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Outsourcing central banking: lessons from Estonia

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OUTSOURCING CENTRAL BANKING: LESSONS FROM ESTONIA

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In memory of Vello Vensel, 1941-2004

Abstract.

The literature on Currency Boards (CB) stops at the water edge in terms of dealing with the totality of the functions of a central bank. Monetary policy, and banking supervision can be "outsourced" in an open economy with substantial foreign direct investment (FDI) in the banking sector if political nationalism does not trump economic rationality. An orthodox CB renders the central banking function redundant in terms of interest rate and exchange rate determination. FDI in banking could perform the same role for the supervisory function of central banks. We use the case of Estonia to illustrate the feasibility of, and constraints on, outsourcing of central bank functions. A brief discussion of the Argentinian experience is used for contrast.

Key words: Currency Board, Foreign Banks, Supervision, Regional Integration, outsourcing.

INTRODUCTION

A currency board (CB) arrangement for balance of payments and money supply adjustment is effectively an institutional structure for the “outsourcing” of monetary policy by a central bank. A number of European emerging market economies have established CBs after the withdrawal of the iron curtain¹. The main argument for a CB arrangement is that – if properly handled – it establishes credibility of a low inflation policy rapidly within a country with weak political institutions and, accordingly, where trust in pronounced economic policy objectives is lacking.

Monetary policy is only one area of central bank responsibility. A second important area is banking supervision. Although this function in some countries is the responsibility of a separate financial supervisory authority (FSA), we will consider it as one aspect of central banking in this paper. We argue that both functions of central banking can be outsourced under certain conditions, and that a CB arrangement contributes to the feasibility of outsourcing of banking supervision.

We review in detail the experiences of Estonia with the CB arrangement – in order to identify factors that contribute to the success or failure of the outsourcing of monetary policy and banking supervision. The CB arrangement implies in itself a high degree of outsourcing of monetary policy while outsourcing of the supervisory role of the central banks depends on an important presence of foreign owned banks as well as on the organization/ownership of the banks. An orthodox CB arrangement influences banking supervision indirectly through the constraints the CB puts on bailouts of banks. In this

setting we ask whether the principles favoring outsourcing of monetary policy applies to bank supervision as well.

Outsourcing of important economic policy tools to a neighbouring, well established country with a strong tradition of economic management contributes to the regional integration of institutions for economic policy and may well reduce the costs of managing the economy and its financial system. The EU has inspired debate and calls for regional integration in other parts of the world, Asia in particular. Outsourcing of policy in the sense discussed here is a special form of regional integration in that institutions in another country substitute for domestic institutions. The principles we discuss apply as well to cases where regional integration is manifested through multinational institutions. In both cases, national sovereignty in an important policy area is relinquished.

Our choice of country to examine - Estonia - is based on the general observation of Estonia as the success case among CB countries. This is particularly significant when contrasted with Argentina's CB which is commonly viewed as a case of failure. Both countries have banking systems where foreign banks play important roles although to very different degrees. The presence of foreign banks makes the countries candidates for outsourcing of banking supervision.

The structure of the paper is as follows. Section 2 describes the foundations of CB structures, the potential benefits of outsourcing of central banking, and the institutional set-up that would lead to almost complete outsourcing of both monetary and supervisory authority. Section 3 discusses how and why outsourcing generally is partial. The considerations here are both economical and political. Section 4 turns to Estonia, a country

with strong outsourcing of monetary authority and an almost completely foreign controlled banking system, but the banking supervisor has retained substantial supervisory powers. Argentina, discussed in Section 5, is briefly contrasted with the Estonian case. We draw conclusions with respect to advantages and disadvantages of central bank outsourcing in Section 6. Finally, in the concluding Section 7, we summarize the discussion and draw implications for issues of regional integration.

2. THE INSTITUTIONAL SET-UP FOR OUTSOURCING OF MONETARY AND SUPERVISORY AUTHORITY

Currency boards are not a new phenomenon in economics. The CB-principle was established in the Bank Charter Act of 1844, where the Issue Department of the Bank of England acted as a CB. For this reason, many of the British colonies in Africa, Asia and the Caribbean used CBs on introduction of their own currencies. The first CB was established in Mauritius in 1849. More than 70 such boards operated at one time. Among the best known examples of territories which still have a CB of some kind are Hong-Kong and Argentina. There is also a large literature for the experiences with currency boards in various countries.²

A CB is equivalent to a country specific gold standard. The exchange rate is fixed. Under a gold standard the monetary base depends on the size of the gold reserves, and the interest rate is determined by the forces of supply and demand with no interference from the Central bank or any other government agency. The expansion in the monetary base would depend on the increase in gold reserves and on the ratio between the unit of currency and the unit of gold. This ratio is typically fixed absolutely. Substituting a

strong convertible currency (an anchor currency) such as the dollar or the euro for gold, and the cornerstone of the Currency Board is obtained. The home currency is fully convertible to the anchor currency at a fixed rate and on demand.

An orthodox CB is a monetary authority that does not have to be the Central Bank, nor housed in it or even in its country. Schuler (1998) argued that an orthodox arrangement involves the following:

‘ A typical, orthodox currency board holds foreign reserves, such as foreign bonds, equal to 100 percent of its liabilities (or in some historical cases up to 115%), as set by law. It has no ability to conduct open market operations , establish required reserve ratios for commercial banks, or engage in other discretionary monetary policies.’

The orthodox CB is not subordinated to a central bank but only backs bank notes with foreign assets. Therefore, some observers do not consider present-day CB arrangements to be “real” currency boards (Hanke, Jonung, Schuler, 1993a, p. 12). The aim of any CB system is to achieve currency convertibility and a fixed exchange rate, and thereby help to stabilise the economy, bring about structural change and integrate the country into the world economy as quickly as possible.

A number of countries have established currency boards (CB) in recent years. Argentina, Bulgaria, Bosnia-Herzegovina, Djibouti, Hong Kong, Estonia and Lithuania at present maintain such a monetary system. The IMF staff has discussed the introduction of currency board arrangements with post-conflict Somalia and Liberia. The pros and cons of a currency board for Russia have also been discussed, but a CB structure was never adopted in Russia. In some cases a CB arrangement has been a major element of a stabilization program. In Estonia, a stable currency based on a CB-arrangement was the cornerstone of the successful program for economic reforms. But, not all CB’s are the

same. They vary in levels of orthodoxy and the manner in which they depart from orthodoxy.

The Estonian CB has not been and is not orthodox, although close. The Bank of Estonia (BOE) relies on a classical CB model where it is prohibited by law from devaluing the Kroon or financing any government debt. The Kroon is fully secured by gold and Euro reserves. BOE can, nonetheless, use reserve requirements, prudential measures, and loans to banks in distress in a rather restrictive fashion.

Under the Estonian CB, like any other CB with considerable orthodoxy, the Monetary authority sets the exchange rate and monetary policy is on automatic pilot. As official foreign exchange reserves increase, so will the monetary base. There is, consequently, no conflict between exchange rates and monetary policy. This is what should happen. But, reality is at odds with the CB foundations to some extent as we demonstrate below.

Any fixed exchange rate system implies a degree of outsourcing of control over monetary conditions in a country. The degree of outsourcing depends on the intended time horizon of the fixed rate, the credibility of the rate, the degree of capital mobility, and the share in GDP of international trade. These factors are well known and they will not be discussed at length. The most complete outsourcing is membership of a currency area with one central bank as in the EU. An orthodox currency board comes close. Under such an arrangement there is a one-to-one correspondence between foreign exchange reserves and the money supply.

CBs in practice have a number of “wedges” between the money supply and foreign exchange reserves and these wedges are subject to some discretionary authority by domestic policy authorities. For example, in a fractional reserve banking system, reserve requirements can be used to influence monetary conditions. The strong linkage between foreign exchange reserves and the monetary base can be broken by the issuing of securities by the central bank. A prohibition on lending to fiscal authorities and on open market operations in government securities may be subject to parliamentary authority and, therefore, not always credible.

Other fixed exchange rate arrangements provide the central bank with the authority to conduct open market operations to control the money supply and influence interest rates. The time horizon over which the central bank has the ability to determine the money supply depends on the degree of capital mobility. Under perfect capital mobility the central bank loses all independent monetary control. The CB arrangement provides an institutional setting for relinquishing monetary control at any degree of capital mobility. As noted, the credibility of the CB arrangement requires institutional support to prevent the monetary authority from influencing the money supply by means of various actions in the financial markets.³

The implications of the CB system on the banking system are very important to analyze because banks, by necessity, have to become international banks in order to respond to changes in their environment dictated largely by international factors. Under the CB the banking system must react effectively to occasionally massive capital flows.

Turning to outsourcing of banking supervision it is in principle possible for a country to enter an arrangement with a foreign supervisory authority to take responsibility for the supervision of domestic banks. We are not interested in this type of outsourcing here. If a country lacks supervisory capability it is possible to buy (sub-contract) such capability in order to supervise domestic banks. Instead we are concerned with the situation when the banking system in a country is controlled to a large extent by foreign banks, as in many emerging market economies. In Estonia more than 90 percent of bank assets are held by Swedish and Finnish-owned banks. The situation is similar across Eastern and Central Europe where on average 70 percent of bank assets are held by foreign controlled banks. Is there a role for the domestic supervisor in this setting, especially when foreign owned banks are themselves often subject to a proven, effective supervisory authority in the home country?

Foreign control of a bank does not necessarily imply that it is supervised by the home country supervisor although the EU's Second Banking Directive envisions mutual recognition of home country control of banks' branches across the EU.. There is in general a division of responsibility between home and host country supervisors. This division may be more or less formalized in memoranda of understanding. Formally, if a bank is incorporated in a country as a subsidiary of a foreign bank, the host country has the legal means to supervise and set rules to the extent it wishes. The subsidiary form of organization of foreign direct investments in the banking sector is by far the dominant organization as was clearly the case in Estonia. A bank considering foreign expansion may set up a representative office as a first step into the host country, but if the host country

operations are to become full-fledged operations, the bank must choose either the branch or the subsidiary form of organization. Host countries generally require that foreign banks establish subsidiaries if they have more than a marginal market share. A branch does not have its own capital base, and assets and liabilities are part of a bank beyond the host country supervisor's control. It is difficult, if not impossible, for the supervisor and other authorities to remain informed about the soundness of total banking operations, and even to control whether the bank branches abide by country-specific banking rules. We must note, however, that the home country authorities are responsible for supervising the worldwide exposure and asset risk profile of their home chartered banks no matter the ownership structure abroad.

The complete outsourcing of banking supervision requires that host countries allow foreign banks to choose the branch organization even in cases when the foreign banks have large market shares. Furthermore, the foreign branches must have a dominant market share for the outsourcing to refer to the banking system rather than an individual bank. As long as foreign banks have subsidiaries, the outsourcing of supervision is bound to be incomplete since a subsidiary is a legal entity in the host country with its own capital base.

Deposit insurance schemes play an important role in banking, but outsourcing of supervision of foreign banks raises questions about the responsibility of the home country for deposit insurance. The European Union's deposit insurance regulation seems to be based on this assumption, since it places the responsibility for deposit insurance on the home country of banks in the EU. In the US, on the other hand, foreign banks serving American customers must join the American deposit insurance system (the FDIC).

In our view the complete outsourcing of supervision requires that the insurance of host country depositors be the responsibility of the home country, as the EU deposit insurance directive stipulates. To the extent the host country runs the deposit insurance system, it has a financial stake in the safety and soundness of the bank. The financial stake implies that there is a strong incentive to supervise either the bank or the home country supervisor. Having faith in the ability of the home country supervisor may not be sufficient when the government has a direct financial stake in the soundness of the banks.

In the next section we discuss why outsourcing of supervision may not always be politically feasible, but it can be noted here that allowing the banking system to be supervised by foreign supervisors, and the deposit insurance system to be a foreign responsibility requires a great deal of trust in the ability and honesty of the foreign supervisors, including trust in crisis management capabilities, as well as trust in the sufficiency of their deposit insurance system.

The issue of trust in the capabilities and honesty of foreign policy authorities is relevant for the CB arrangement as well. The CB implies that monetary conditions, and hence inflation, are under the control of a foreign central bank. Furthermore, under a CB arrangement, the Lender of Last Resort (LOLR) role of the central bank is relinquished. Thus, foreign banks' subsidiaries in the CB country do not have a LOLR, while foreign banks' branches have one in the central bank of the home country. In this sense there is consistency between a CB arrangement and foreign banks operating through branches.

3. ECONOMICS AND POLITICS OF CENTRAL BANK OUTSOURCING

The main economic benefits and costs of a CB system are well-known from the Optimum Currency Area (OCA) literature⁴. There are potential costs for relinquishing mechanisms for macroeconomic adjustment. Exchange rate and monetary policies are given up as policy instruments. The benefits follow if a country faces substantial costs of gaining credibility for policies aimed at a stable price level. Possible benefits and costs in terms of national pride will be neglected here, albeit they can be powerful bases for economic decision making.

Bad politics, and the economics of convenience and expediency have caused many a CB structure to fray or to wither. Hanke (2002) reviewed the necessary conditions for determining the orthodoxy of a CB (six in total), and the ways they were circumvented, to one degree or another, in six countries that operated CB's. His findings are summarized in Table 1. He concluded that "with the exception of Bosnia, all employ active monetary policies and engage in sterilization" (:203).

Table 1 here: Departure from the Orthodoxy of CB's

Hanke commented on Table 1:

"A review of Table 1 indicates that the laws governing the new monetary arrangements deviate in many important respects from currency board orthodoxy. Indeed they all have the capacity to alter the net domestic assets on their balance sheets to achieve neutralization. Accordingly, they can negate the automaticity associated with currency boards. For example, all the new laws require a floor, but, with the partial exception of Bosnia and Herzegovina, have no ceiling on the foreign reserve cover for monetary liabilities. When reserves exceed the minimum requirement, the monetary authorities can freely engage in neutralization via open market operations. Neutralization can also be accomplished via changes in commercial banks' reserve requirements or impositions on the fiscal authorities and state owned enterprises which require them to switch their deposits from (to) commercial banks to (from) the monetary authority. With the exception of Hong Kong, the new currency board laws fail to prohibit such operations."

Hanke used an innovative yardstick for measuring the extent of the circumvention: the sterilization coefficient: the ratio of the year-over-year change in net domestic assets to the year-over-year change in net foreign assets. He argued that: "if a monetary authority is operating as an orthodox currency board, changes in the monetary base only contain a foreign component and the sterilization coefficient is zero". The coefficients for Argentina and for Estonia were significantly different from zero. Argentina never really employed a CB and "used discounts and repos aggressively-they fueled speculation against the peso".

The benefits and costs of outsourcing banking supervision, even with complete CB orthodoxy, are perhaps more complex and controversial. The main benefits of foreign direct investments in banking in emerging market economies is that expertise in information systems, risk-evaluation systems, and bank management can be made available to the domestic banking system very rapidly. In subsidiaries or in branches, this expertise can be combined with local market knowledge to transform a banking structure⁵.

Outsourcing of the supervisory function similarly implies that expertise, credibility and impartiality of high quality supervision can be obtained quickly. It can possibly be argued that the foreign supervisor is insufficiently informed about local market conditions but one expects that such expertise will be hired, if the supervisor's incentives to understand host country conditions are present.

There are a number of factors that could make the host country worried about relying on a foreign banking supervisor for important parts of the banking system. First, in the case of a subsidiary organization, the foreign bank could simply abandon the host country if credit losses mount.⁶ This was clearly the case in Argentina as subsidiaries do

not enjoy prudential regulation from their home country nor access to parent capital. Even worse, the bank foreseeing the abandonment of a country could shift bad loans from other countries to the bank, leaving host country depositors or tax payers even worse off. Making matters even worse, the home country supervisor of the foreign bank has the incentive to collude with the bank in the shifting of risky and bad loans to the host country subsidiary in order to reduce the risk of home country depositors and tax payers⁷. For these reasons, it can be risky for a country to outsource banking supervision completely as long as foreign banks are established as subsidiaries.

Turning to the situation when the foreign bank has established branches in the host country, it would seem that the above risk-shifting argument is weaker or non-existent, because all branches are buffered by the same capital base⁸. A weak bank would want to keep branches that contribute the most to profitability wherever they are located. This profitability may arise as a result of national subsidization of banks in distress in the host country. In such a case the distressed bank as well as the home country supervisor have an incentive to tap into the subsidy scheme.

One form of subsidization occurs through deposit insurance systems. If the responsibility for deposit insurance belongs to the host country (as in the USA), the home country supervisor bears less responsibility for depositors and the home country tax payers than is the case when the home country is responsible for the deposit insurance system for all depositors in the bank. The home country supervisor may be more risk tolerant when deposit insurance is the responsibility of each host country. Whether these considerations need to be of concern for host countries would depend on the size of banking operations in

different countries. The bank may be of systemic importance in the host country, but not in the home country, or vice versa. Clearly, it is the former case that should be of concern for the host country. The home country risk tolerance problem would not be present if the home country bears the total deposit insurance responsibility.

So far it would seem that branch banking in host countries with deposit insurance responsibility assigned to the home country provides the appropriate incentives for outsourcing of banking supervision. The appropriate incentives of the home country supervisor comprise only one aspect of the outsourcing, however.

Another aspect is crisis management. There may be risk that the home country supervisor resolves a banking crisis without proper concern for the interests of host countries with branches. We argued above that the home country supervisor may collude with the bank in shifting bad loans to the subsidiary facing distress. In the case of branch banking, this problem does not arise since all bad loans must be buffered by the same capital base and deposit insurance systems. Nonetheless, in the process of resolving the banking crisis the supervisor in the home country may try to salvage as much as possible of home country operations at the expense of operations in foreign branches. For example, assets in the foreign branches may be transferred to the home country before closing down host country operations. The foreign depositors still have their claims on the bank but these claims may be harder to enforce if the host country branch has been closed down. Thus, the host country must be careful with its choice of outsourcing partner and make sure that its depositors have the same legal standing as the home country depositors in a banking crisis.

A second problem that may arise for the host country occurs if the branches constitute a large share of the banking system. The distress of the foreign-controlled bank could cause a systemic problem in the host country. Thus, the host country needs to be convinced that the home country has a non-discriminatory and effective resolution mechanism in place.

These considerations imply that trust in the ability of a foreign country's supervisor and legal system to resolve a banking crisis in a host country rapidly and in a non-discriminatory way is a precondition for successful outsourcing of banking supervision. If the host country operations are organized in subsidiaries, outsourcing requires even greater trust because there are, as noted, incentives for the home country bank and its supervisor to shift bad loans to the subsidiaries when the subsidiary is near or in distress. In the following sections we will see how two countries retained supervisory capability for subsidiaries of foreign banks along with domestically controlled banks.

4. CENTRAL BANKING REFORMS IN ESTONIA: ESTABLISHING CREDIBILITY IN A TRANSITION ECONOMY⁹

In this section we review the monetary and banking system experiences of Estonia during a CB period from the early 90s. We begin by reviewing the historical developments in Estonia during the transition before turning to an evaluation of policies in light of our discussion of costs and benefits of outsourcing of central bank functions. Estonia is generally considered a highly successful transition country. For comparison, we turn to Argentina in the next section. Both countries have had a substantial or growing presence of foreign banks during the period.

Currency board and banking reforms in Estonia during the 1990s

In August 1991 the three Baltic States regained their independence from the USSR, and Estonia was the first to introduce its own currency - the Estonian kroon (EEK) - in June 1992. The idea that Estonia should have its own currency dates from September 1987, when four Estonian social scientists put forward a proposal for Estonian economic autonomy. The supporters of the idea of a national monetary system hoped to achieve three main objectives: (1) eliminate inflationary influences from the East, (2) establish approximate macroeconomic balance of supply and demand, and (3) eliminate persistent cash crises. Underlying all of this was the desire to rid the country of roubles and to cut the economic umbilical cord with Russia.

Hyperinflation had broken out due to the liberalisation of prices and the disruption of Estonia's eastern trade at the beginning of 1992. The consumer price index rose by 87% in January 1992, 74% in February and 30% in March in comparison with the previous month. This caused severe cash crises and threatened to paralyse money circulation completely. The Bank of Estonia (BOE) and the Estonian Savings Bank issued cheque books (a major innovation) to alleviate the shortage of cash but the population used them rather reluctantly. The public sector was instructed to pay wages four times a month, instead of twice as they did previously, and a ceiling on cash payments was fixed at 1000 roubles. Permission was given to use foreign currency alongside the rouble in buying and selling goods and services. Confidence in the inflationary rouble, also called the "occupation rouble", was lost completely. Various means of payment started to emerge spontaneously in enterprises, which were used for shopping. One manifestation was a

higher dollarization ratio than elsewhere in the Baltic States. Before Estonia's currency reform in the second quarter 1992 the dollarization ratio peaked around 60 percent in Estonia, 50 percent in Lithuania (first quarter 1993), and 35 percent in Latvia (first quarter 1993) (see Sahay and Végh, 1995, p. 37).

The Estonian authorities considered two conditions for a successful currency reform: (1) The currency reform must be carried out as quickly as possible before multiple wage and inflation shocks could cause a social explosion and economic collapse, and (2) the new currency had to inspire confidence large enough to dislodge the dollar. This had to be done under circumstances of deep economic crisis and lack of experience by the central bank in carrying out monetary policy. As a first step, inflation had to be controlled. Exchange rate stability was to be used as a conduit for price stability. The exchange rate between the kroon and DEM was set at 8 EEK = 1 DEM. The kroon was initially undervalued 75-80 percent relative to a purchasing power parity ratio. The undervaluation caused some inflationary pressure on consumer prices. However, the inflation rate in Estonia declined continuously (Table 2) and in 1998 the CPI increase had reached a level lower than 10%. It was below 5% in 1999¹⁰. Thereafter, inflation has remained low and on level with the EMU.

Table 2 here. Inflation against the Previous Year (%)

The Estonian CB was clearly not orthodox, although it was managed to perform like one. The Bank of Estonia (BOE) relied on a classical CB model where it is prohibited by law from devaluing the Kroon or financing any government debt. The Kroon was fully secured by gold and DM (now Euro) reserves. The BOE uses reserve requirements,

prudential measures, loans to banks in distress under restricted conditions (without acting as a lender of last resort), and forbearance when banks get into some difficulties to manage the money supply and the banking system. Table 3 shows the developments in reserve requirements. The reserve ratio has been changed only once during the life of the Estonian CB. A 3% additional reserve requirement was added in late 1997 to the existing 10% ratio. The most significant development, however, was the decision to pay interest on reserve requirements in July 1999. This effectively eliminated the need of the BOE to issue interest bearing instruments that can be purchased by the commercial banks and have them count as reserves.

In order to allow the currency board to operate with credibility, it was deemed necessary to safeguard the independence of the BOE, while regulating its detailed functions as a CB. The credibility of the CB operations of the Bank of Estonia was and is guaranteed by the following stipulations: it is not allowed to extend credit to the government, its assets are kept separate from the state budget and its managerial staff is appointed by Estonia's president and parliament. The BOE was instructed that the exchange rate of the kroon could be fixed (or pegged) nominally to the Deutsche mark (1DEM = 8EEK). Only parliament can change this nominal anchor, though the BOE can permit fluctuations of the pegged rate within margins of 3 per cent.

The CB system has potentially important implications for the banking system for several reasons; One, the CB arrangement prevents the monetary authority from acting as a Lender of Last Resort (LOLR). The BOE refused to bail out banks and to pay off depositors in failing institutions. Second, the CB imposes a degree of fiscal discipline

because the government cannot borrow from the central bank. Third, by not being able to support banks in crisis by means of LOLR lending, the fiscal implications of aid to banks become relatively transparent. Fourth, since capital flows are occasionally massive, banks have to become international banks in order to respond to capital flows in the international environment. All these factors seem to have played a role in the development of the Estonian banking system during the transition process.

Table 3 here. Reserve Requirements in Estonia 1995-1999

From the first days of the CB system the Estonian commercial banks had to grow fast, learn even faster, and allow for a high level of flexibility in their operations and in their portfolios. These are not the hallmarks of emerging banking institutions. The overwhelming number of Estonian banks were not in a position to perform, primarily because of lack of experience and expertise. Banks were often misled by their central Bank; it authorized activities that were not traditional banking activities requiring more skills than was available. The result was massive failure of banks in Estonia. This started with the refusal of the BOE to bail out a Russian owned bank. The industry shrank from 42 banks in 1992 to 11 by the end of 1997 and to 6 by the end of 1999. The share of the public sector in the capitalization of the banking sector fell to 4% in 1997 and to almost nothing in 1999.

The BOE as a central bank was re-established in January 1990. It developed its staff and created the normative basis for performance and supervision of banking system during the first years of operation. We must also remember that the CB reform took place in June 1992 and before the reform there was extremely low trust in the inflationary Soviet

rouble. Banks earned profits from currency trading. They dealt with traditional banking business on a limited basis. After the currency reform such opportunities to earn profits were reduced significantly and some of the banks were not able to survive the shock caused by the changes in the earnings' structure.

Hyperinflation had reduced the real value of the required initial equity capital of banks several times. A boom in establishing new private commercial banks then occurred in Estonia in the first half-year of 1992 when 21 new banks were granted a banking license. By the end of 1992 the total number of banks was 42. These banks were relatively small with respect both to assets and number of shareholders. As a result of the Estonian banking crises in 1992-1994 the number of commercial banks was cut by more than one half due to bankruptcies and mergers.

The central bank acted quite quickly and actively to get over the banking crises. The BOE added stronger prudential measures to its operations in reflecting international standards. Beginning on January 1, 1993, these prudential requirements included: minimum equity requirement (5 million kroons), capital adequacy ratio (8%), liquidity ratio (10%), reserve requirements (10% from deposits), etc. These measures were partly inspired by the first Basel agreement. In April 1993, the Bank of Estonia announced a stabilisation period for the banking system. The issuance of new banking licences was frozen. Existing banks had to meet a schedule for a gradual rise in minimum equity capital up to 5 million ECU. After that, the Bank of Estonia did not renew licenses of 8 banks. Ten banks merged into one bigger bank (Union Bank of Estonia), to three banks declared a moratorium. As a result, 21 commercial banks were operating at the end of 1993.

“The characteristic feature of the first banking crises in Estonia was that it was caused by internal reasons and it was overcome with Estonia’s own resources and management skills” (Sorg, 2000, p. 403). The main causes of this banking crises were deep slump of the whole economy, poor bank management and lack of professional skills, as well as weak supervision both from the central bank and from the owners. The depositors’ losses in the banking crises were large, money supply decreased. Many loans had to be written down. As a result, the public trust in the banking system dropped significantly, but the system was cleansing itself.

Confidence in the banking system began to increase when bankers started to pay more attention to the risk management and analysis, and pay more attention to the quality and the profitability of banking services. Foreign banks took great interest in Estonia. Finnish banks opened their representative offices in Estonia. At the same time, problems arose in connection with the operations of the largest commercial bank (Social Bank of Estonia) in 1994. This poorly run bank was liquidated in March, 1995.

By 1995, the Estonian banking sector achieved respectable standards. Competition tightened further in the banking market, banks introduced new banking services and products and they paid more attention to private clients’ needs. Svenska Handelsbanken, Landesbank Schleswig-Holstein, Finnish Yhdyspankki etc, opened their representative offices in Estonia. The liquidation of Estonian Social Bank ended in March 1995. The disappearance of this unprofessionally managed bank from the banking market had a positive influence on the market. Due to rising equity requirements, banks started to look

for strategic investors and the merging process started. As a result, there were 18 commercial banks operating by the end of 1995.

1996 was a year of expansion into new markets and developing more banking services. Estonian banks expanded their activities outside Estonia: some banks opened their representative offices in Russia and Hansabank opened a subsidiary in Latvia. The banking sector started to provide other financial services (leasing, insurance, brokerage services). The opening of the Tallinn Stock Exchange on 1 June 1996 was the most important event for development of the financial sector. The listed stocks consisted mostly of bank shares. These remained the most actively traded securities until the beginning of 1999. Depositors also contributed to the changes in the banking sector. The share of cash transactions diminished and the number of bank cards and ATM transactions grew rapidly. Bigger banks started to provide telebanking and Internet banking services. At the end of 1996 Estonia had 15 commercial banks and two Savings and Loan co-operatives.

During 1997, the Estonian banking sector underwent further consolidation. The rapidly growing economy (growth of GDP 11.8%) boosted credit demand. Banking and non-banking financial intermediation accelerated. Substantial changes took place in the Estonian banking sector in 1998 and 1999 as well. The Estonian government was steadfast in not bailing the banks out and in getting rid of the ruble. The Bank of Estonia adopted several radical measures to prevent possible instability in the Estonian banking sector. Some banks were merged, and some bank bankruptcy procedures were initiated. As a result of the consolidation process, the number of commercial banks in the Estonian banking market fell to six.

The problems in the banking sector these years were first and foremost due to flawed financial and management decisions made in an ever more competitive environment. The changed economic environment had a significant effect on the Estonian banking sector. Add to this, the Russian crisis which had especially significant effects on smaller banks. The largest Estonian banks merged: Estonian Savings Bank (market share 21%) merged with Hansapank (market share 24%), and Bank of Tallinn (market share 7%) merged with the Union Bank of Estonia (market share 26%). As a result, the interest of Scandinavian banks in Estonian banks rose: Swedish *Swedbank* acquired 59% of the Hansapank, and *Skandinaviska Enskilda Banken* acquired 32% of the Union Bank of Estonia.

Since the year 2000 the commercial banks of Estonia are on their own more than ever.. The BOE will no longer, as it may have in the past, act as a lender of last resort regardless of the size of the troubled banking institution. This stance may be irrelevant, however, given the massive foreign ownership of the Estonian banking system. The foreign banks are fully subject to the regulations of the home country and are consequently beneficiaries of whatever the home country central bank allows. The BOE treats foreign banks on a nondiscriminatory basis.

The share of foreign banks in the banking sector has increased dramatically as is shown in Figure 1. Foreign banks invested massively encouraged by a very liberal FDI policy in Estonia, and by extremely advantageous stock prices for target banks especially in the wake of the Russian crisis in 1998. The net result is a banking industry in Estonia that is primarily Estonian in location only. No one in Estonia we discussed this matter with seems to be concerned with the ownership of the banking sector. Foreign ownership was

deemed necessary for a stable and profitable banking sector that enjoys public confidence and support.¹¹

Figure 1. Share of non-resident investors in Estonian banks' equity

Assessing the performance of the BOE and outsourcing in Estonia

To assess the performance of the BOE further we look at assessments by the OECD and the IMF.

A study by the OECD on foreign direct investment in Estonia published in November 1999 concluded that FDI was long term in nature, driven by the stability of the Kroon, the various guarantees offered by the Estonian government, attractive asset prices and the low tax rate (flat 26% personal and corporate income tax rate). FDI had a very strong positive impact on the Estonian economy. Skills increased markedly, production methods were upgraded, R&D expenditures increased, and management attitudes and structures changed considerably. In the banking sector, the changes were dramatic:

‘In general..., foreign entry has been considered positive, as it has raised corporate governance standards and quality control, as foreign banks were controlled by their home country regulations, while local banks typically exhibit more reckless lending practices. Foreign control can lower capital costs, facilitate compliance with capital requirements, and reduce the collusion with local authorities. Furthermore, corporate finance and banking services are now well established for the benefit of especially Nordic foreign investors.’

This conclusion drawn by the OECD researchers that foreign direct investment has had very stabilizing and confidence generating effects on the Estonian banking sector is fully confirmed by an independent case study submitted to the Ministry of Finance and to the Bank of Estonia in December, 1998 on the Eesti Maapank bankruptcy.¹² This bankruptcy when coupled with falling values of bank shares dramatically illustrates why

foreign ownership became inevitable. The dirty linen of Estonia banking could not be washed in private. Once in the open, the Swedes and Finns were watching. The report states the following:

‘The reasons for the failure of Maapank are mainly due to (i) a high proportion of non-performing loans, and (ii) a decline in the value of its securities portfolio in the wake of the stock market decline in late 1997 and early 1998. Furthermore, it appears that the actual size of non-performing loans is far greater than the reported figures, and that, with respect to the securities portfolio, Maapank continued incorrectly to report the higher face value of the securities instead of marking them to market – as required by the BOE – thus inflating both its assets and profits. Although the banking Supervision Department (the BSD) of the BOE noted this in early 1998, no action was taken until June.....We found incompetent management to be the main reason for the bankruptcy.....Activities of some people involved in managing the bank were with criminal intent.....the management board of the bank lacked adequate overview of the activities....the bank abused the possibility given by the Bank of Estonia to enter into sophisticated and dangerous, somehow illegal transactions applying forward contracts, the so-called Hansabank bonds, and let the managers make deals with themselves.’

It is clear that neither internal, nor external supervision of the bank was exercised adequately. The net results were fully predictable. One must point out, however, based on many discussions and interviews at the BOE, that the likelihood of another Maapank has been dramatically reduced and that the current BOE staff has developed a considerable level of sophistication in a rather brief period of time.

The BOE has had a de minimus deposit insurance covering only \$3,000 currently.¹³ It has been rather aggressive in the past in closing unprofitable banks with occasionally substantial losses to depositors, and is preempted by the CB structure from ever acting as lender of last resort, no matter the size of the bank under consideration. The emphasis is, therefore, on prudential measures. The challenge is to be able to meet the core principles of banking supervision as enunciated primarily by the Bank of International Settlement (BIS) covering prudential regulation and requirements, methods of supervision, information

requirements, and formal powers of supervisors. The BIS principles have been accepted by all EU countries and the United States. They constitute the standards that the BOE must aspire to meet as a new member of the EU, as long as supervision is not outsourced completely.

A recent assessment by the IMF of the extent of Estonian compliance with the Basic core principles completed in March 2000 is shown in Table 4. Clearly, non-trivial hurdles remained. The report by the IMF concluded the following:

‘The BOE was found to have a competent, professional, but somewhat inexperienced supervisory staff...Questions have arisen regarding the quality of some audits...Even though the preconditions for effective banking supervision are met, several weaknesses were identified. These include: a lack of adequate training arrangements for supervisory staff for upgrading of skills to meet the demand for emerging products...A greater concern is that the BSD has not issued a decree on minimum rules for loan classification and loan loss provisioning...The BOE has not issued guidance on the management of country and transfer risk.’

The same report found that the BOE was largely compliant with the transparency requirements in monetary and financial policies.

Table 4 here. Estonia: Compliance with the Basel Core Principles (Assessment of February/March 2000)

In all cases the IMF report starts with the assumption that the existence of a domestic Bank Supervision Department (BSD) is required, and that no other alternatives exist. This may be the IMF model or one of the bureaucratic requirements of the EU. However, the EU model states, as noted above, that the home country supervisor takes responsibility for supervision as well as deposit insurance. In the case of branch banking, this principle implies complete outsourcing of supervision. In the case of Estonia, foreign

banks have so far chosen to operate subsidiaries with the consequence that outsourcing has not been complete.

Although the BIS-principles favor consolidated supervision, Estonia, as well as other Eastern European countries, has retained substantial influence in the supervision in cooperation with the home country supervisors. In fact, in Estonia, the local supervisor is perceived by local managers of foreign banks to be more strict than the home country supervisor.

A last observation is due to Kowalski et al. (2004), who present the results of an interview study with local managers of foreign banks in Croatia, Estonia, and Poland, referring to the strictness and quality of supervisors. One striking result is that Estonia scores very high on the supervisor's professionalism and lack of arbitrariness relative to the scores for Croatia and Poland. When the question also refers to how knowledgeable the supervisors are, the scores for all the three countries¹⁴ are less impressive. Most striking is that the Estonian supervisor clearly is perceived as imposing more binding requirements than the home country supervisor. This result may stem from the relatively high capital requirements in Estonia. While most Western European countries impose an 8 percent requirement, Estonia requires banks to hold 10 percent.

Summarizing our study of Estonia it is clear that monetary policy has been almost completely outsourced while banking supervision has only been partially outsourced although the banking system is controlled almost completely by foreign banks. The CB arrangement for monetary policy has been successful and contributed to a relatively rapid quality enhancement of the banking sector. The lack of LOLR activity by the BOE

increased the need for quality in banking and this need could be satisfied most efficiently through FDI in banking.

The BOE has imposed relatively strict capital requirements on the foreign controlled banks and retained substantial supervisory authority in cooperation with home country supervisors. This policy is consistent with the organization of foreign owned banks as subsidiaries as discussed in Section II. The strictness may reflect a rational fear that foreign supervisors may allow a distressed foreign parent bank to shift losses to the Estonian subsidiary. A lack of confidence in its own supervisory capability may contribute to the strictness as well.

Allowing the foreign banks to operate as branches would have enabled Estonia to outsource supervision more completely. The costs of imposing stricter requirements than home country supervisors would then have been unnecessary. On the other hand, the subsidiary organization may have been the banks' choice, since this organization allows the banks to operate as local banks relative to customers. If so, the degree of outsourcing is constrained by the foreign banks strategies. Over time it can be expected that the advantages of subsidiaries over branches decline as the host country operations become increasingly integrated with home country operations. Therefore, the conditions for more complete outsourcing may be strengthening.

5. CURRENCY BOARD AND BANKING SUPERVISION IN ARGENTINA

In this section we review the Argentine experience with a CB since 1991. The review indicates that while Estonia followed the spirit of an orthodox CB, Argentina seems to

have done everything possible to undermine it. Before discussing the factors that can explain the failure of the Argentine experiment with outsourcing of central banking, we briefly review the events leading up to the collapse of the CB and to banking crisis in Argentina.

The Argentinean CB dates back to 1991 when Carlos Menem introduced the convertibility plan after being elected President in 1989. The CB was abandoned officially in January 2002 when the Peso sank rapidly from 1 Peso to 3 pesos per USD. A number of banks were in distress at this time as the economy had gone into a tailspin. Severe restrictions were imposed on foreign exchange transactions.

In 1991 the Peso exchange rate relative to the USD was set at 1=1 under the convertibility plan. The CB was quite successful in terms of inflation control. The inflation rate fell rapidly during the first CB-years and it went below the US rate in 1996 and remained below through the 90s. In 1996 the CB, with some external help, had withstood a speculative attack on the Peso as a consequence of the Tequila crisis in Mexico in 1995. This experience enhanced the credibility of the CB substantially;¹⁵ but the clouds were gathering

Argentina's fiscal management during the CB period was a major cause of the crisis and it contributed to the collapse of the CB.¹⁶ Governments on all levels had borrowed themselves into a fiscal crisis. Some of the borrowing was used for political patronage and appeasement, in some cases simply to increase wages before elections. Aggravating the debt problems were the Tequila effects from Mexico in 1995 (partially mitigated by assistance from the IMF), and the devaluation of the Brazilian Real in 1999.

The Mexican and the Brazilian effects were felt in the bond markets as the risk premium on bonds widened. Thereby, further pressures were put on Argentina's debt service and new debt costs. Adding to the pressures was the decision by the Argentinian government to follow the prescriptions by the IMF to stem the fiscal deficit. Argentina increased taxes three times during 2000.

The fiscal deficits had monetary consequences as well leading to questions about the degree to which monetary policy was truly outsourced under the Argentine CB. Hanke (2002) argues that the Argentine central bank, unlike the Estonian central bank, did not abide by the rules of a CB. The central bank's net domestic assets were not frozen. Thus, sterilization operations were possible. According to Hanke, these powers were used aggressively as early as in 1994. A "super-activist" monetary policy--in Hanke's words--in response to decreasing foreign exchange reserves in particular is contrary to the principles of a CB.

The CB was also corrupted by the central Argentine government. The permission (explicit and implicit) granted state governments to issue IOU's, which looked and felt like money, were significant mechanisms for circumventing the CB's basic requirement. The central government allowed state governments to issue money or monetize debt, thereby destroying the letter and the spirit of the CB, as well as the confidence of international and domestic investors. The net result of the combined monetary and fiscal mismanagement was a run on the banks in 2001, and a huge array of restrictions by the central government to stem the tide.

It has been argued that the dollar was not a natural choice of currency for building the CB framework in Argentina. The United States is not the major trading partner of Argentina. When the dollar appreciated strongly in the late 90s, Argentina's peso was appreciating relative to currencies of major trading partners. The substantial depreciation of the currency of a major trading partner and competitor, Brazil, may be considered an element of bad luck, but it contributed to the Argentine economic calamity. The dollar issue, however, may be exaggerated as the Argentinian economy was largely dollarized (Hanke-2002).

An orthodox CB arrangement requires that mechanisms for the resolution of banking crises are developed to substitute for the central bank acting as a LOLR. Bank failures must to be dealt with swiftly, since resolution cannot be delayed when the central bank does not provide liquidity. The only system in place prior to 1995 was judicial liquidation. Under such resolution procedures deposits become illiquid and their values become impaired. Historically, supervision had been weak and the quality of the credit portfolios of domestic banks had been low. The banking system was foreign controlled through subsidiaries only to a limited extent. As a result supervision was not outsourced to a substantial extent. Foreign banks controlled approximately 20 percent of the banking system in 1995 increasing to 27 percent in 1997, and one third of the system was controlled by the public sector¹⁷. Some privatization was initiated in 1996. At this time foreign banks also opened up competition in important areas such as mortgage lending. The foreign banks were generally different from domestically owned banks in that they

had better quality loan portfolios, higher net worth and higher cost efficiency.¹⁸ They did not serve the market as a whole but focused on certain segments of the market.

Between 1995 and 1998, 18 bank failures were resolved. All the deposits were covered by the guarantee in 16 of the 18 bank failure cases. By enabling banks to fail without causing systemic effects the reforms enhanced the safety and soundness of the banking system and they reduced moral hazard.

If the Argentine reforms of 1995 were partly necessitated by the CB arrangement, the relatively low share (compared with Estonia) of foreign ownership of the banking system and, therefore, a relatively low degree of outsourcing of banking supervision, contributed to the need for reform, as well.

6. LESSONS FOR OUTSOURCING OF CENTRAL BANK FUNCTIONS

Openness and a liberal economic environment are among the factors that generally are regarded as important for the credibility and sustainability of CBs. Some proponents of CBs argue that the rigidity of the exchange rate contributes to liberalization, and increased market flexibility through endogenous political and institutional developments.¹⁹ The experiences of Estonia and Argentina lend some support to both views. The political situation in Estonia is likely to have been more favourable for the required economic reforms that make outsourcing work.

The Estonian experience can be described as strong outsourcing of monetary policy combined with substantial but incomplete outsourcing of bank supervision. The CB has

contributed to the speed of reform of the banking system and supervision. The speed could probably not have been achieved without heavy FDI in banking.

Unlike Estonia, Argentina is not a very open economy. International trade accounts for about 10 percent of GDP—less than in the USA. In spite of liberalization efforts and reforms during the 90s, the labor market and wage adjustments remained sluggish.²⁰ Observers note that liberalization efforts were de facto less impressive than on paper. The failure to rein in public sector spending may have contributed to the lack of liberalization and indirectly to the weakening of the CB.

The banking system was not foreign controlled to the degree it was in Estonia and other Eastern European countries. One reason for the modest foreign presence may have been the less friendly FDI climate as compared to Eastern Europe. The foreign banks also specialized on the corporate sector and mortgages, while consumer banking was left to domestic banks. In Eastern Europe, the subsidiaries of foreign banks were like local banks with foreign ownership. The foreign ownership contributed to the rapid achievement of credibility of the safety and soundness of the banking system in Estonia.

In Argentina, with its more restrictive policy with respect to FDI, the CB arrangement stimulated reform of the domestic supervisory system. In particular, crisis resolution procedures were strengthened. However, the path to greater credibility by only domestic means is likely to be slower than opening up the banking system to foreign banks and increased supervision from abroad.

Substantial supervisory powers over foreign subsidiaries remain in Estonia as well. One reason is that a small country like Estonia is facing the problem that the subsidiaries

could account for a large portion of [if not the entire] the banking system, while constituting a small portion of the home country banking institutions' assets. This asymmetry will insure an equivalent asymmetry in the need to regulate foreign banking institutions operating in smaller countries. The protection of the national interest through the preservation of the bank (financial system) in a country like Estonia will be more compelling than keeping the subsidiary operating either from its owner's perspective or from the home country regulator's perspective. The issue is further compounded by the fact that a foreign bank may experience multiple problems in many of its foreign subsidiaries. Fixing the problems in the Estonian subsidiary may well not be on the top of the agenda for the home bank, but definitely critical to the Estonian banking system.

The outsourcing decisions with respect to monetary policy in a CB, bank supervision, and bank crisis resolution have advantages and disadvantages. Table 5 summarizes arguments made throughout the paper pro and con outsourcing. It is important to note that political processes drive the implementation of all central bank functions. Thus, potential failures of the political process must be considered along with the ability of policy makers and central banks to respond to market failures. The important role of politics also implies that a reduced role of domestic political factors in monetary policy and banking supervision may be seen as both an advantage and a disadvantage depending on economic and political circumstances.

The issue of transaction costs and not least political costs attached to bank failure resolution for subsidiaries are also an important consideration as noted in Table 5. Not having a structure and a well trained staff to deal with domestic banking failures or

problems may well turn a problem into a crisis that invites a systemic failure. Third parties managing the supervisory and rescue functions may well have neither the heart nor the commitment to see that things are done in the long term interest of the country. Thus there are strong arguments for retaining supervisory powers over subsidiaries of foreign banks as Estonia has done. Alternatively, a committee for financial coordination and enforcement could be set up to protect the interest of the host country. The costs associated with such a solution could be that political concerns about burden sharing and burden shifting will come to dominate negotiations if a crisis must be resolved.

Another approach is to increase outsourcing further and allow or even require foreign banks to set up branches instead of subsidiaries. In this case the home country supervises branches and deposits are guaranteed by the home country's central bank or insurance program. We have emphasized that this more complete outsourcing alternative requires strong and transparent guarantees by the home country with respect to the protection of the host country's interests. In the Estonian case, the advantage of this approach would be that the burden of strict supervision and added capital requirements on subsidiaries could be unnecessary.

Table 5 here. Advantages and disadvantages of outsourcing

7. CONCLUSIONS AND LESSONS FOR REGIONAL INTEGRATION

The outsourcing of important policy functions by any government requires a degree of convergence of policy objectives and values. It also requires that the incentives of policy

makers in the country with policy responsibility are consistent with the interests of the outsourcing country.

The necessary conditions for the success of an outsourcing strategy for central banking are:

- 1- Trust in the capability and honesty of foreign supervisors and policy makers to follow predetermined rules that incorporate the interests of both countries.
- 2- Firmness of policies and plans of the host country in the sense that the rules of the policy regime are followed. This requires stability and focus of the political process in host country.
- 3- A high degree of openness of the economy and foreign ownership of banks.
- 4- A high degree of flexibility in labor and goods markets in the country outsourcing monetary policy.
- 5- Established and non-discriminatory procedures for resolution of banking crises in the country with responsibility for supervision and crisis resolution.
- 6- The level of nationalism in policy making in the countries involved must be constrained. The extreme version of nationalism may pre-empt any outsourcing regardless of how promising it may be, since national interest becomes skewed in directions that are not determined by economic rationality.
- 7- The degree of transparency in public policy and the credibility of the political leadership must be high.

The discussion of Estonia indicates that conditions 2, 3, 4, and 6 were satisfied. Lack of faith in conditions 1, 5, and 7 may have prevented more complete outsourcing in the area

of banking supervision. In Argentina hardly any of these conditions were satisfied during the 1990s.

One form of outsourcing is to participate in integrated regions wherein authority is given to a super-national authority rather than to a specific foreign authority. The EU is obviously the primary example of regional policy integration, and the EMU implies outsourcing of monetary policy to a super national Central Bank. Banking supervision remains the responsibility of national authorities in the EU, however. This limited degree of outsourcing can be explained with reference to the above conditions. The common influence on the European Central Bank allows the individual countries to obtain sufficient trust in it. In the area of banking supervision there is greater scope for conflicts of interest and nationalism. Thus, in this area the EU is far from satisfying conditions 1, 5 and 6.

The EU has inspired debates about regional integration in other areas of the world as well. Before moves to integrate policies the above conditions should be considered. It would seem that the primary focus initially must lie on openness and flexibility rather than policy-making. Individual countries can outsource monetary policy or banking supervision on a bilateral basis as an initial step. Trust and compatibility of incentives in policy making develop only slowly. Once conditions are satisfied in these areas, outsourcing to a regional supervisory authority may be politically more acceptable than outsourcing to another country, however.

Endnotes

¹ Argentina, Bulgaria, Bosnia-Herzegovina, Djibouti, Estonia and Lithuania maintained such a monetary system.

² See Kwan and Lui, 1996; Camard, 1996; Balino and Enoch, 1997; Perry, 1997; Enoch and Gulde, 1997; Eichengreen et al., 1998; Ghosh et al, 1998; Schuler, 1998; Dobrev, 1999; Avramov, 1999; Korhonen, 1996 and 1999; Gulde, 1999; Backe, 1999; Dubauskas et al 1999, Gulde, Kähkönen and Keller, 2000 among others.

³ Sweeney (1999) discusses factors that influence the credibility of a CB arrangement.

⁴ See, for example, Wihlborg and Willett (1992) for a review.

⁵ See Lensink (2004) for a discussion of benefits. The subsidiary organization may have one initial advantage in that the host country subsidiary more easily can be identified as a local bank under local management (Kowalski et al., 2004).

⁶ Westdeutsche Landesbank abandoned Croatia quite suddenly in 2002.

⁷ See European Shadow Financial Regulatory Committee Statement No. 18, 2004.

⁸ The discussion here is based on Goldberg, Sweeney and Wihlborg (2005).

⁹ This section is based on Sorg and Vensel (1999) and Sorg (2000)

¹⁰ Dubauskas, Wihlborg and Willett (1999) review the path to credibility of the Estonian CB and the central banks of Latvia and Lithuania.

¹¹ There was unhappiness expressed in the public debate after Swedbank's announcement in 2005 that it intended to expand its ownership share to 100 percent.

¹² The BOE declared the Eesti Maapank bankrupt on June 28, 1998

¹³ With membership in the EU the coverage must be increased to a minimum of 20000 Euros.

¹⁴ On a scale of 1-5 where 5 represents lack of knowledge and professionalism. Estonia scores 2.3, while Poland and Croatia score 2.5.

¹⁵ See for example, Fanelli and Heymann, 2003.

¹⁶ See, for example, Fanelli and Heymann, 2003.

¹⁷ These figures represent shares of total deposits.

¹⁸ See Clarke et al, 1999

¹⁹ See Hanke, Jonung and Schuler (1993 a and b)

²⁰ See Willett, 2003

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Table 1: Deprature from the Orthodoxy of CB's

Features of Orthodox CB's	ARG	BOS	BUL	EST	HK	LIT
Supplies coins and notes only	No	No	No	No	No	No
Full convertibility	Yes	Yes	Yes	Yes	Yes	Yes
Not a lender of last resort	No	Yes	Yes	No	Yes	No
Does not regulate commercial banks	No	No	Yes	No	No	No
Cannot finance spending by local government	No	Yes	Yes	Yes	Yes	No
Foreign Reserves of 100-115%	No	Yes	No	No	No	No

Table 2. Inflation against the Previous Year (%)

	1992	1993	1994	1995	1996	1997	1998	1999
Increase in consumer prices (CPI)	1076.5	89.8	47.7	29.0	23.1	11.2	8.2	3.3
open sector	991.6	84.9	33.8	17.4	18.6	7.8	6.0	0.3
Sheltered sector	1702.7	149.3	89.1	47.9	28.6	15.8	13.6	10.1
Increase in producer prices (PPI)	...	99.9	36.3	25.6	14.8	8.8	4.2	-1.2
Increase in export prices	...	...	...	15.2	11.4	7.5	2.1	-0.4
Increase in import prices	...	...	...	...	...	...	...	0.4
Increase in construction prices			...	36.0	18.7	10.1	7.7	2.0
Increase in real effective exchange rate (REER) index	...	...	10.9	18.0	9.7	3.3	10.4	7.3

Source: Sorg and Vensel (1999)

Table 3. Reserve Requirements in Estonia 1995-1999

	1995	1996	1997	1998	1999
Reserve requirement base	Liabilities to customers	a) Liabilities to customers;	a) Liabilities to customers;	a) Liabilities to customers;	a) Liabilities to customers;
Time period	Since monetary reform	b) debt securities issued by banks Since 1 July 1996	b) debt securities issued by banks; c) net liabilities to foreign credit institutions Since 1 July 1997	b) debt securities issued by banks; c) net liabilities to foreign credit institutions d) financial quarantees to institutions and non-resident credit institutions. Since 1 September 1998 ³	b) debt securities issued by banks; c) net liabilities to foreign credit institutions d) financial quarantees to institutions and non-resident credit institutions. Since 1 September 1998 ³
2) monthly minimum reserve requirement	10% of the reserve requirement base. Since 1 January, 1993	10% of the reserve requirement base.	10% of the reserve requirement base.	10% of the reserve requirement base.	10% of the reserve requirement base.
3) cash component in monthly minimum reserve requirement	50% Since 7 July, 1994	40% Since 1 July 1996	30% Since 1 July 1997	20% Since 19 June, 1998	10% of the reserve requirement base
4) averaging	Non-averaged Since monetary reform	Averaged on monthly basis Since 1 July 1996	Averaged on monthly basis	Averaged on monthly basis	Averaged on monthly basis
5) daily minimum reserve requirement	Same as monthly minimum reserve requirement (see 2.2) Since 1 January, 1993	2% of the reserve requirement base Since 1 July 1996	4% of the reserve requirement base Since 1 November 1997	4% of the reserve requirement base	4% of the reserve requirement base
6) penalty interest rate for non-compliance with the reserve requirement (annual interest rate)	15%/25% ¹ Since 30 December, 1993	15% Since 1 July 1996	20% Since 1 November 1997	20%	20%

7)remuneration of reserve requirement Since 1 July 1999	-	-	-	-	European Central Bank's deposit interest rate Since 1 July 1999
3.- Additional liquidity requirement					
Since 1 November 1997					
1) additional liquidity requirement	-	-	3% of the reserve requirement base ²	3% of the reserve requirement base	3% of the reserve requirement base
2) penalty for non-compliance with additional liquidity requirement	-	-	Higher reserve requirement or other sanctions	Higher reserve requirement or other sanctions	Higher reserve requirement or other sanctions

3) remuneration for compliance with liquidity requirement	-	-	Deutsche Bundesbank's discount rate Since 1 November 1997	Deutsche Bundesbank's discount rate Since 1 November 1997 European Central Bank's deposit interest rate Since 1 January 1999	Deutsche Bundesbank's discount rate Since 1 November 1997 European Central Bank's deposit interest rate Since 1 January 1999
4.- Interest paid on excess reserves Since 1 July 1996	0% Since monetary reform	Deutsche Bundesbank's discount rate minus 1% Since 1 July 1996	Deutsche Bundesbank's discount rate Since 1 November 1997	Deutsche Bundesbank's discount rate Since 1 November 1997 European Central Bank's deposit interest rate Since 1 January 1999	Deutsche Bundesbank's discount rate Since 1 November 1997 European Central Bank's deposit interest rate Since 1 January 1999

Source: Sorg and Vensel (1999)

Table 4. Estonia: Compliance with the Basel Core Principles

(Assessment of February/March 2000)

Core principle	C ¹	LC ²	MNC ³	NC ⁴	Corrective Actions
1(1) Objectives	X				
1(2) Independence		X			Supervisors need training.
1(3) Legal framework	X				
1(4) Enforcement powers	X				
1(5) Legal protection				X	Legal protection is lacking.
1(6) Information sharing		X			No Memorandum of Understanding with Securities Inspectorate.
2. Permissible activities	X				
3. Scope of licensing	X				
4. Ownership	X				
5. Investment criteria	X				
6. Capital adequacy	X				
7. Loan & Investment policy	X				
8. Asset quality	X		X		Decree on loan classification and loan loss provisioning to be issued by end of March 2000.
9. Large exposures	X				
10. Connected lending	X				Definition of connected parties should be extended to managers of shareholds and to companies in which managers hold a qualifying interest.

11. Country risk			X		Capital adequacy regulations to cover these risks to be issued by end of 2000.
12. Market risk	X				BOE should seek external support when assessing risk models.
13. Other risks		X			Need explanations on operational risk. Banks should establish information-sharing system on fraud.
14. Internal controls	X				
15. Money laundering		X			No provision for a Money Laundering Prevention Act for information sharing with other agencies.
16. On-site/off-site supervision	X				
17. Bank management	X				Managers of credit institutions should inform BSD of any material changes in their organization.
18. Off-site supervision		X			Reporting rules for loan classification await decree by BOE on the subject.
19. Validation of information	X				On-site supervisors should have unlimited access to the management and staff of the supervised banks.
20. Consolidated supervision		X			BOE should have the authority to review activities of parent companies and their affiliates.
21. Accounting	X				
22. Corrective action	X				

23. Global consolidation		X			BOE should have the power to order closing of the overseas branches of Estonian banks.
24. Host country supervision		X			MOUs with other country regulators are in the final stages of execution.
25. Supervision of foreign establishments	X				

Source: IMF Mission's assessment and Sorg and Vensel (2000)

1/C: Compliant 2/LC: Largely compliant 3/MNC: Materially noncompliant 4/NC:

Noncompliant

Table 5. Advantages and disadvantages of outsourcing

<u>Advantages</u>	<u>Disadvantages</u>
A strong CB enhances credibility of anti-inflation policies and non-support for banks in crisis	A strong CB requires trust in the credibility of monetary policy of reserve currency central bank
A strong CB creates incentives for flexibility-enhancing reforms, and for reform of bank crisis resolution procedures	A strong CB requires that alternative adjustment mechanisms in, for example, labor markets function, and that alternative resolution procedures for banks in liquidity crisis exist (no LOLR)
Foreign ownership of domestic bank subsidiaries enhances credibility of the banking system, if the home country supervision is credible	Foreign banks and home country supervisors may collude to shift losses to host country subsidiaries
Banking through branches of foreign banks leaves formal responsibility for the domestic banking system in the hands of home country supervisors when domestic supervisors lack skills and experience	Banking through branches of foreign banks requires trust in the skills of foreign supervisors, the existence of home country resolution procedures, and these procedures must not be discriminatory with respect to bank customers in different countries
Banking through branches of foreign subsidiaries reduces the banking system's vulnerability to domestic macroeconomic crises. This argument may hold for subsidiaries as well but to a lesser extent.	Banking through branches of foreign subsidiaries increases the vulnerability to banking crises originating broad.
Strong outsourcing removes domestic political considerations from monetary policy, supervision and crisis resolution	Strong outsourcing prevents domestic policy concerns from influencing monetary policy, supervision and crisis resolution

Weak outsourcing allows foreign and domestic policy makers and supervisors to have a say in policy making and distress resolution	Weak outsourcing of banking supervision and crisis resolution risks making distress resolution a politically motivated negotiation about burden-sharing (shifting)
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Figure 1. Share of non-resident investors in Estonian banks' equity

