool to be used by management to check internal procedures and generated

results and compliance with accounting standards. In Bulgaria internal audit department is not subject to authority of bank's managers, and it can go over the management and bring matters directly to the attention of the shareholders' meeting.

Thus the set of rules and standards that has come into force since the banking crisis has created much more than a broad normative framework within which commercial banks are allowed to behave as they see fit. In view of the damage suffered by the country's banks in the past, the designers of Bulgaria's new regulatory system wanted to subject the country's banks to much more comprehensive oversight by prescribing a concrete results which are to be achieved in order soundness of the financial system to be guaranteed. As a result in the after the crisis period the banking system as a whole quickly developed a very strong risk-averse attitude. This was possible partially, because in the first months after CB introduction conditions on the government securities market provided a unique combination of surprisingly high yield (See Table N5) and perfect liquidity. Not surprisingly bank managers found it very attractive to open a large exposures in government securities instead of credits. However, at the beginning of 1998 this situation turned out to be unsustainable mainly because the stabilisation of the central budget performance (for the first half of 1998 central budget has been running on surplus, 2% of projected 1998 GDP being achieved at the end of February). The latter made it possible for the budget to discontinue aggressive borrowing from the money markets and banks themselves to be forced to return in lending to firms.

And while renewed large scale crises which threaten the entire system can be avoided in this way, the introduction of serious external control cannot be regarded as a substitute for the necessary changes in commercial banks overall behaviour and way of doing business. It must be stressed that if the banks themselves are not able to undertake the necessary internal changes, designed to improve their efficiency and profit performance, they eventually will proved unable to perform the important functions they have in the processes of

the economic recovery and therefore eventually they will trigger a new financial turbulence. Indeed, there is even a danger that the control in question will delay the implementation of necessary changes by depriving the banks of sense of responsibility for what they do and how they do it. In other words they may continue to think that it is enough to simply comply with the norms and guidelines set by the central bank and that there is a little point in even trying to innovate or aggressively develop new products or markets.

Deposit insurance and moral hazard problem

The lender of last resort function was developed to ensure elastic supply of reserves as a means of responding to incipient banking panics and to reduce the probability that such a panic would occur. The lender of last resort, therefore serves a dual role: by responding to banking crises it can limit contagion effect, while its very existence can represent a credible commitment to respond to a crises and thereby reduce the chances that one could occur. Banking crises appears when markets decide that large fraction of financial industry is unable to meet deposit outflows or has become insolvent when valued at current asset prices. Individual banks face risk of insolvency arising from idiosyncratic factors related to bad investments, from runs by depositors, or from general adverse movements in assets prices (See G. Caprio, M.Dooley, D.Leipziger and C.Walsh 1995).

Because banks by their very nature are institutions for managing the risks arising in dealing with financial instruments they are doomed to hold a risky assets, and therefore, they do face the risk of failure. Adverse selection is a particular problem in credit markets where potential borrowers are likely, and should to have much better information about their investment plans and thereby the likelihood of their success, than do outside observers. Not only does this mean that bad credit risks cannot always be identified, but it also means that bad risks may have a greater incentive to borrow than do good risk. As a consequence from macroeconomic standpoint the price of loans may be unable to equilibrate demand and supply on domestic credit market. Therefore

it might be the case that in the face of the excess demand for credit, the responding higher interest rate does not necessarily make any additional lending profitable. This is true since the pool of potential borrowers will change as interest rate change. Higher interest rates may simply attract a riskier pool of borrowers - adverse selection problem - and actually lower the lenders' expected return since the quality of loans extended deteriorates. Moreover, higher interest rates may induce borrowers to engage in riskier activities, which in turn leads to the so called moral hazard problem. The outcome assumes that any lender of last resort should engage in monitoring activities, although the cost in question may turn such a lending in unprofitable one.

Bulgaria introduced a deposit insurance scheme in early 1996, which was flawed for two principal reasons. First at the time of introduction of the mandatory scheme the banking sector was in severe difficulties, with a large number of insolvent banks in the system. Second, in spite of the well known banking difficulties the scheme was to provide 100 percent deposit cover from the start. This deposit insurance scheme proved to be useless during crisis in 1996. With only minimal funds available deposit protection after the first wave of banks closures was handled through transfer of deposits to other banks, backed by a long-term government bonds. In the second round of bank closures depositor payouts again were not handled by the deposit insurance fund decreasing further the credibility of the scheme.

Taking into consideration experience gained in the period 1996 and 1997 and after broad consultations with IMF in the first half of 1998 new deposit insurance scheme was introduced. The new scheme was laid out on the following characteristics:

- the deposit insurance fund was adequately capitalized to withstand required payout for at least small bank failure (not more than 5% total deposits market share for the first two years after its establishment) without applying for additional assistance from public sector or other sources;

- to avoid perverse incentives and to limit the cost of the insurance premium, the fund is aimed at the protection of smaller customers (95% coverage for amounts up to DEM 2000 and 80% respectively for amounts above DEM 2000 but not more than DEM 5000 actually paid);
- currently the commercial banks are well supervised and overall banking environment is relatively stable;
- the fund is self-financing, since the principle goal of the deposit insurance scheme is to ensure that public funds will not be needed to assist the solution of eventual banking failures;
- design and operating principles were elaborated in a way which make it possible the fund to contribute to revival of public confidence in the financial system. Its operating principles are simple and transparent and communicated fully to the public. It was guaranteed by law that payouts should be made available shortly after the withdrawal of banking license;
- to avoid morale hazard deposit insurance coverage is limited and fund is outside the central bank. Deposit insurance is not a typical central bank's function and therefore if the fund is made part of central bank's prerogatives this may result in conflict of interests. Transparency was emphasised by ensuring administrative independence of the fund from the central bank activities. The administrative independence would also facilitate the avoidance of an implicit central bank guarantee beyond fund collected.

Part III

Currency Board and the process of further integration of Bulgaria in the economic structures of United Europe

Implications for the economic policy going forward

Bulgaria is walking on the way of transition and is now passing through its most difficult stretches, the director of IMF, First European Department Michael Deppler told a press conference on March 17, 1999. The general observation of the specialists was that Bulgaria has walked half of its way when only financial stabilization is achieved. Structural reforms at this point of time were still to be made and it was becoming more and more obvious that if economy fails to post a growth the CB will turn out useless. Therefore the problem Bulgaria faced in the first half of 1999 was to find a way already achieved stability to be turned into growth. Moreover this was supposed to be done in a very hostile environment. The forecasts for growth performance of EU economy, main trading partner of Bulgaria with 52% of export, were just revised and diminished to 1,5% for 1999. Bulgarian privatization authorities were increasingly facing problems to attract serious strategic investors for Bulgarian industrial giants which were desperately needed of new ideas, new investments, new management culture and most of all new markets. Under these circumstances privatization deals carried out through management-and-employee buy-outs dominated the process thus failing to deliver the above mentioned infusion of new capital, markets and ideas and bringing about the rising criticism from behalf of IMF, WB and other official creditors. Another factors that were adding to the complicity of the situation in the country in first half of the year were the Kosovo crisis and the forthcoming local elections. When the Kosovo crisis halted in June the direct costs from the conflict were calculated to be USD 130 Million, while the envisage balance of payments gap for 1999 expanded to USD 300 Million. Fortunately the international donors committed them selves to provide additional financing necessary to cover the gap. Bulgarian government continued to demonstrate eagerly its decisiveness

to go ahead with privatization and liquidation of the state owned enterprises thereby creating the necessary preconditions for growth and maintaining the credibility of the chosen policy.

At the beginning of May the international lending officials painted a gloomy picture for the costs of the Kosovo war on neighboring countries including Bulgaria. Conclusion was made that even the worst case funding estimates would likely be too low. Officials at the IMF and WB said that the crisis could cut growth rates in nearby countries – Albania, Macedonia, Bulgaria, Croatia and Bosnia – by average five percentage points. The European Commission has tentatively estimated that the total cost of economic reconstruction of the whole region is likely to reach USD 30 billion. Quickly thereafter became clear that these assessments had been premature and the amount necessary to ensure recovery of the region may even double when the full scope of costs is encompassed.

In its April assessment of Bulgaria's economy perspectives Merrill Lynch said that country's current account gap might widen to nearly 5% of GDP in 1999 and 7.5% in 2000 due to unfavorable external environment and slow structural reform. Merrill Lynch also had moved its recommendation on Bulgarian Brady bonds to "underweight" due to external shocks and slow structural reforms but saw no risk for the country's monetary arrangement this year and next.

In June it became clear that international financial institutions mainly IMF and WB are ready to provide additional financing necessary to cover increased gap on the balance of payment for 1999. Under these circumstances Bulgaria may not need to come to the international capital market for another 12 to 18 months. As a whole this position is beneficial for the country, since it's better to borrow at a lower terms from IMF and WB, than to go to the market. The difference in question is substantial and represents approximately the spread between the price of borrowing from IMF and WB - a number close to the LIBOR and the yield on Bulgarian Brady Bonds - varying from 350 to 550 basis points above yield on U.S. government securities with comparable maturity

profile. From this perspective clearly Bulgaria is expected to outperform the market in next 12 to 18 months.

Currency substitution

In an attempt to respond on the turbulence in the neighboring Brazil during first half of 1999 the authorities in Argentina undertook an interesting initiative in monetary area offering a formal complete “dollarization” of its monetary system. While this is not an unprecedented event the surprising detail was that this had been viewed as a viable option by a country which at this point of time was successfully running a CB arrangement. The interesting question in this respect obviously was what Argentina’s authorities considered attractive by opting on complete dollarization. Notwithstanding the success of Argentina’s economy and the fact that financial system of the country did withstand the financial turbulence on the market during the 1995 crisis, any time when serious financial instability take place suspicious reappears about the credibility of the country’s monetary regime. Although these appears to be irrational by definition, they did entail real negative aftermath for the economy in the form of capital outflows, deposit runs and temporarily increased interest rates which in turn results in a delayed economic growth and higher unemployment. The last gives ground to many economist to argue that complete “dollarization”, supported by corresponding legislative changes may discontinue the contagion effect from other countries problems and may lower the key applicable interest rates in Argentina with all positive consequences for the budget and financial system. The long-term perspective of the Argentina’s idea is obviously even more ambitious – establishment of a monetary alliance which is to involve the dominating economies on the American continent, similar to the European Monetary Union.

Currency substitution (CS), often referred to as “dollarization” is a natural reaction of the rational economic agents to the inefficiency of the domestic currencies to act as a store of value and as a medium of exchange in the inflationary environment (for more details see “Proceedings on conference on

currency substitution and currency boards” WB discussion paper, 1993). While the CS for portfolio reasons (i.e. as a store of value) has a long tradition in many countries, the tendency to use dollars and other hard currencies on a large scale for transaction purposes is a more recent phenomenon. In Bulgaria before CB introduction the dollar and the other hard currencies has been the preferred currencies not only as means of payment, but also as a store of value since more than half of the total deposits in financial system were denominated in hard foreign currencies (See Tables N6 and N7). A special feature of the CS process, which has been stressed by many authors, is its tendency to persist even when inflation was brought down. This characteristic of the CS has been examined and documented in details by Pablo E. Guidotti and Carlos A. Rodriguez in their study “Dollarization in Latin America: Gresham’s Law in reverse?” IMF WP/91/117, December 1991. According to the authors this phenomenon reflects lack of credibility in the persistence of disinflation. Bulgarian experience in the post CB introduction period represents a good manifestation of the above. Despite the fact that almost two years has expired since CB introduction in July 1997 the population and firms continues to show strong preferences toward dollars and other hard currencies. The structure of the deposits in Bulgaria which has been held both for transaction purposes and as a store of value continues to be dominated by dollar and other hard currencies as it was two years ago (See Table N6).

In the context of the above naturally arise the question whether Bulgaria another country having a successful CB arrangement and neighboring the single currency area of the European Community may benefit from replacement of its national currency with the Euro.

Immediate advantages from possible “euroization” (replacement of BGL with Euro) of Bulgarian monetary system are not so obvious. The contagion effect even if it arise doesn’t represent a threat at the moment, because of the virtual non-existence of intensive foreign financial flows.

Currently prevailing interest rates on BGL denominated government securities are comparatively low as well. However the prices plumb

experienced by the stock market during August turbulence manifested the existing danger from abrupt change in direction of net foreign currency flows. Ironically this problem will exacerbate with the advancement of the transition, since success in the reform process will bring positive reassessment of the countries perspectives, which in turn will intensify short-term capital inflows thus further increasing the risk.

The two most significant potential benefits from CS are direct consequences from substantial increase in the credibility of the pursued economic policy. First of all replacement of BGL by Euro will signalize irreversibility of the chosen path of European integration. This fact by itself would ensure increase in foreign direct investments, and cheaper access to external financing with corresponding price decreases (See N.Georgiev, "Kapital" March 1999). Even more importantly CS assumes financial system of the country to be further precluded from the possibility to return back to use of discretionary monetary policy as a tool to disguise budget hurdles and eventually socialize real sector losses. Voluntary abdication from the right of discretionary monetary policy will be the best manifestation of the country's decisiveness to crack down inflation. This in turn will help the other spheres of economic policy (fiscal policy, income policy) to be subjected to the disciplinary effect of the CB principles as was mentioned in previous chapter. Among other things thus will be created the necessary stimulus for improving the flexibility of good and labor markets and will help them smoothly to accommodate to external shocks. Inability de facto to compensate for export lack of competitiveness by means of devaluation and inflation tax imposed on the whole society will be the strongest disciplinary factor for Bulgarian entrepreneurs forcing them to undertake constant efforts to improve productivity. This will help quickly the sectors of the industry unable to create adequate profits in a competitive environment to be revealed and therefore will force their liquidation and reallocation of remaining resources to more competitive sectors.

Off course there are some inherent risks involved. First at least theoretically, the easy access to fund necessary to finance budget's needs may assume less stringent control on government expenditures. However if the last took place markets shell quickly recognize the new situation and will react accordingly by demanding higher yield for the Bulgarian government debt instruments they hold in their portfolios.

Another important issue is vulnerability of the financial system in case CS model is opted. In Argentina Russia's default last August caused investors to flee emerging markets bringing about country's costs of foreign borrowing to increase dramatically. The difference between the interest rate it pays on its bonds and the rate paid on American treasure bonds rose from two percentage points before Asia's troubles began to a peak of fourteen points, before easing to around five points. This case was a good manifestation of the vulnerability of the economy's under a CB regimes where policy makers a left with a very few policy tools to deal with an external blows: it can neither devalue nor easy monetary policy.

During the Russian crisis dependence of the Bulgarian financial system on external shocks has been tested as well. The turbulence on the international financial markets manifested itself in an abrupt drop in prices of internationally quoted securities held in the portfolios of Bulgarian banks. As a result the capital adequacy of the financial system for the period June September decreased from 34% to 32% respectively. Income losses in question were assessed to be DEM 130 Million which in turn brought to a net loss for third quarter in amount of DEM 75 Million. These losses however were 100% covered from the profits accumulated during the first half of financial year which made it possible credibility of the system to be backed up. The development in forth quarter of 1998 and thereafter contributed the losses in question to be further compensated.

These both examples are good manifestation that given some circumstances are in place, CB can be successful in dealing with contagion effect from other country's problems. The advantage that system might have in

case CS is implemented is that the contagion effect will be more difficult to extend involving the particular country in question, since the higher credibility of the chosen monetary arrangement. With other words it is reasonable to assume that investors will be less scared in case CS is in place, and therefore less likely to withdraw their money.

Second, possible danger might appear as a consequence from intensified inflow of short-term capital. This in turn may lead to higher volatility of the interest rates on domestic market and diminished control on commercial bank's lending behavior because of increased money supply banks are trying to get benefit from by expanding their lending activities. However these possible consequences shouldn't be exaggerated. Appropriate correction measures in this respect could be more stringent functioning of banking supervision or even some changes in regulatory framework itself. Countermeasures may also include introduction of some minimum liquidity requirements aimed to improve liquidity of the banking system as precaution for eventual liquidity squeeze.

Important consideration when opting on CS is that it is hard to be reversed. The establishment of a widely accepted payment system based on foreign exchange involves set-up costs, and the same is true for the switch back to domestic currency. Therefore it might be reasonable that if the elimination of the basic causes of inflation is contemplated in the near future, it is not advisable to get involved too deeply in the CS process.

If CS is chosen to be a long term solution, even after the basic cause of inflation are removed, the government will lose in a consequence, the non-inflationary seigniorage resulting from the real growth of the economy. Under official CS it is the government of the reserve country rather the domestic one, which captures the seigniorage. Some authors viewed this as an important advantage of the CB over official dollarization approach (See Proceedings of a conference on CS and CB, 1993, WB Discussion Paper). Proponents of this view stressed that the loss of seigniorage is larger than it appears to be since it should be taken into account that the demand for money under official CS is

much larger, due to already achieved price stability, than in the inflationary economy. On the other hand it should be pointed out that the loss of seigniorage relates only to cash and not to bank reserves which can be invested in interest earning assets. In Bulgaria the lost in question barely will exceed 0.5% of GDP. Loses arising from exchange of coins and notes in BGL with Euro notes and coins shouldn't be overestimated as well since they will have only one time effect.

It seems that in CS scenario the most serious potential trouble is that the Central Bank of European Union will have no reason to consider the Bulgarian's conditions and interest in making choices on their monetary policy. Even more the Central Bank of the European Union will not be responsible of doing so, at least not before Bulgaria is to achieve European Union full membership. Therefore, it can be argued that if economies of Bulgaria and the economic alliance of EU are not unified enough with respect to their goods, labor, and capital markets, taxes and fiscal policies to live with a single monetary policy will be impossible. The advocated in this paper "euroization" can not be introduced before 01.01.2002 at earliest due to the fact that Euro will appear in the form of notes and coins not before that term. Logically follows that recommendable behavior for Bulgarian authorities should be to continue to pursue its economic policy aimed to achieve convergence with European Union membership criteria. If and only if in the moment of Euro introduction Bulgarian economy is close enough to the proclaimed target criteria "euroization" should be carried out. If achievement of the criteria in question appeared to be impossible in 2002 "euroization" of the Bulgarian financial system should be postponed or may be even forgotten.

There are no everlasting decisions in the monetary policy sphere. In 1973 United States abandoned its commitment to convert gold for dollars at a fixed price. Unlike Herbert Hoover, Richard Nixon was not willing to sacrifice American prosperity for the gold standard or for fixed currency exchange rates. I think that in 1997 opting for the CB, Bulgarian policy makers made a similar choice sacrificing discretionary power of the central bank. After all, if advocated

in this paper “euroization” is introduced and eventually turned out unsuccessful, it can be replaced by another monetary arrangement which better suits economic prosperity interests.

Currency Substitution and credibility of the exchange rate peg

CB arrangement ensures the foreign currency value of some set of domestic bank liabilities. As long as the exchange rate commitment is not perfectly credible, the existence of domestic and foreign currency assets and liabilities on banks’ balance sheets is a source of solvency risk even if the currency positions are balanced (balanced from the foreign exchange risk viewpoint). The problem arises from the fact that one of banks’ main assignments is to bear and manage maturity risk. Throughout a time periods where the board’s commitment to fixed exchange rate is considered not perfectly credible, any shocks that increases the political cost of maintaining the fixed exchange rate, increases the exchange rate premium component of domestic currency interest rates. The rise in interest yields paid on domestic currency denominated assets depresses the market value of banks’ long term domestic currency assets. This reduction in the market value of long-term assets is not matched by a reduction in the value of banks short-term domestic currency liabilities. Thus even a balanced foreign exchange position leaves the banks exposed to changes in exchange rate expectations.

Institutions fulfilling the lender of last resort function must react before it is possible clearly to distinguish transitory from permanent shocks to assets values. In a similar way it is very difficult to identify changes in an assets values generated by shifts in the credibility of fixed exchange rate commitment. Frankell and Okongwu in 1996 analysed the determinants of domestic interest rates in five developing countries (Argentina, Chile, Mexico, Philippines and Korea) and although only one of the countries enumerated has a CB it sounds plausible that the resulting conclusions are relevant to the countries with CB in general. The survey data on expectations about exchange rate changes suggests categorically that high domestic interest rates reflects both expected

exchange rate changes and a surprisingly high exchange risk premium. The treat of contagion in the context of limited information seems identical for any of the risks discussed above. This implies that a CB with a mixed currency banking system is not only vulnerable due to fundamental reasons, but also because it is likely to subject to unusual shifts in assets valuation.

It can be presupposed, therefore, that complete CS of banks' assets and liabilities eliminates conversion risk, since as argued above, sharp increase in domestic currency interest rates when convertibility is called into question, may in practice be the most serious threat to banks' solvency. On the other hand CS assumes that the capacity of the government to act as a lender of last resort might be undermined since unrestricted access to dollar credit, might be difficult to ensure.

Summary and Conclusion

In its report presented at the international conference aimed at studying the opinions of the EU and the countries in the Balkans before the summit scheduled for May 27, the experts from Brussels based center for European political studies recommended Balkan countries to be included in the Euro zone through the implementation of a CB. Thus according to the document in question the region will have steady national currencies, stable open markets, and by the year 2002 it will be able to introduce and use the Euro as its own monetary unit. The main speaker of the conference pointed out that Bulgaria is an example and model of how a country, having all the characteristics of one involved in chaos or a conflict, or both, can make an astonishing progress for a few years only.

Central banking in Bulgaria in the form it existed before 1997 has resulted in unsound currency, high inflation, and economic stagnation. After its establishment in 1997 CB immediately imposed hard budget constrains on financial system and central budget. Later on this effect expanded further involving economy on a micro level. Due to decisive steps in tightening fiscal policy Bulgaria enjoyed balance budget position in 1998. In 1999 despite

difficult external environment budget performance continue to be better than envisaged. The latter is likely to make it possible in the next year taxes to be decreased thus creating stimulus for growth, proving once again that CB is in a position to force other monetary and economic reforms to occur fairly soon.

This paper emphasizes that in the long run CB couldn't be successful unless supported by profound structural reforms aimed to change fundamentally economy on the micro level. Bulgarian experience so far demonstrated that despite extraordinarily difficult environment bringing about decreased competitiveness of export and current account unbalances the credibility of the CB system might remain sustainable. It can be concluded therefore that under some circumstances CB might be successful in dealing with external shocks of sizeable magnitude. What has the greatest potential to undermine credibility of the system however, is lack of structural reforms and financial discipline.

(End)

Bibliography:

1. "Currency Board Arrangement for Bulgaria: What is a competitive level for the Bulgarian exchange rate?" Raimund Dietz, Monthly Bulletin, edition of Bulgarian National Bank 4/1997;
2. "The Lender of Last Resort Function under a Currency Board. The case of Argentina." G. Caprio, M.Dooley, D.Leipziger and C.Walsh;
3. "Russian currency and finance. A currency board approach to reform", Steve Hanke, Lars Jonung and Kurt Schuler, First published in 1993 by Routledge simultaneously in London and New York;
4. "The Currency Board: Preconditions and some quantitative aspects", Nikolai Georgiev;
5. "Teeth for the Bulgarian Lev: A Currency Board Solution", Steve Hanke and Kurt Schuler 1992;
6. "Argentina and the Tequila Effect", Steve Hanke;

7. "Currency Board for Mexico", Steve Hanke, Central Banking, Volume VI, Number 4, spring 1996;
8. "Good News from a Bad News Spot", Steve Hanke, Central Banking, Volume VII, Number 3, Winter 1996/7;
9. "Currency Board for Developing Countries. A Handbook", Steve Hanke and Kurt Schuler 1994, Sector Study Number 9, International Center for Economic Growth;
10. "Knowledge for Development. Economic Science, Economic Policy and Economic Advise" Joseph E.Stiglitz, Paper presented on the World Bank Annual Conference on Development Economics, Washington, DC April 1998;
11. "Financial Globalization. Can National Currencies Survive", James Tobin, Paper presented on the World Bank Annual Conference on Development Economics, Washington, DC April 1998;
12. BIS "International Convergence of capital measurement and capital standards (updated)" in Compendium of documents produced by the Basle Committee on Banking Supervision, Vol. 1, Bank for International Settlements, April 1997;
13. BIS "Report on International Developments in Banking Supervision: Report N. 6", Committee on Banking Regulations and Supervisory Practices, Bank for International Settlements, September 1988;
14. Currency Boards for Latin America – Steve Hanke and Kurt Schuler;
15. Pablo E. Guidotti and Carlos A. Rodriguez in their study "Dollarization in Latin America: Gresham's Law in reverse?" IMF WP/91/117, December 1991;
16. Kevin Dowd "The State and the Monetary System" 1990, New York, St.Martin's Press;
17. Hoe E. Khor and L.Rojias-Suares, 1991. "Interest Rates in Mexico: The Role of Exchange Rates Expectations and International Creditworthiness", PP 850-871 of IMF Staff Papers, vol. 38, #4, December;
18. Esra Bennathan and L.S.Thompson "Privatization Problems at Industry Level" World Bank Discussion Papers;
19. B.Bhatangar and A.C.Williams "Preparatory Development and the World Bank: Potential Directions for Change" World Bank Discussion Papers;

20. S.Ahmed "Appropriate Macroeconomic Management in Indonesia's Open Economy"
World Bank Discussion Papers;

21. A. Kreimer, Th.Lobo, B.Menezes, M.Munasinghe and R.Parker- editors: "Towards a Sustainable Development: The Rio de Janeiro Study";

22. M.Blejer, G.A.Calvo, F. Coricelli and A.H.Gelb - editors: "Eastern Europe in Transition: From Recession to Growth?": Proceedings of a Conference on the Macroeconomic Aspects of Adjustment, Cosponsored by the IMF and the World Bank"
World Bank Discussion Papers.

CURRENCY BOARD SOLUTION IN BULGARIA

(Excerpt)

Central banking in Bulgaria in the form it existed before 1997 has resulted in unsound currency, high inflation, and economic stagnation. In July 1997 Bulgaria opted for a Currency Board in which the outstanding stock of high-powered money is fully backed by foreign reserves and legally convertible into deutsche marks. This paper considers how Bulgarian Currency Board operates and how other important functions of the central bank such as lender of last resort function, supervision and licensing of commercial banks are handled. Description is made on the basic constraints and attractions currency board arrangement imposes on the banking system and fiscal policy.

This paper advocates that in Bulgaria currency board was successful in fighting inflation by providing instant credibility of domestic currency. It claims that after its establishment Currency Board immediately imposed hard budget constraints on financial system and on central budget. This in turn helped the other spheres of economic policy (fiscal policy, income policy) to be subjected to the disciplinary principles of this monetary arrangement. Later on this effect expanded further involving economy on the level of separate enterprises themselves.

Bulgarian experience demonstrated that in the long run Currency Board couldn't be successful unless supported by profound and decisive structural reform aimed to change fundamentally economy on the micro level. Bulgarian case is perfect evidence that despite extraordinarily difficult environment bringing about decreased competitiveness of export and current account unbalances the credibility of the Currency Board can remain sustainable. And although vulnerable by nature Currency Board under some circumstances might be successful in dealing with external shocks of sizeable magnitude. However what has the greatest potential to undermine credibility of the system is combination of lack of structural reforms and lack of financial discipline.

In the future possibility for replacement of domestic currency with Euro should be carefully considered. Provided that Bulgarian authorities are successful in achieving EU membership convergence criteria in 2002, "euroization" of Bulgarian financial system will become recommendable.

Table 1

**List of Main Differences Between Typical
Currency Board and Typical Central Bank**

Typical Currency Board	Typical Central Bank
Usually supplies notes and coins only	Supplies notes, coins, and deposits
Fixed exchange rate with reserve currency	Pegged or floating foreign exchange rate
Foreign reserves of 100%	Variable foreign reserves
Full convertibility	Limited convertibility
Rule-bound monetary policy	Discretionary monetary policy
Not a lender of last resort	Lender of last resort
Does not regulate commercial banks	Often regulates commercial banks
Transparent	Opaque
Protected from political pressure	Politicised
High credibility	Low credibility
Earns seigniorage only from interest	Earns seigniorage from interest and from inflation
Cannot create inflation	Can create inflation
Cannot finance spending by domestic government	Can finance spending by domestic government
Requires no preconditions for monetary reform	Requires preconditions for monetary reform
Rapid monetary reform	Slow monetary reform
Small staff	Large staff

Monetary Aggregates	12'93	3'94	6'94	9'94	12'94	3'95	6'95	12'95	6'96
Exchange rate: BGL/USD	32,7	64,9	53,7	61,2	66,7	66,2	66	71	155
BROAD MONEY (?2+Money market instruments and restricted deposits)	243	300	315	376	421,70	447,7	497	582	698
BGL	188	199	221	243	283,00	313,8	362	423	439
Foreign currencies	54	99	91	131	135,35	131,6	136	159	258
MONEY M2 (?1+QUASI-MONEY)	229,9	291,8	309,7	366,7	413,4	439,3	487	571	675
MONEY M1	48,3	50,1	55,0	63,7	65,2	70,9	76	108	112
Currency outside banks	25,2	26,8	30,3	33,3	34,7	36,5	47	62	70
Demand deposits	23,2	23,3	24,7	30,4	30,4	34,5	30	46	42
QUASI-MONEY	181,6	241,7	254,7	303,0	348,3	368,3	411	463	562
Time deposits	110,0	120,8	136,0	147,7	175,8	199,0	243	256	268
Savings deposits	28,0	28,1	30,0	31,2	41,6	43,5	40	58	55
Foreign currency deposits	43,6	92,7	88,7	124,1	130,9	125,8	128	150	240
MONEY MARKET INSTRUMENTS AND RESTRICTED DEPOSITS	4,2	8,1	5,5	9,3	8,3	8,5	10	11	23
BGL	0,2	0,3	0,3	0,2	0,5	0,4	2	2	4
Foreign currencies	4,0	7,8	5,2	9,0	7,8	8,1	8	9	19

**BALANCE SHEET OF BNB ISSUE
DEPARTMENT**

Indicator	31.VII'97	30.IX'97	31.XII'97	30.I'98	31.III'98	30.VI'98	30.IX'98
ASSETS	3460 731	3936 241	4411 910	4172 053	4713 689	5244 426	4665 440

1. Cash and nostro accounts in foreign currency	1745 215	1642 738	2263 682	2114 891	1292 388	1136 562	995 741
2. Monetary gold	640 727	643 968	644 109	644 122	644 193	646 799	648 679
3. Foreign securities	1066 572	1639 835	1495 417	1405 131	2759 059	3452 592	3010 863
4. Accrued interest receivable	8 217	9 700	8 702	7 909	18 049	8 473	10 157
LIABILITIES	3460 731	3936 241	4411 910	4172 053	4713 689	5244 426	4665 440
1. Currency in circulation	834 019	1032 495	1419 810	1290 257	1360 019	1490 178	1557 197
2. Bank deposits and current accounts	655 711	591 291	857 848	678 822	746 762	580 868	487 667
3. Government deposits and accounts	1166 109	1373 696	1601 270	1634 639	1997 317	2240 889	1833 711
4. Other depositors' accounts	12 687	15 442	24 929	20 771	17 829	21 078	18 093
5. Accrued interest payable	190	350	1 926	638	820	983	770
6. Banking Department deposit	792 015	922 967	506 127	546 926	590 942	910 430	768 002

BALANCE SHEET OF BNB BANKING DEPARTMENT

Indicator	31.VII'97	30.IX'97	31.XII'97	30.I'98	31.III'98	30.VI'98
ASSETS	3560 262	3593 142	3671 314	3724 837	3785 132	3854 047
1. Nonmonetary gold and other precious metals	74 215	77 497	82 959	86 976	79 311	81 886
2. Investments in securities	293 326	280 440	282 619	287 821	292 126	141 007
3. Loans and advances to banks, net of provisions	17 895	25 048	20 314	8 048	7 740	1 368
4. Receivables from government	1194 453	1138 194	1632 128	1632 915	1608 840	1528 491
5. Bulgaria's IMF quota and holdings in other international financial institutions	1087 118	1044 557	1041 430	1056 415	1063 329	1046 182
6. Accrued interest receivable	928	904	389	52	32	30
7. Equity investments in domestic entities	2 134	2 503	2 134	2 151	2 152	2 152
8. Fined assets	79 006	85 415	96 634	97 275	133 658	135 901
9. Other assets	19 172	15 617	6 580	6 258	7 002	6 600
10. Deposit with Issue Department	792 015	922 967	506 127	546 926	590 942	910 430
LIABILITIES	3560 262	3593 142	3671 314	3724 837	3785 132	3854 047
Obligations	2576 286	2618 410	2718 888	2741 218	2717 373	2936 766
1. Borrowings from IMF	1489 509	1571 345	1674 802	1676 206	1652 414	1884 018
2. Liabilities to other financial institutions	1078 984	1036 539	1033 534	1048 215	1055 242	1042 091
3. Accrued interest payable			884	1 132	395	2 018
4. Other liabilities	7 793	10 526	9 668	15 465	9 322	8 639
Equity	983 976	974 732	952 426	983 619	1067 759	917 281
5. Capital	20 000	20 000	20 000	20 000	20 000	20 000
6. Reserves	698 293	676 809	675 789	686 460	811 355	836 653
7. Retained profit	265 683	277 923	256 637	277 159	236 404	60 628

Tabl
e 6

Indicators of degree of financial mediation (%)

Indicator	I'94	III'94	VI'94	IX'94	XII'94	III'95	VI'95	XII'95	VI'96	XII'96	VI'97	XII'97	VI'98
Domestic credit / GDP	83	114	102	96	103	65	66	72	53	115	25	30	19
?2 / GDP	46	56	59	70	78	50	55	65	39	71	22	34	26
M1 / ?2	18	17	18	17	18	16	16	19	17	19	23	40	39
Foreign currency deposits / M2	21	32	29	34	31	29	26	26	36	48	59	42	42
Savings deposits / GDP	5	5	6	6	8	5	0	7	3	5	1	1	1

Major
Economic
Indicators

Table 2

Indicator	measure	1995	1996	1997	1998
GDP					
nominal GDP	mln. leva	880 322	1748 701	17103 433	23180 000
real growth	%	2,1	-10,9	-6,9	4,0
Real growth in productivity of the private sector	%	21,6	-4,6	2,2	6,0
GDP Structure					
Agriculture and forestry	mln. leva	111 416	253 652	3987 312	5326 689
Industry	mln. leva	272 721	497 862	4482 908	5961 351
Services	mln. leva	450 239	898 858	6765 982	9020 769
Savings and investments					
domestic savings	% of GDP	16,5	14,8	15,8	15,7
domestic investments	% of GDP	14,4	11,5	11,7	14,6
Average income per capita					
	Leva per capita	46 124	76 527	775 955	1029 366
	USD per capita	687	432	461	572
Population					
	thousands	8 406	8 363	8 283	8 249
growth	Per mil	-4,4	-5,1	-9,5	-4,2
Inflation					
end- of-period	%	32,9	310,8	578,6	0,95
period average	%	62,1	123,0	1 082,2	22,3
Unemployment					
	thousands	435	423	536	465
as % of labor force	%	11,4	11,1	14,0	12,2
Labor force					
	thousands	3 282	3 286	3 198	3 171

state sector	thousands	1 949	1 728	1 517	1 299
private sector	thousands	1 333	1 558	1 682	1 873
state sector	% change		-11,3	-12,2	-14,3
private sector	% change		16,9	8,0	11,4
Exchange rate					
end-of-period	Leva/USD	71	487	1 777	1 700
period average	Leva/USD	67	177	1 682	1 700
end-of period	Leva/USD	49	313	967	1 000
period average	Leva/USD	47	117	1 000	1 000
Government					
revenue	% of GDP	36,6	34,3	28,5	28,4
expenditures	% of GDP	43,0	47,7	32,9	30,0
deficit	% of GDP	-6,4	-13,4	-4,4	-1,6
Balance-of-payments					
Current account	USD mln.	-26	82	419	-102
Trade balance	USD mln.	121	188	396	70
export	USD mln.	5 345	4 890	4 914	5 244
import	USD mln.	5 224	4 703	4 518	5 174
Capital account	USD mln.	114	-873	990	367
net foreign direct investments	USD mln.	98	81	469	300
net credit portfolio	USD mln.	-66	-129	280	160

* The data for 1998 is preliminary

ANNUAL EFFECTIVE INTEREST RATES

Rates	XII'94	III'95	VI'95	IX'95	XII'95	III'96	VI'96	IX'96	XII'96
Base Interest rates	93,88	93,88	74,9	38,59	38,59	58,8	160,1	837,9	342,1
(at end of period)									
Short-term interest rates									
(average weighted)									
Interest rates on deposits extended in the interbank market	107,13	107,73	93,54	44,2	44,01	65,2	193,4	427,1	442,1
up to one day	106,62	107,93	69,72	44,13	42,96	63,9	189,4	438,1	424,5
from one to three days	108,69	107,93	70,78	44,2	44,02	68,9	193,3	532,5	423,9
from three days to one week	107,28	107,83	69,9	44,29	44,46	67,3	194,1	381,8	446,6
from one week to one month	107,95	107,75	69,3	44,02	44,16	65,5	195,8	389,4	448,8
Interest rates on time deposits									
BGL	72,37	72,66	41,37	25,27	25,29	35,3	78,8	87,4	211,9
EURO*	6,95	6,86	6,42	6,53	6,41	5,7	4,9	4,6	3,8

	USD	5,87	5,85	6,34	6,86	6,85	5,8	6,1	5,6	4,8
<i>Interest rates on demand deposits</i>										
	BGL	19,55	19,43	18,8	11,62	10,83	13,7	24,6	31,8	75,1
	EURO*	4,81	4,64	4,28	4,29	4,04	4,0	3,4	3,0	2,1
	USD	4,71	4,7	4,8	4,94	4,79	4,9	4,3	4,1	3,8
<i>Interest rates on credits</i>										
	BGL	117,69	119,54	81,31	53,15	51,43	71,6	205,5	292,1	481,1
	EURO*	19,17	19,01	19,86	17,7	18,47	15,7	16,7	11,9	17,5
	USD	16,51	14,29	17,19	16	13,54	13,8	16,0	14,4	13,0
Long-term interest rates (average weighted)										
<i>Interest rates on credits</i>										
	BGL	118,09	120,95	84,33	47,75	48,67	-	-	-	454,1
	EURO*	20,82	18,02	20,2	13,63	18,14	16,8	18,0	15,0	14,6
	USD	17,22	15,58	16,8	11,9	17,83	15,3	11,5	12,9	12,9

* The Euro item includes the Euro and currencies included in the Euro. Data refers only to the Deutschemark until end-December 1998

