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The Estonian Financial System

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ABBREVIATIONS

ATM – Automated Teller Machine
CBA – Currency Board Arrangement
CEE – Central and Eastern Europe
CPB – Estonian Consumer Protection Board
EBRD – European Bank for Reconstruction and Development
ECB – European Central Bank
ECSD – Estonian Central Securities Depository
ECSR – Estonian Central Securities Register
EstVCA – Estonian Private Equity and Venture Capital Association
EU – European Union
EUR – Euro
FDI – Foreign Direct Investment
FSA – Estonian Financial Supervision Authority
GDP – Gross Domestic Product
IMF – International Monetary Fund
IT – Information Technologies
LOLR – Lender of Last Resort
MOE – Memorandum of Understanding
MLN – Million
MNE – Multinational Enterprises
OECD – Organization for Economic Co-operation and Development
R&D – Research and Development
SEB = Estonian Union Bank = Ühispank
SME – Small and Medium-Sized Enterprises
Swedbank = Hansapank
TSE – Tallinn Stock Exchange
WC – Washington Consensus
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EXECUTIVE SUMMARY

The study on the ‘financialization’ and development in Estonia during the last 20 years has revealed several peculiar features of the Estonian economy that can be addressed from either small states or transition economies perspective. Estonian case is a good example for understanding the implications of transition from socialist socio-economic production system into capitalist mode within a specific political and institutional context. Being one of the more successful transition economies, Estonia’s economic policy framework is perhaps the clearest example of applying neoliberal policy toolbox in transition context and beyond. As the neoliberal toolbox would prescribe, Estonia has not relied on intensive intervention into the economy nor used any foreign investment management policies beyond macro-economic reforms oriented towards price stability, balanced public budgets and low taxes. Consequently, while being a small and extremely open economy, Estonian case offers relatively unique opportunity to understand the consequences and impacts of neoliberal policies, such as unmanaged FDI policy, on both financial and non-financial sectors. On the international comparative basis, the Estonian case provides an opportunity to get a grasp on the challenges and lessons to be learned on the political level that stem from the rapid catching-up process during a relatively short period, compared to the decades-long evolution of financial systems of advanced industrial economies.

The openness of the economy in terms of rapid liberalization of restrictions on prices, trade and capital flows was the reflection of the neo-liberal political stance of the government(s) and its aspiration to adopt what were perceived as the ‘Western standards’, leading to copying of many policies from Washington Consensus toolbox or from EU policies and regulations, in the build-up of the country’s legal and institutional framework. Being coupled by the shock therapy in terms of the liberalization of trade barriers, price controls and non-existent state support, the approach to the restructuring of the economy, including the privatization process,
was based on the models and practices used in developed economies. This emulation process took place without the full consideration of contextual aspects, which reflected ‘one size fits all’ strategy in the introduction of market economy principles. Active promotion of the Estonian economy and business opportunities as well as targeting prospective foreign investors ensued in massive capital inflows to both financial and non-financial sectors in the 1990s. This was paralleled by the similar developments in other CEE countries in the 1990s as well as in Latin America that relied on FDI-led economic growth and industrialization. Seen as a potential satellite hub, Swedish and Finnish investors acquired privatized companies in Estonia but also undertook green-field investments due to relatively skilled and cheap labor force, while the geographical closeness and cultural ties with Estonia created additional incentives to relocate production to Estonia. For international financial institutions, Estonia was seen as a gate to the rest of the CEE region and in 1998 Swedish banks seized the opportunity to acquire two largest local banks in Estonia, which were suffering from illiquidity and financial losses in the aftermath of stock market collapse in 1997 and Russian crisis in 1998.

Although capital flows to Estonia have given the boost to economic growth, several weaknesses in the productive system that undermined the sustainable economic development, were reinforced by the business models of multinational companies in both financial and non-financial sectors. Affected by the increasing re-specialization into services sector, the weakening of the industrial base, which was caused by the inability of manufacturing industry to withstand intensifying foreign competition, was worsened further by the decisions of foreign companies to relocate low value added labor-intensive stages of production to Estonia. Efficiency-seeking motives of foreign investors to yield short-term gains in the manufacturing did not create spillover effects in Estonian industries nor significantly upgrade or diversify the industrial production, which was suffering from the ‘primitivization’ and technological backwardness. In these circumstances, banks that were acquired by foreign
financial institutions gradually shifted the focus in their credit policy to households and real estate companies, unlike in the 1990s, when industries were the main clients of banks. Furthermore, banks expanded their operations into non-bank segments, such as insurance, asset management and leasing, which implied the implementation of universal banking model in Estonia. This increased further the dominance of banks in the financial sector, who were enjoying a better starting position in the 1990s due to the first mover advantage, as Estonia was allowed to experiment with commercial banks already in 1988, while other financial institutions, such stock market, investment and pension funds and venture capital firms, emerged only later in the mid-1990s and early 2000s. As a result of these developments, the financial sector has witnessed a very high level of market concentration in terms of the control of the market share and ownership structure. Essentially, the financial sector in Estonia, which is to a large extent controlled by the foreign wholly owned subsidiaries in the banking segment, is directed by the external forces and decisions made abroad.

The consequence of these developments in the financial and non-financial sectors has been a dualistic structure of the economy. Industries in Estonia have been led by large and medium-sized companies that in majority belong to foreign owners and do not rely on local economic infrastructure in terms of financing and demand conditions due to their focus on export markets. On the other hand, micro and small enterprises, predominantly in the services sector, target local market and are owned by local investors. The patterns of the financing of these companies have been also diverging. While large companies have relied on internal funds as well as intra-group capital transfers and foreign loans, small enterprises have preferred internal equity that has been supplemented by bank loans. The cumulative implications of the financing sources and market targeting strategies of these firms have been increased vulnerabilities for the sustainable development of the economy. By taking advantage of low labor costs and taxes without notable wider positive (spillover)
effects on the whole economy, foreign owned companies have entailed the ‘enclavization’ of the significant part of the industrial sectors by rendering the acquired businesses in Estonia into simple arm extensions of multinational companies. The contribution of the FDI to the sustainable development of Estonian economy would have required the integration of foreign capital into indigenous economy by established supply-demand linkages between domestic and foreign producers. Therefore, due to the meager embeddedness of foreign owned companies in the Estonian production networks, heavy reliance on these companies as a source of income from exports has increased the susceptibility to external imbalances of the economy, should the external markets suffer from declining demand. Thus, the stability of the Estonian economy has to great extent relied on the successful operation of multinational companies in Estonia due to their superior profitability and productivity indicators, compared to local companies. On the other hand, as the inward FDI in Estonia has been concentrated in limited number of economic sectors and tends to finance the production of maturing products that face saturating markets, FDI in Estonia is becoming mature in terms of both shrinking new FDI inflows and increasing FDI related income outflows.

Aside from real economy, vulnerabilities stem from financial sector as well. Foreign capital in the form of loans that has been channeled through foreign owned banks to households, real estate businesses as well as retail and wholesale sector, has increased the financial fragility of the economy from 2003, when the first signs of real estate boom appeared. Due to the propensity to use bank credit for consumption rather than investments, the domestic market orientation of foreign loans has eroded the margins of safety by insufficient generation of foreign currency earnings to meet the external liabilities. Hence, such external financing of the economy, both businesses and households, without sufficient buffers has revealed Ponzi financing position of the Estonian economy before the global crisis of 2008 hit the country. Unrestricted capital inflows have been feeding the monetary expansion,
which led to inflationary trends and deteriorating real exchange rate. These factors contributed to the widening current account deficit and the increasing external debt level of the economy. Thereby, the institutional causes of the increasing financial fragility in Estonia were rooted in both fixed exchange rate system, which against the free movement of capital could not prevent high inflation nor disincentivize the capital flows of speculative nature, and overall liberal economic policies that left policy-makers only with traditional fiscal policies as the main tools to alleviate external imbalances, while the prudential capital-account controls or specific FDI policies have been off the agenda. Nonetheless, the fiscal measures taken by the government have had a pro-cyclical bias, leaving the internal devaluation via wage cuts as the only option to improve external balance and attract new investments, which under the conditions of high indebtedness and reduced government expenditures have had a negative effect on domestic demand, employment, and economic growth.

The conditions of economic Darwinism, i.e. leaving the survival of enterprises to be determined by the market forces alone without any significant assistance from the government, have locked the economy into continuing dependence on foreign capital inflows that would keep the economy afloat and maintain the ability to service the debt. The development path of the Estonian economy, affected by the political decisions made in the 1990s, has exposed the economy to the developments outside Estonia. Aside from local industrial or wider economic policies, the monetary policies of the European Central Bank, the EU fiscal transfers, decisions by the Scandinavian parent banks, and the external demand for leading foreign owned companies in Estonia have had a major impact on the development and growth path of the economy. Nowadays, the challenge is to depart from the path dependency that was set in in the 1990s on the political level as well as in the economic structure whereby the financialization process in Estonia was unveiled in a heavy reliance on
foreign capital of both financial and non-financial sectors that underpinned rapid but unsustainable economic growth, which culminated in financial crisis in 2008.
I HISTORICAL AND POLITICAL ECONOMIC BACKGROUND: INDEPENDENCE PERIOD 1991-2010

After regaining independence in 1991, Estonia undertook major economic and administrative reforms in order to reinstate institutions necessary for functioning market economy. Given the land area of 45,227 km² and the population of 1.29 million, all reforms should be seen in the context of a very small sized country, and these reforms have impacted on the development path of the economy and the state structures. Furthermore, Estonia’s geographical position between the Scandinavian countries and Russia as well as historical ties with neighboring countries have been important determinants of economic, political, social and cultural developments. In good times, this closeness has led to large trade flows and the accumulation of wealth, while in bad times it has led to political dependence (see Purju 2000).

Since 1992 Estonia has tried to emulate the success of small South-East Asian states as well as taking Scandinavian countries as a role model in economic development, although the social aspects of the market economy, wealth redistribution and the idea of a Nordic welfare state were neglected (see Lumiste et al. 2008, 21). Estonia has been seen as one of the most successful transition economies with an annual real growth rate of 8.7% between 2000-2007 and almost ten-fold increase of GDP at nominal prices from 1994 to 2007 (Estonian Institute... 2010, 48). This section considers the key features of Estonian political economy. It addresses the most crucial milestones and events in the trajectory of Estonian development in both financial and non-financial spheres.

1.1 Political Stance and the Structure of Economy
Since 1991, the political landscape in Estonia has been dominated by a neo-liberal ideology with little recognition of alternative ideas. After regaining independence, radical pro-market reforms were implemented, endorsed by the so-called Washington Consensus (WC) policies. The role of the IMF in supporting Estonian economic development during the first decade of independence was remarkable, as
six economic policy Stand-by Agreements were signed between Estonia and the IMF in 10 year period from 1992 to 2001 (Bank of Estonia 2003a). Besides WC policies, the transition to a market economy has been also enhanced by the early integration with the European Union, which has had a significant impact on the evolution of institutions. Instead of a step-by-step approach to market reforms, Estonia relied upon `shock therapy’, i.e. radical macroeconomic reforms in terms of the abolishment of trade, capital and price controls, coupled with mass privatization and non-existent industrial policies. Currency reform in 1992 led to the full convertibility of the national currency and the liberalization of transactions on the current and capital accounts. Such extreme liberalism in economic and foreign trade regimes rendered Estonia one of the most open economies in Europe, measured by the trade-to-GDP ratio that was 170% in 1994 and reached almost 200% by 2001 (see Tiits et al. 2008; Hagelberg 1998; OECD 2000). Economic policy management has proceeded from the need to carry out reforms that would lead to a market economy, to the setting out of policies aimed at creating a liberal and competitive business environment, coupled with the emphasis on a low cost base and an attractive tax system. Consequently, since 1992, the market economy in Estonia has been endorsed by a fixed exchange regime, flat tax system, and conservative public finance (see Thorhallsson, Kattel 2012; Norkus 2011; Lumiste et al. 2008, v, 4; Olenko 2006, 49; Kattel, Raudla 2012, 2; Raudla, Kattel 2011 on Estonian political economy). In this way, Estonia built an image of being a front runner in following neo-liberal ideas with a thin government and a very open economy. Given the low social expenditures, high income inequality, low minimum wage, and low decommodification level, Estonia has been categorized as a neo-liberal welfare state (see Aidukaite 2011).

The prevailing neo-liberal model, coupled with non-corporatist and national-conservative attitudes in Estonian political economy, has been manifest in the government’s limited consultation and consensus decision-making with domestic
actors in the formation of economic policies. This has allowed governments to push through considerable changes quickly. The position of labor unions in the private sector has been weak for the whole independence period, as only around 10% of employees in the private sector have been unionized. Terk and Reid (2011) have also claimed that even protectionist lobbying and the intertwining of politics and business were relatively weak in the 1990s. Thus, social partners, primarily labor unions and industrial associations, have played a trivial role in political processes. In these circumstances, where the so-called Washington Consensus ideas about economic policies have prevailed, policy-making processes relied upon coalition agreements, while the role of the Parliament was gradually marginalized. The immaturity of political culture in the 1990s was also revealed in public disputes between governmental institutions, and even court cases¹ (see Thorhallsson, Kattel 2012; OECD 2000b).

¹ In mid-1990s, the government of Estonia accused the central bank of infringing the Law on Privatizing Big Companies by not adhering to open and public tender in selling the shares of Estonian Savings Bank to Hansapank (see Zirnask 2002, 106-107).
Hence, from the political economy perspective, one could argue that the public policy followed the principles of economic Darwinism by leaving the survival of enterprises to be determined only by their own business activity with no state support whatsoever. Such an attitude has been reflected in the formation of economic/industrial policies or lack thereof during the pre-2004\(^2\) period, with dire consequences for the sustainability of Estonian economy.

Not surprisingly, the liberalization of prices in terms of the removal of ceilings on prices imposed by the state, that coincided with the dismantling of trade barriers and passiveness of the state, did not bring along expected large efficiency gains but instead the collapse of output. The drop in GDP recovered to its 1989 level only by 2004 (see Figure 2), whereas the share of industrial output in GDP fell in the process of economic restructuring from 35.9\% in 1992 to 21.5\% in 2010, although up until 1990, Estonia saw a steady growth in industrial value added (Radošević, von Tunzelmann 2006, 320-321).

While the old systems in terms of political, economic and social structures of Soviet heritage were destroyed under the liberalization processes, the hastiness in the establishment of new production and credit allocation systems set in train the forces

\(^2\) Only with the EU accession, innovation policy was brought strongly onto the agenda. Nevertheless, innovation policies have tended to focus on R&D activities with developing technology parks, commercializing public research etc., while traditional local industry has left out of consideration (Tiits et al. 2008).
that led to the breakdown of the economy. Opening up the local market to foreign competition unveiled the structural problems on the supply side, as in the environment of open trade and the overflow of cheaper as well as higher quality imported goods, local producers were not able to compete with foreign imports and thus meet the changing local demand (see OECD 2000b). Consequently, during the transformation period, market forces tilted the economy toward the expansion of the services sector, in particular in the segments of financial intermediation, real estate, commerce etc., while the share of agriculture and manufacturing industry decreased.

Further structural problems were created in the manufacturing industry in the 1990s with the shift to low-technology and resource-intensive low value-added activities, the so-called cash cows with high market share but low growth rates that did allow for further income growth. In essence, Estonia chose a development path that enabled quick industrial restructuring by accounting on automatic adjustment mechanisms provided by free market system, but with resultant loss of skills and complexity that were created and embedded in the Soviet cross-border production networks. In a way, the Estonian economy was more competitive in 1980s than in
2000, when measured by the share of medium- and high-technology exports and industrial value added (see Tiits et al. 2008). The above-mentioned developments can be reflected in employment dynamics as well. While total employment decreased in Estonia by 16% over the period of 1989-2003, employment in manufacturing dropped as much as 60%, whereas the share of employment in the medium- and high-technology branches of Estonian manufacturing industry stood at a mere 3.4% in 2003. Comparatively the highest increase in employment occurred in wholesale and retail trade from 7% to 14% in total employment, while in financial intermediation employment doubled during 1989-2003 period (see Tiits et al. 2006; Kattel 2010).

The restructuring of the economy incurred weak domestic linkages and diseconomies of scale, i.e. decrease in the amount of added value per unit due to increased production volume, in the prevailing local medium- and low-technology enterprises. These tendencies reflect path-dependencies in the innovative behavior of Estonia firms in different industries, as in general, in-house or bought in R&D activities of companies have been weak, with the focus mostly on process innovations by investing in the acquisition of machinery and equipment. In 2008, the main innovative activity consisted of machinery and equipment acquisitions, used by almost 90% of innovative enterprises, whereas only 40% were relying on in-house R&D initiatives. At the same time, universities and other research institutions were the least used knowledge sources for innovation (see e.g. Carayannis et al. 2012; Masso et al. 2011a). On top of these dynamics, the economy has witnessed intensive concentration in most of the economic sectors in terms of exports and sales. While about 10-20 companies have controlled 60-70% of the market in terms of the output in their designated industry in food manufacturing industry, metal processing industry, chemical industry etc., 80 of the largest exporters producing machinery and mechanical appliances, electrical equipment, wood articles, and articles of base

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3 This was only about half of the EU15 and EU25 average indicator (Tiits et al. 2006, 61).
metal, accounted for more than 50%\(^4\) of Estonian exports in 2004 (Tiits 2007, 22, 60; Ehrlich et al. 2001, 16).

One could argue that in the context of open foreign trade and capital movement, these developments were a reflection of the alignment of the economic structure according to the comparative advantage, where Scandinavian companies had a significant role to play. Companies from Nordic countries have been primarily interested in Estonia as a supplier of raw materials and also as a suitable location for labor-intensive production with the advantages of relatively low costs and closeness to Nordic as well as other markets in Europe. Due to extensive intra-industry trade between Estonia and its Western trading partner countries, Estonian industrial production has been significantly influenced by external demand, which is reflected in it selling more than half of industrial output on foreign markets (Estonian Institute... 2010, 49-50; Tiits et al. 2008). In addition to trade relations, international economic integration has been fostered by foreign capital inflows. Institutionally, the strategy of foreign savings led economic growth and development was built upon the currency board arrangement, which was supposed to attract foreign investors by providing a guarantee for currency and macroeconomic stability (OECD 2000b; Bernhardtson, Billborn 2010, 6-9). The large inflow of FDI placed Estonia among the top three Central and Eastern European countries in terms of per capita direct investments by the end of 1997, which was achieved by the deliberate economic policies of public authorities. FDI was seen as a supplement to internal resources for financing the growth and restructuring of the economy (Bank of Estonia 1995a; Bank of Estonia 1998a).

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\(^4\) The producer of electronic components Elcoteq gave alone almost 20% of Estonian exports in 2004.
During the period of 1993 - 2000, the inward FDI flows, which annually averaged 7.8% of GDP, were not only attributed to privatization proceeds but also to investments into new and already existing private companies. While after the monetary reform foreign capital flew into Estonia through FDI and long-term government loans, since 1995-1996 the share of other capital flows started to pick up, involving foreign loan capital and portfolio investments into securities issued by Estonian companies and local governments (see Figure 5; also Bank of Estonia 2000; Bank of Estonia 2001, 14; Bernhardtson, Billborn 2010, 10-11; Lumiste et al. 2008, 12-13). While FDI into financial intermediation came about during the later stages of development, the early years were dominated by FDI into industry, the retail and wholesale trade and communications and transport (Bank of Estonia 1996a). Underpinned by the liberalization of foreign trade, FDI induced an increase in private consumption and the fast growth in import demand for a bulk of components and intermediate products used for subcontracting (see Estonian Institute... 2010, 49). By 2000, inward FDI stock in GDP had reached 46.6%, while by 2010 87.2% (Hunya 2009; Bank of Estonia 2012).
Yet, even though the integration of local industries into international production networks of Nordic multinational companies has increased, the technological structure of these industries has not become more knowledge-intensive or complex, but quite the opposite – division of labor, specialization, and skilled labor force decreased with the decline in the capacity to exploit new technologies. The implications have been asymmetrical with Estonia specializing in resource- and labor-intensive activities for subcontracting exports, while Scandinavian countries keeping knowledge- and technology-intensive areas (Tiits et al. 2008). In the Estonian case, one can clearly see the formation of cross-border economic clusters, which unfortunately have entailed enclavization processes (see Gallagher, Zarsky 2007 on the concept of enclave economy). Essentially, heavy dependence on FDI has rendered Estonian economy into a satellite-platform (see Markusen 1999, 21-41).
that reinforced the reliance on external funding, technical expertise and services, and hazardous lock-in effects. This, in turn, has undermined the economy’s autonomy and economic sustainability. Given the institutional framework and political stance, the majority of companies found it difficult to survive and make significant investments into R&D, technologies, knowledge etc. Tiits et al. (2008) have claimed that conservative macroeconomic policies have reinforced the economic specialization that was established during the 1990s and brought almost no incentives for upgrading educational and R&D systems, which would have allowed for the gradual modernization of the economy. Furthermore, the introduction of Estonia’s corporate tax reform, i.e. retained earnings were exempted from taxation if reinvested, in 2000 aggravated the reallocation of capital from the current areas of activity (OECD 2009 cited in Masso et al. 2011, 17). Consequently, the low level of productivity has widened the economic gap between Estonia and Western trade partners. Radošević and von Tunzelmann (2006) concluded that the foreign-led modernization strategy is deemed insufficient in the catching-up process unless the national system of innovation and sectoral elements are strengthened. Furthermore, disparities in specialization exist even within Estonia in terms of employment and the local economic structure, as Northern parts have specialized in more capital-intensive economic activities, such as production of metal products, machinery and equipment, while other parts of Estonia have focused on agriculture, wood processing, and food production. Almost 60% of capital investments have been made in Harju county (around the capital city Tallinn). Also, financial intermediation and some transport as well as logistics functions have agglomerated in the Tallinn area (see Tiits 2007; Ehrlich et al. 2001, 17-19).

From the perspective of the financial sector, all these inter-related developments have had significant implications for both financial intermediation in the Estonian economy and the internationalization of financial sector. At the beginning of the transition process, Soviet assets were subject to rapid destruction, which created
problems for domestic banks and eventually led to the termination of linkages between domestic productive and financial sectors. In essence, Estonia was faced with the Schumpeterian creative destruction process but without the creative part, which implied a modest demand for banking credit. The same was true in the subsequent transformation of the economy towards labor-intensive economic activities in the lower end of the international value chains with the focus on cutting costs, while flat learning curves did not provide enough possibilities for private investments into R&D. As stated, emerging foreign owned companies opened up the possibilities for intra-company funding and access to foreign credit (see Tiits 2006, 124-125; Kattel 2010, 50-51; Tiits et al. 2008). Against the background of these developments, trends in financing the private sector, i.e. massive lending to households and for real estate development, could be explained (addressed in Housing and Culture parts of the report).

In the dichotomy between liberal and social/coordinated capitalism, the labor market relations as well as training and educational systems have steadily inclined towards liberalist structures, whereas the coordinated market economy approach has been applied in building up the financial sector (see Norkus 2011). The starting point for the evolution of the Estonian financial system can be traced back to pre-independence period, when in 1988 a bill was passed to allow the establishment of cooperative as well as commercial banks. As a result, the first commercial bank in the Soviet Union was set up in Estonia with the state-owned enterprises as the main shareholders (see Berger, 1995; Berglof, Bolton 2002; Khoury, Wihlborg 2006; Sörg 2003; Zirnask 2002 on Estonian banking in early 1990s). After the first waves of restructuring in both the banking and real sector, the Estonian banking sector gradually attracted the interest of foreign investors. In addition to political-institutional and economic factors, the banking crisis in the late 1990s triggered the substantial inward internationalization of the Estonian financial system. In the development of Estonian universal banking system, 1998 was a turning point for two
reasons. First, as a result of mergers, two large banking groups gained control of 85% of the assets in the banking sector, and second, banks re-focused from short-run investments in securities to strengthening conventional commercial banking, which revealed a more cautious approach in the management. Stock market crash in 1997 and the need to protect asset portfolios against the further losses entailed the decline in securities portfolio of credit institutions by 140.7 million Euros, reaching 15.5% of total assets in 1999 from 21% in 1998 (OECD 2000b). Other important milestones for the financial sector included the establishment of the Estonian Financial Supervisory Authority in 1991, which since 2002 has operated as a joint supervisor of banking, insurance and securities markets, and the founding of the Estonian Central Securities Depository in 1994, while the reform of the pension system was accomplished only in 2002. In broad terms, the evolution of Estonian financial sector, based on banking, and also legislation can be divided into 6 periods (see Zirnask 2002; Sõrg, Tuusis 2008, 3-8):

1990-1992 – *wild* banking period with the preparation and implementation of the monetary reform, launching of the activities of the Bank of Estonia, and the first banking crisis due to deep recession of the whole economy, poor risk management, and weak supervision.


1994-1997 – *naïve-optimistic* banking period with qualitative changes in banking and regulatory framework\(^5\), implementation of the Credit Institutions Act, the stock exchange and banking boom.

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\(^5\) It is also important to keep in mind that data from early 1990s on banking and in general financial intermediation is unreliable due to lacking accounting standards, superficial rules for calculating the ratios and manipulated figures. As a result of the resistance and the lobbying by the banks, internal audit units were created and international accounting standards were applied for commercial banks in Estonia only in 1995 (Sõrg 2003; Zirnask 2002).
1997-2004 – modern banking period with the development of operations in compliance with the requirements arising from macroeconomic and international, in particular the EU, developments, first and so far the last stock market crash in 1997, third banking crisis, the big mergers and the advent of the Swedish era with banking groups.

2004-2008 – full take-over of major Estonian banks by non-residents, re-branding, mortgage and consumer credit boom, and eventual credit crunch.

2008-… – post-crisis period, conservatism in credit policy, economic recession and legislative reactions.

Due to bottlenecks in the broader institutional framework with inadequate supportive infrastructure, such as payment and settlement systems, the growth of finance gained momentum only at the beginning of 2000s, when Estonia managed to implement two modern settlement subsystems for retail and large-value payments, which broadened the choice of services to bank clients (see Bank of Estonia 2003a). On the other hand, given the currency board arrangement, which implied the limited possibilities for the central bank and the government to provide liquidity or bail-outs for troubled banks in case of liquidity or solvency problems, moral hazard in the banking sector has to some extent been restrained. Accompanied by rapid capital account liberalization, uncomplicated licensing for establishing new banks and lacking supervision culminated in banking crises, i.e. bankruptcies and liquidations in the early 1990s, with clear messages from public authorities in terms of not rescuing most of the commercial banks, but letting them fail, which for a short period was conducive for discipline on financial markets. In other words, the moral hazard has been contained by strict application of bankruptcy procedures for the banks (see OECD 2000b). Consequently, since the first banking crises, limited measures of the central bank have aimed at curbing rapid lending and increasing the liquidity of banks, which have increased banks’ solvency and capitalization, but did not prevent unsustainable credit growth, as seen in the following chapters.
I. 2 Financial Crises in the 1990s

In the early 1990s, both capital account liberalization and the loosening of the rules on establishing new banks culminated in an explosion in the number of undercapitalized and weakly managed banks that lacked basic credit controls or systems for managing financial risks. Coupled with the absence of adequate banking supervision, financial crises were natural outcomes (see OECD 2000, 4-5).

The 1992 banking crisis was related to both institutional reforms, i.e. introduction of domestic currency Estonian Kroon, and the re-focus in banking operations. Before currency reform, banks were actively speculating with currencies, as income from currency exchange, i.e. from exchange rate margins and fees, accounted for 91% of the total income of banks. After the monetary reform, the inevitable turn from currency speculation to lending activities was too abrupt and risky, which caused illiquidity and insolvency of some banks (Satoshi, 2001 cited in Liuhto et al. 2007, 157; Sõrg 2003, 3-4). Due to inexperience in credit management, non-transparent book-keeping and financial accounting, risky loans and debtors’ defaults, banks in Estonia faced solvency problems. The largest bank was liquidated in 1992 due to inability to measure the scope of overdue loans, while two were rescued by the central bank, as in their case it was possible to evaluate the resources needed to save them; their liquidity problems were affected by the freezing of assets held in Moscow headquarter (see Zirnask 2002; Mullineux 1995 cited in Fink et al. 1998). In general, the bank crises in the 1990s were mostly linked to liquidity problems stemming from the business contacts with Russia. While in 1992 Estonian banks were affected by the freezing of assets, 1998 crisis was impacted by the declining exports, aside from unsuccessful financial investments, which carried losses.

Before 1998, banks had invested 1/3 of the equity into affiliated undertakings, which were not only financial companies, but many belonged to the production sector as well. Acquired financial companies were to a large extent securities and real estate intermediation-oriented. As the securities market went uphill, it allured the banks to
take more risks, as the favorable state of the market increased the price of banks’ own shares in the market. Due to excessive optimism of local investors, the abuse of leverage and changes in the external environment, the stock index increased threefold during a year before the crash in 1997, which affected significantly the revenues of the affiliates by turning the revenues of financial investments negative [Sõrg 2003, 5-6]. During the stock market boom in 1996-1997, several commercial banks had overextended themselves by borrowing in the interbank market to fund new operations. When concerns about the sustainability of stock market index hikes were raised in mid-1997 and the interbank interest rate increased three-fold, banks started to liquidate investment positions in struggle for liquidity, which pushed stock prices down. Moreover, lower stock prices forced many banks to call margin loans, putting further downward pressure on share prices (see Cavalcanti, Oks 1998, 10-11). With regard to 1997 events, the biggest setback hit the securities market, where debt securities took over the lead from shares in terms of the trading volume and a public company voluntarily terminated its listing, which was unprecedented. The stock market capitalization ratio to GDP decreased from 29% to 14% in 1 year. Banks suffered from 2.5 times decrease in the income from financial transactions, mainly from a fall in the income from service fees, and almost 8.5 times decrease in the income from financial investments (Bank of Estonia 1999). Further troubles for local banks emanated from Russian crisis in 1998, which subverted balance sheet totals as well as income of banks due to financial investments and holdings in companies that were operating in Russian market oriented economic fields, such as transport, hotels, and trading (De Souza 2004, 11; Liuhto et al. 2007, 157-158).

The main reasons of the banking crisis in Estonia in 1998-1999 were an excessive financial risks taken by the banks mainly on the stock exchange, irresponsible and the lop-sided expansion of banks into non-banking activities, but also towards East that raised credit risks and produced losses through subsidiaries (see Sõrg 2003, 18; Hagelberg 1998; Männasoo 2003, 33). Due to these internal and external shocks,
banking sector saw a wave of mergers and restructuring, as 4 major banks formed two big banking groups, while 2 bankruptcy proceedings were commenced and one moratorium was declared. As a result, there were five banks and one foreign bank’s branch office operating in Estonia and investment funds were managed only by the subsidiaries of three major banks.

In general, the first banking crises in the 1990s were caused by a deep slump of the whole economy, poor bank management, lack of professional skills as well as weak supervision from the central bank and the owners. Problems in the banking were related to irresponsible credit policy in terms of risky loans, concentration of lending to few clients for speculative transactions and channeling loans to the companies of banks’ shareholders (Zirnask 2002). The main consequences of the banking crises in the 1990s were significant drop in confidence in the banking, large depositors’ losses, decrease in the money supply and write-down of many loans (see Sõrg 2000). Thus, the Estonian experience in the 1990s supports the evidence of the higher probability of banking crisis with liberalization, when domestic capital regulation and supervision are weak (see Angkinand et al. 2010, 263-264).

I. 3 Macroeconomic Situation

The features of Estonian political economy have had significant implications for the overall macroeconomic situation. Developments in the Estonian economy could be portrayed by seemingly conflicting tendencies. First, rapid economic growth has been accompanied by deepening regional and social inequalities. For instance, the gap in the average salary between the remuneration of men and women amounted to 31.4% in 2008, while regional disparities are witnessed in health indicators, access to education, employment opportunities as well as average salaries that differed almost 1.5 times between the capital city region and the periphery (Anspal, Rõõm 2011; Käbin et al. 2012; Statistics Estonia 2012). Furthermore, Estonia has been considered as one of the best performing new EU member states, but the innovation potential of the economy has been severely impeded by the low number of
patents, small number of science and engineering graduates and low business research and development expenditures. To a certain extent, these lock-in effects in the Estonian economy were reinforced with the entry into the EU, as in the conditions of decreasing risk premiums and interest rates, foreign capital has poured into real estate, construction, retail, and business services. Second, foreign capital inflows that have fueled the growth, have increased financial fragility in terms of significant current account deficits and growing private debt. Compared to 2000, when Estonia’s gross external debt reached 60% of GDP, the debt level increased to 84% in 2004 and 117% of GDP by 2008 (Bank of Estonia 2009a). In general, the nature of the Estonian economy could be described as of prevailing negative balance of payments and the growth of consumption, but also investments on credit, compensated by the inflow of foreign savings in the form of FDI and loans (see Grigoriev, Abigalov 2011, 25-35; Lumiste et al. 2008; Olenko 2006, 66-68; Madureira et al. 2007, 39; Hannula, Tamm 2002, 28; Tiits et al. 2008).

Therefore, the miracle of Estonia’s growth has been achieved on the basis of extensive external borrowing, as domestic savings, but also accumulated FDI stock have not been sufficient to cover persistently high investment and consumption demand since late 1990s, but in particular during the boom years in mid-2000s (see OECD 2000b; Bank of Estonia 2006a; Bank of Estonia 2007a). Since 1995, the extensive inflow of foreign funds, accompanied by high domestic demand in the context of a slower-than-expected rise in exports has kept Estonia’s current account deficits high (see Figure 6). These sustained current account deficits have been endorsed by the open economy and the weaknesses in the productive system, as covered above.
Essentially, the GDP growth has been outstripped by the increase in domestic demand for imports that has been financed from external sources. Therefore, the volume of credit provided by the foreign owned banks depends primarily on the decisions of Nordic financial groups. In the formed institutional framework, where Estonia has given up monetary sovereignty, the determination of interest rates and credit volume has been left to the market, but more importantly, to foreign decision-makers.

Therefore, in understanding the trajectory of the development of the financial sector, the openness of the Estonian economy, its sensitivity to external shocks, and the small size of the local market have to be taken into account. The way that deliberate policy choices and the macroeconomic environment in the early 1990s formed the initial conditions for the institutional development in the financial sector will be revealed in the following chapters.
II FINANCIAL SYSTEM SINCE 1992: GROWTH OF FINANCE IN THE ERA OF FINANCIALIZATION

The following sections map the developments of the Estonian financial system from 1992 up until 2010 (whenever possible, data on 2011 and 2012 is included). One has to acknowledge that after regaining independence from the Soviet Union in 1991, the Estonian economy, including the financial sector, had to be built up from scratch in line with market economy principles. The initial conditions from political and economic perspective were not conducive for the sustainable and vigorous growth in finance, as economic and social unrest increased uncertainty, coupled with hyperinflation that set in in the early 1990s. In the conditions of changing political regime and the collapse of former structures, political leaders faced the challenge of instituting a capitalist market system with a supportive institutional-legal framework and building up a stable business environment by eradicating opportunistic behavior, i.e. taking advantage of the loopholes in legislation and rent-seeking in the process of economic restructuring. These proclivities could be seen also in the business of banking in terms of financing risky business ventures, as covered in the previous section. After regaining independence, about 40 relatively small private banks in terms of shareholders (11 banks had less than 10 shareholders) were established following the financial liberalization and hyperinflation of almost 1500% that depreciated the real value of the initial capital, required for the establishment of a bank. In the conditions, where there were few and weak regulations in the transition banking in the 1990s, there was no need for offshore banking (see Sõrg 2003; Liuhto et al. 2007, 157; Zirnask 2002).

As discussed in the previous section, the share of the tertiary sector in the Estonian economy has gradually increased over the last 20 years. The contribution of financial intermediation to the Estonian economy in relative terms has been stable throughout
the years, which is reflected in Figure 7. Even during the boom period between 2004 and 2008, financial services contributed around 4% to Estonia's gross value added, while the financial services employment level has been around 1%, which is lower than in the EU25, although in terms of the assets-to-GDP ratio of the financial system, Estonia has ended up being one of the leaders among Baltic and CEE countries, and even outperforming Finland (Oxera 2009, 28).

![Figure 7. The share of financial intermediation and insurance in value added & the share of employment in FIRE in total employment, 1992-2011 (%)](source: Statistics Estonia, 2012)

Because of the peculiarities of Estonian public finance and monetary system (see the I section and the chapter on Macroeconomic Policies), credit growth in the early 1990s was constrained by the low volume of bank deposits. During the first decade of independence up until 2000, both demand and time deposits increased from 13% level in 1993 to almost 25% of GDP in 1999. The credit stock in terms of the total volume of bank loans, which was mostly destroyed by hyperinflation of up to 1500% between 1991 and 1993, was by 1997 still relatively low - less than 20% of GDP (OECD 2000b). The high liquidity of banks in the early 1990s could be also explained
by the relative neutrality of the central bank\textsuperscript{4} to the banking crises as well as the conservative credit and investment policies of banks, as most of the loans, in the range of 80\%, were directed to private enterprises (Bank of Estonia 1994a; Bank of Estonia 1995a). By trying to cope with risks involved in lending, banks maintained large spreads between lending and deposits rates, while a weak credit culture and low confidence in the banking system on the deposit side preserved a low level of financial intermediation in the 1990s (see e.g. De Nicolo et al. 2003, 14; Liuhto et al. 2007, 156). Such risk-aversive attitude has been reflected in the sound capital adequacy of the banking sector throughout the years.

Yet, the gradual expansion of banks into non-bank segments of financial intermediation placed the banks among the most dynamically developing sectors of Estonian economy. In line with the overall transformation of the economy, the banking system came through several adjustments during the pre-1997/1998 period with the eventual establishment of a universal banking system. With the help of steadily rising savings and decreasing interest rates, loan demand in the mid-1990s

\textsuperscript{4} See also Financial Regulation and Macroeconomic Policies sections on central bank’s reaction to the banking problems in the 1990s.
gradually increased, which involved the provision of new loan products, including the young family loan, the young teacher loan, loans for financing travel and medical expenses, consumption loan, consumer factoring etc. Also, the share of Euro-denominated loans in banks’ loan portfolios started to grow in the mid-1990s together with a general growth in loan stock, which was accompanied by the increasing share of foreign currency deposits, especially in the post-crises periods, reaching 30% of all deposits by 1999 (Bank of Estonia 2010b; OECD 2000b; Bank of Estonia 1997a). While in 1994 only 10% of all loans were granted to private persons and financial institutions, in 1997 the same figure was already 40%. Most of the loans allocated to financial institutions were associated with affiliated non-bank financial institutions, such as leasing companies, investment funds, asset management and insurance companies. On the other hand, the securities accounted for around 1% of the balance sheet of commercial banks in 1993, but their share increased explosively thereafter, reaching 21% by 1997. After the 1997 stock market crash and the 1998 Russian crisis, the share of securities has been more restrained at the level between 14–17% (see Cavalcanti, Oks 1998, 1-5; Coudert, Pouvelle 2010, 88; Sõrg 2003, 5-6).
Since its establishment in 1993, the leasing market has developed rapidly and has become an important funding alternative to bank loans both for enterprises and private individuals, mainly because of collateral ownership reasons. Under the leasing contracts, collateral remains the property of the leasing company, which makes the seizure of the collateral, if necessary, easier than in case of bank loans. Due to the fact that the majority of leasing companies are owned by banks, they are considered as part of the conventional bank business, as the financing for leasing companies comes from parent banks and in some occasions also from international capital markets with the guarantees of the parent bank (see Bank of Estonia 2001, 5-7).

In many respects, 1997-1998 was a turning point in the development of the Estonian banking system, when banks began extending credit beyond the limits of their deposit base due to an access to long-term foreign funding. Moreover, banks re-
focused their business strategies, as financial investments into volatile securities were gradually substituted with loans, implying a growing importance of the real sector enterprises and households in the loan portfolio (Bank of Estonia 1999). Essentially, the ratio of the banking system’s assets to GDP doubled in eight years and reached 132% at the beginning of 2008. Such a rapid financial deepening since the turn of the millennium was mostly based on the expansion of the banks’ loan and leasing portfolio (see Figure 9), which has led to a consistently increasing share of the loan portfolio in the structure of assets. Fueled by the access to foreign funding and the expansive development strategy of banks, assets of the banks in Estonia have grown much faster than GDP, although their liquidity was considered adequate in early 2000s, manifest in the high quality of the liquidity portfolio and flexible liquidity management in terms of alternative solutions provided by the central bank for meeting the minimum reserve requirement (see Sörg 2003, 10; section on Macroeconomic Policies). As the post-1998 evolution of the banking business has been led by foreign savings, development of credit-related products has been ahead of saving products, which were developed only at later stages. In this way, the loans-to-deposits ratio grew swiftly, which indicated a deteriorating debt servicing capacity of the residents of Estonia (see Cavalcanti, Oks 1998, 1-5; Kal Wajid et al. 2007, 19).

Table 1. Banking sector loans-to-deposits ratio, 1993-2011 (%)

<table>
<thead>
<tr>
<th>Year</th>
<th>1993</th>
<th>1995</th>
<th>1997</th>
<th>1999</th>
<th>2001</th>
<th>2003</th>
<th>2005</th>
<th>2007</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ratio</td>
<td>69.1</td>
<td>79.3</td>
<td>99.5</td>
<td>100.9</td>
<td>95.3</td>
<td>139.4</td>
<td>132.1</td>
<td>168</td>
<td>155.7</td>
<td>140.6</td>
<td>122</td>
</tr>
</tbody>
</table>

Source: Bank of Estonia 2012

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7 It is noteworthy that the growth rate of the assets of major banks has been significantly higher than that of the average because of the decreasing number of operating banks.
The volume of loans grew steadily at the beginning of 2000s. Nevertheless, in the context of increasing lending activity, Estonian banks were not taking many risks during pre-2004 EU accession, as approximately a third of banks’ assets were invested in liquid instruments in the central bank and abroad, while 60% of assets were invested into the domestic real sector (see Koivu 2002, 4-7). Unsustainable financial deepening was to some extent thwarted by the relatively conservative credit policy adopted by banks. For instance, the second largest commercial bank, SEB, granted loans only if the following principles were met among others: 1) credit
allocation based on analysis, 2) the purpose of a loan must be clear, 3) the credit amount must be in line with the ability to service debt, 4) granting loans must recognize negative effects of business cycles etc. (Ühispank 2006). Hansapank, the largest bank, also took a cautious position by implementing Basel II new capital accord principles for its risk management already in 2004 with the objective to avoid big losses that would jeopardize the group’s equity capital (Hansapank 2005).

Nevertheless, after the EU accession in 2004, an unprecedented credit boom was set off (see Figure 11), which could be explained by cheapening of credit at the global scale, Estonia’s catching-up process due to an initial low level of bank intermediation, high GDP growth, consumer confidence from rising incomes, expansive fiscal policies and the monetary system, i.e. currency board arrangement, which brought along low and also negative real interest rates. Moreover, during the
years of rapid growth from 2004 to 2007, when risk premiums on loans were relatively homogeneous across different companies and banks were competing over interest rates, the more general macroeconomic aspects were considered instead of company-specific indicators. Yet, the major enabling factor of the credit boom was an easy access to low-cost foreign funds from Nordic parent banks, who financed nearly half of the credit growth. The growth of credit supply, achieved in this manner, resulted in the high share of foreign currency denominated loans to residents (over 80% of total since 2004) (see OECD 2011, 10; Sõrg, Tuuisis 2009; Bank of Estonia 2010, 14-15; Swedbank 2010; De Souza 2004; Csajbok et al. 2010, 7). In essence, decreasing interest rates encouraged borrowing, but not saving, which implied the need for external financing of the Estonian economy. After several years of strong credit growth, loan demand was reduced by decelerating economic growth and increased interest rates in 2007 (Bank of Estonia 2008a).

While in the 1990s loans to the corporate sector overwhelmingly dominated the banks’ asset portfolio, in 2000s the shares of loans to private persons and corporate
sector evened up, as seen in the Figure 11 above. Nonetheless, the rapid credit growth during the boom years increased corporate gross debt, which reached 100% as a ratio of GDP in 2008, whereas the loans taken by Estonia’s enterprises from domestic financial institutions accounted for 57% of GDP in 2008. All in all, the debt ratio, i.e. the ratio of loan to own capital of Estonia’s enterprises is among the highest in Western Europe. However, one needs to take into account that rising indebtedness has been skewed, i.e. the growth of credit issued to real estate and construction projects was 2-3 times faster than in other sectors of the economy (Bank of Estonia 2009). By 2008, the growth of corporate debt had decelerated as a result of weakening investment demand, although the eased domestic borrowing has been substituted with an increased funding from abroad. Nevertheless, foreign debt had decreased to 20% of total corporate debt and posted the lowest rate in ten years in 2008 (Bank of Estonia 2009b).
The combined debt burden of Estonian households and companies has shown even more rapid growth, reaching a relatively high level of 146% of GDP by 2009 (Bank of Estonia 2010b). As a result of tightening competition on the loan market, lowered interest margins and aggressive loan campaigns kept the clients interested in taking mortgage and consumption loans, which is reflected in increasing indebtedness of households. Between 2000-2005 the total volume of housing loans and leasing granted by Estonian banks and leasing companies increased annually more than 40%, and the household debt grew nearly four times, amounting to 30% of GDP (Bank of Estonia 2006b).

As can be seen from the Figure 13 above, the level of household debt has increased from 5-6% in the late 1990s to 57% of GDP in 2009, while the ratio of debt to disposable income grew from 3% in 1996 to 60% in 2009. At the dawn of the credit
boom in 2004, on average 18% of a family’s monthly net income went to service loan and interest payments, while for 1/5 of the debtors loan-servicing costs rose above 29% of the family’s net income (Bank of Estonia 2005b). By 2010, the average monthly debt servicing had climbed to 26% of the households’ monthly net income (Bank of Estonia 2011b). From 2005, the net financial position of households started to deteriorate, dropping from 70% of GDP level in 2005 to 50% of GDP level in 2010 due to the decreasing value of the shares and other equity, and the considerably stronger growth of households’ financial liabilities compared to financial assets, where loans comprised 84.7% of the financial liabilities of Estonian households in 2010 (Bank of Estonia 2009b; Bank of Estonia 2010b; Statistics Estonia 2012). Surprisingly, it is not demand or time deposits that comprise the largest share of households’ assets, but shares and other equity, mostly unquoted shares. Although banks have introduced several investment and depositing products, e.g. in 2006, Hansapank brought to the market new real estate funds and structured deposits (see Hansapank 2007), demand deposit, i.e. current account, has been the most popular and liquid channel to save among private persons, which indicates to clients’ doubts about the credibility of the banking sector. The high share of demand deposits in the asset structure of households could be also explained by the fact that employees in Estonia receive their monthly salaries on this account (Sõrg, Tuusis 2008, 12-13). These deposits of private persons, coupled with non-financial sector deposits, constitute the largest share of banks’ liabilities in Estonia. By 2011, the share of these deposits in banks’ liabilities had increased to 69.9% from 51.3% in 1998, which has enabled banks to repay funds obtained from their parent banks (Bank of Estonia 2011, 17). Also, because of declining interest rates, the relative high share of deposits in the liabilities structure has enabled banks to save on financing costs (Bank of Estonia 2011, 17).
By leaving aside the stock market boom in 1997, the eventual crash, and occasional spurs in terms of drastic increase in capitalization-to-GDP ratio, securities markets have had a minor role to play in Estonian financial intermediation. The main features of these markets are low number of listed companies, low liquidity and turnover, insignificant secondary market, the non-existence of government bonds\(^8\), and high concentration of market turnover as well as trading in the hands of few traders (the next section covers the securities markets in detail). Throughout the history there have been 3 divisions among listed companies into fully-owned separate companies, 19 instances of listed companies merging with non-listed companies, and 20 takeovers, which have led to de-listing.

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\(^8\) At the end of the 1990s and at the beginning of 2000 there were few local government bond issues, but since 2003 the public sector in Estonia did not issue any bonds for five years, while by 2008, no domestic bonds outstanding existed. This is also one of the reasons for minuscule public debt, falling from 9% in 1995 to 6.6% of GDP in 2010 (see OECD 2011, 26).
Table 2. Tallinn Stock Exchange data, 1996-2011

<table>
<thead>
<tr>
<th>Year</th>
<th>Capitalization (mln Eur)</th>
<th>Turnover (mln Eur)</th>
<th>Market liquidity (turnover-to-capitalization ratio, %)</th>
<th>Capitalization-to-GDP ratio (%)</th>
<th>Market share of 3 largest traders by turnover (%)</th>
<th>Share of non-resident investors (%)</th>
<th>Number of listed companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>511.3</td>
<td>147</td>
<td>28.8</td>
<td>14.1</td>
<td>n/a</td>
<td>36</td>
<td>17</td>
</tr>
<tr>
<td>1998</td>
<td>530.5</td>
<td>856.4</td>
<td>161.4</td>
<td>10.5</td>
<td>n/a</td>
<td>54</td>
<td>26</td>
</tr>
<tr>
<td>2000</td>
<td>1981.3</td>
<td>351.5</td>
<td>17.7</td>
<td>32.2</td>
<td>90.9</td>
<td>78</td>
<td>20</td>
</tr>
<tr>
<td>2002</td>
<td>2313.6</td>
<td>255.6</td>
<td>11</td>
<td>29.8</td>
<td>86.5</td>
<td>81</td>
<td>14</td>
</tr>
<tr>
<td>2004</td>
<td>4627.2</td>
<td>658.3</td>
<td>14.2</td>
<td>47.8</td>
<td>88.2</td>
<td>83</td>
<td>13</td>
</tr>
<tr>
<td>2006</td>
<td>4522</td>
<td>766.2</td>
<td>16.9</td>
<td>22.8</td>
<td>87.4</td>
<td>49</td>
<td>17</td>
</tr>
<tr>
<td>2008</td>
<td>1406.1</td>
<td>619.9</td>
<td>44.1</td>
<td>8.8</td>
<td>86.4</td>
<td>52</td>
<td>18</td>
</tr>
<tr>
<td>2010</td>
<td>1617</td>
<td>242.9</td>
<td>15</td>
<td>11.3</td>
<td>72</td>
<td>37</td>
<td>15</td>
</tr>
<tr>
<td>2011</td>
<td>1241</td>
<td>187.4</td>
<td>15.1</td>
<td>7.8</td>
<td>86</td>
<td>38</td>
<td>15</td>
</tr>
</tbody>
</table>

Source: FSA 2012; NASDAC OMX Baltic, 2012

Consequently, the Estonian financial system has been dominated by the banking sector with a largest share of assets, compared to insurance segment, investment funds, and securities markets.
As can be seen, the non-bank financial intermediation has been of relatively low importance. Whereas bank and lease financing has reached over 140% of GDP, the stock market accounts for less than 10% of GDP, although reaching over 30% during the peak of the boom period. Furthermore, debt securities market with 5% share, insurance industry with gross premiums of 2% share, and investment fund assets with 9% share of GDP have stayed in the background (see also OECD 2011, 13-15; Oxera 2009, 30).

II. 1 Structure of the Financial Sector by Forms of Organization

The political economy and ensuing dynamics of the Estonian real economy in the 1990s had a remarkable effect in shaping the financial system in terms of organizational as well as institutional structure. As mentioned in the previous chapter, Estonian financial system is predominantly bank-based. Since the beginning of the transition period, Estonia together with many other CEE countries
deliberately reverted to a more bank-centered financial systems, where the share of bank-based intermediation has been approximately 2/3 of total financial intermediation (see Sõrg, Tuusis 2008; Berglof, Bolton 2002, 77-78; De Souza 2004, 8). The most important impediment to the development of a full continuum of financial markets and institutions has been the small size of the local market, which explains the substitution of domestic institutional development with active pursuit of integration into international financial markets (see Bonin, Wachtel 2002, 4; Kal Wajid et al. 2007, 13-16). Thus, the financial deepening of the Estonian economy has been centered around and led by conventional banking, whereas non-bank financial products account for a diminutive share of total financial sector assets.

According to official classification, “...financial sector includes institutional units principally engaged in financial intermediation or activities auxiliary to financial intermediation, which is the activity in which an institutional unit acquires financial assets and at the same time incurs liabilities on its own account by engaging in financial transactions on the market. A financial intermediary does not simply act as an agent for other institutional units but takes risks. Auxiliary financial activities comprise auxiliary activities for realizing various financial transactions, but the service providers do not set themselves at risk by incurring financial liabilities” (Statistics Estonia 2012).

The formal institutional structure of Estonian financial system consists of four sub-sectors:

- monetary financial institutions: Central Bank, credit institutions (in total 179\textsuperscript{a}), savings and loan associations (in total 18), money market funds (in total 0). The activity of these entities is to receive cash deposits and other repayable funds from the non-monetary institutions and to grant loans for its own account and/or provide other financing, including making

\textsuperscript{a} as of 2012, include 8 licensed credit institutions [3 local banks and 5 wholly-owned subsidiaries of foreign credit institutions] and 9 affiliated branches of foreign credit institutions, in addition to 276 cross-border banking service provider (FSA 2012).
investments into debt securities;
- insurers: life insurance (in total 5\textsuperscript{10}), non-life insurance (in total 13\textsuperscript{11}), reinsurance (0). The main activity is to compensate for damage created upon and as a result of insured events, or payment of agreed sums of money;
- pension funds (mandatory and voluntary pension funds). The purpose of this institution is to manage the mandatory or supplementary preliminary financing of working persons into the pool of pension funds as a per cent from their gross salary (2\% in case of mandatory pension contribution);
- other financial institutions (holding companies, fund management activities, financial leasing, pawn shops, other credit granting, and other financial service activities) (FSA 2012; Statistics Estonia 2012).

II. 1.1 Savings and Loan Associations

As a financial institution, savings and loan associations are basically for-profit co-operatives acting on the basis of the Savings and Loan Associations Act with the objective to receive money for deposits from members of the association, to grant loans to the members, to make transfers and payments from deposit accounts maintained in the savings and loan association and to receive payments and transfers to deposit accounts among others. Membership of a saving and loan association is restricted to persons, who share a “common bond“ based on a territorial principle, i.e. reside permanently or own property within the territory in which the association operates, or a legal person in private law, whose seats are located within the territory in which the association operates (RT I 1999, 24, 357).

Savings and loan associations in Estonia do not need a license and are not supervised by financial authorities, but by internal revision commissions. Also, they do not benefit from state guarantees, as they have their own guarantee fund. With a

\textsuperscript{10} All 5 are subsidiaries of foreign insurance companies.
\textsuperscript{11} Include 4 local insurance companies, 5 subsidiaries of foreign insurance companies, and 4 branches of foreign insurance companies.
market share of less than 1% in terms of assets, operating 18 credit co-operatives are not considered as systemically important [OECD 2011, 33; Bank of Estonia 2004a].

II. 1.2 Credit Institutions

According to the legal definition, a credit institution or a bank is a company the principal and permanent economic activity of which is to receive cash deposits and other repayable funds from the public and to grant loans for its own account and provide other financing [RT I 1999, 23, 349]. The Credit Institutions Act does not restrict the banks from providing investment services and ancillary investment services, if complying with the regulations of the Securities Market Act, and the banking legislation applies universally to all banks founded or operating in Estonia, irrespective of domestic or foreign ownership structure. Thus, the legal-institutional framework has favored the emergence of universal banks with the possibility of engaging in both commercial and investment banking activities. Because of the absence of mandatory separation of banking and securities market, banks have been able to dominate in the entire financial sector.

With respect to geographical coverage, then unlike savings and loan associations, none of the active banks has restricted its business to a particular region. This proposition did not hold exactly in the 1990s. As a heritage of the Soviet period, the banking remnants of the former regime that had both regional affiliation as well as narrow specialization with respect to service provision, were subject to restructuring and were eventually dismantled in the 1990s with the involvement of both the central bank and the government. The central bank’s active involvement in the restructuring of the banking landscape continued in the period between 1992 and 1998. On the one hand, the central bank was buying up and selling (occasionally even disclaiming for free) the shares of commercial banks, coupled with the provision of different kinds of concessions and guarantees against the risks, e.g. deposit guarantees or postponement of meeting prudential ratios, with the objective of rescuing
systemically important, but failing banks. On the other hand, banking regulations were frequently updated in terms of applying stricter prudential ratios. By implementing these policies, the central bank was effectively facilitating mergers and acquisitions in the banking market; essentially, before 1996, only involuntary mergers had occurred because of direct bankruptcy or closure threats (Zirnask 2002). Subsequently, the number of banks declined from 42 in 1992 to 7 in 2004 due to either mergers, repeals of licenses or bankruptcies. Also, financial services of centrally managed banks were made available across the country and the central bank disposed all holdings in credit institutions by 2000, while non-residents’ holdings in the banks’ share capital increased to 83.9% and the rest belonged mainly to resident private persons (see Fink et al. 1998, 660-661; OECD 2011, 13; Cavalcanti, Oks 1998, 1-4; Bank of Estonia 2001a).

As is evident from the figure above, apart from being fully privately owned, Estonia’s banking market is also largely controlled by foreign investors. As a result of mergers in the 1990s and the acquisitions by foreign investors, the four largest
foreign banks\textsuperscript{12} account today for over 95% of the market in terms of both total assets and share capital. Moreover, the two largest banks, Swedbank and SEB that are fully-owned subsidiaries of Swedish financial groups have also taken over leasing, life insurance, and asset management, including pension fund markets (OECD 2011, 19-21). The expansion of the domestic banks into related non-banking financial services took place already in the 1990s along the universal banking model, when the financial liberalization encouraged the expansion of banks into insurance, pension, asset management, and mortgage segments via cross-sector consolidation, which increased the systemic-risks and threatened the stability of the whole financial system. By 2003 before joining the EU, banks’ control over other financial intermediaries was 99.2% in leasing, 68.3% in insurance, 90.3% in investment funds, and 87.3% in pension funds in terms of the share of assets (see Sõrg, Tuusis 2008, 11-12; Kal Wajid \textit{et al.} 2007; Bernhardtson, Billborn 2010; Koivu 2002, 9, 20-21). In essence, banks were turned into \textit{one-stop shops} by offering varying kinds of financial services. Yet, due to 1997 stock market crash, banks got engaged in conventional commercial banking rather than in investment banking (Bank of Estonia 2001, 5-7).

In short, the institutional development of Estonian banks can be characterized by mergers and eventual involvement of foreign owners that have increased the soundness of Estonian banks and improved the quality of management as well as efficiency. Owing to the fact that the structure of Estonian financial intermediation is primarily comprised of the subsidiaries and branches of the financial intermediaries of other countries and is based on the fully privatized universal banking model with high concentration, financial capital is obtained from international markets or abroad from parent banks, not from local inter-bank market (see Bank of Estonia 2001, 3; Bank of Estonia 2003a; Valuž, Židulina 2009, 105-107).

\textsuperscript{12} Swedbank, SEB Bank, Danske Bank, and Nordea Bank, all foreign owned.
II. 1.3 Inter-Bank Money Market

Because of the underdeveloped commercial banking in the 1990s, which was revealed in non-existent inter-bank money market, the central bank commenced with the issuance of short-term certificates of deposit in 1993, which helped to launch the overnight market. With the nominal value of 6391.2 Euros, the 28-day certificates of deposit of the central bank offered the banks an opportunity to execute a 100% guaranteed secondary market transaction and thus promoted the trust between banks (Bank of Estonia 1994a). Despite these efforts to develop a local inter-bank money market, it has never played a significant role for the financial system. The reasons lie in both idiosyncrasies of the monetary system and dynamics in the commercial banking. First, the currency board system has restricted local credit institutions from managing their liquidity on the basis of short-term Kroon loans from the local money market. Also, stricter reserve requirements have increased the liquidity of banks, which reduced the need for a local money market. Second, unlike most of the other countries, there have been no short-term government bonds issued in local Kroon money market. Differently from government securities, the municipal bonds have had a role to play in the securities market. However, the municipal bonds have been mostly restricted to the primary market, as the stock of municipal bonds has been bought by strategic investors (mostly banks) and, in general, municipal securities have not been attractive for the secondary market (Lepik 1996). Lastly, as Estonian banks consolidated and were eventually acquired by Scandinavian credit institutions, increasing funding from parent banks and involvement in international capital markets occurred (see Bank of Estonia 1999a; OECD 2000b).

Essentially, before joining the Euro area, the components of the Estonian Kroon money market were short-term interbank deposits and loans denominated in Estonian Kroon, debt securities (short-term bonds) and currency derivative...
transactions against the Estonian Kroon, such as forex forwards and swaps\textsuperscript{13}. Nevertheless, compared to the respective money market segments in the Euro area countries, the Estonian Kroon money market was comparatively low in liquidity. Mutual claims of Estonian banks on local inter-bank money market were very small, reaching a mere 0.5% of total assets in 2004. Furthermore, there was no repurchase transactions market either, and several other instruments common in developed money markets were not traded. Thus, the Estonian Kroon money market had not had an impact on the interest rates in the real sector, since liquidity management of Estonian credit institutions has been mainly carried out outside Estonia and the interest rates in the real sector have been directly influenced by the developments in the Euro money markets. In principle, Estonian Kroon money market has been used to hedge the Estonian Kroon currency risk, but not to manage the liquidity in the financial sector. For that purpose, the Bank of Estonia started quoting Estonian Kroon-German Mark forwards and swaps in 1994. In 2011, the local money market ceased to exist due to adoption of Euro (see Bank of Estonia 1995a; Bank of Estonia 2001, 3-7; Bank of Estonia 2004b; Bank of Estonia 2006b; Bank of Estonia 2011b; Männasoo 2003 on Estonian Kroon money market). For these reasons, the Estonian money market should be viewed in broader terms from foreign exchange market perspective, which was a major market for liquidity management under the currency board arrangement. At the same time, the boundaries of the Estonian money market have been extended by the remarkable role of Scandinavian financial institutions in Estonia.

II. 1.4 Fund Management

As a distinctive entity, the institution of a fund management company has been founded to manage the investment and pension funds, where in majority the unit

\textsuperscript{13} Forex related forward and swap transactions decreased from 36.5% in 1998 to 23% in 2010 of total banks’ assets, while their share in GDP grew from 19% to 31.4% during the same period (Bank of Estonia 2012).
holders are private individuals\textsuperscript{14}. A management company is a public limited company, whose main activity is the management of funds or securities portfolios, including the organization of the issue and marketing of units of the fund, investment of the assets of the fund, keeping account of the assets of the fund and other directly related activities. By definition, an investment fund means a pool of assets established for collective investment or a public limited company founded for collective investment \cite{RT I 2004, 36, 251}. Investment funds that paralleled the establishment of fund management companies, were developed in the early 1990 alongside commercial banking, which explains the fact that this category of financial services is controlled by the companies that belong directly or indirectly through subsidiaries and branches to foreign credit institutions, as mentioned above. Already in 1997, 90\% of the total volume of investment funds was managed by bank-owned asset management companies \cite{Bank of Estonia 1998a}.

Despite the relatively large number of fund management companies \cite{as of 2011}, the investment funds market has concentrated in the hands of Nordic asset managers, as the three largest fund managers held a combined market share of over 80\% in terms of the net assets of funds under management. For instance, Swedbank accounted for over 50\% of the market in 2008, and SEB Bank held over 20\% \cite{Oxera 2009; FSA, 2012}. From 1994 to 2011, the introduction as well as closure of different types of funds has been affected by the institutional development of Estonian political economy. For example, before the pension reform in 2001, there was no necessity for pension funds, while the completion of privatization in the late 1990s brought to an end closed-end privatization investment funds\textsuperscript{15}. First open-end\textsuperscript{16} investment funds were launched during 1994, which credited trade and other

\textsuperscript{14} There were 708,439 unit holders in mandatory pension funds and 50,154 unit holders in supplementary pension funds, compared to 19,803 unit holders in equity funds in 2011 \cite{FSA 2012a}.

\textsuperscript{15} Unlike in the Central European countries, privatization investment funds did not play an important role in the 1990s, as they were limited to the intermediation of minority shares \cite{Bank of Estonia 1996a}.

\textsuperscript{16} An open-ended fund is a common fund the units of which are redeemed according to the fund rules at the request of the unit-holder within one month as of submission of the respective claim by the unit-holder. A common fund is the money collected through the issue of units and other assets acquired through the investment of such money, which is owned jointly by the unit-holders. The assets of a common fund include
economic activities with quick turnover (Lepik 1996). Money market and interest funds were introduced in 1996 to allow investors to invest into short-term interest products (Bank of Estonia 1997a). By 2001, the investment funds market was divided between money market, interest (debt), equity, and pension funds with 70%, 25%, 4%, and 1% share, respectively. Property and hedge funds have a very recent history in Estonia with the share below 10% (Bank of Estonia 2002a; Oxera 2009, 33-42). By 2010, these proportions have significantly changed as a result of pension reform in 2001 and the rapid development of the Estonian economy in 2000s. On the background of unattractive deposit interest rates as well as low interest and money fund yields, companies shifted their preference towards equity funds during the boom years in mid-2000s. As a result, equity funds made up the majority (60%) of net assets of investment funds by the end of 2007, but plummeted thereafter because of the global financial crisis. Today, mandatory pension funds combined with equity funds make up over 90% of the net assets (Bank of Estonia 2005b; Bank of Estonia 2010b; FSA 2012). More importantly, Estonian funds have had a relatively low home bias in asset allocation, as pension and investment fund regulations in Estonia do not pose any restrictions on international investments; the share of foreign assets in the assets of funds was 80% in 2010. The second pillar (mandatory) pension funds invested even higher proportion of assets into the most liquid foreign markets already by the end of 2004 (FSA 2012). While pensions funds have been more conservative in their investment strategies, equity funds have directed investments into emerging market equities or units of other equity funds.

securities, other things and rights, including for the account of the fund, if immovable property has been purchased in the name of the fund. A fund that does not meet the criteria for open-ended funds, is a closed-ended fund (RT I 2004, 36, 251).
With regard to the asset structure, the share of equities and units in other equity and investment funds increased from less than 20% in 2002 to more than 70% in 2010 at the expense of time deposits, bank accounts and debt securities (FSA 2012). Thus, the relevance of investment funds for Estonian economy has been mainly from the saving perspective, not as a source of funding for businesses or a contributor to the development of capital markets, as bank-controlled management companies have been selling their international in-house funds to their banking clients. However, the impediment for more rapid growth of investment funds, not including pension funds, has been the modest saving of residents (see Bank of Estonia 2004a). The Figure 17 reveals too optimistic expectations among investors during the pre-2008 boom years from 2005, where investments into equity funds dominated. The collapse on world equity markets marked a sudden drop in the volume of assets of Estonian equity funds – the value of assets declined from 1278.2 mln Euros (32,000 unit holders) in 2007 to 230 mln Euros (25,600 unit holders) a year later (FSA 2009).

II. 1.5 Insurance

The share of the Estonian insurance industry in the financial sector is minuscule,
compared to that of banking. Nonetheless, insurance as well as pension assets have grown rapidly, but from a very low base and their levels relative to GDP are still modest, as the share of gross collected premiums in GDP was a mere 2.5% in 2011 and only slightly lower in 1996 (1.4%) (FSA 2012). Even by the time of joining the EU, the Estonian insurance market was still considered as underdeveloped, although foreign-owned companies controlled over 80% of the market. While in 1995 only 10% of the share capital belonged to non-residents in both life and non-life insurance segments, by the end of 2000 non-residents had the majority shareholding in non-life insurance with 79% share and in life insurance 45%. The respective figures for 2010 were 89% and 42% (Bank of Estonia 2001, 11; FSA 2012; FSA 2002).

Estonian legislation defines the insurance institution as an activity to accept “…the risks of a policyholder or insured person by the insurance undertaking on the basis of an insurance contract with the objective to pay indemnities upon occurrence of an insured event… / …An insurance undertaking is a company, whose main permanent activity is the compensation for damage created upon and as a result of insured events, or payment of agreed sums of money” (RT I 2004, 90, 616). The main classes of insurance contracts are non-life and life insurance contracts, which are entered into for the purposes of managing risks and collecting savings (FSA 2012). The share of non-life insurance has decreased from 92% in 1996 to 74% in 2010 in the insurance industry, which implies a rather conservative stance in the insurance activity. As of 2011, there were 8 licensed non-life and 4 life insurance companies.

Unlike the role of insurance companies in the securitization process in advanced Western economies, the Estonia non-life insurance landscape has been dominated by the compulsory motor TPL and land vehicles casco insurance, which have been the main engines of the rapid growth in non-life insurance sector and accounted for 65% of the market in 2010 (Bank of Estonia 2011b). Therefore, the non-life insurance market has been expanding in line with the real economy and mainly on account of the compulsory insurance of vehicles and housing purchased on mortgage loan or
leasing. After 2008, the non-life insurance market witnessed shrinking demand for insurance and tight price competition, while insurance premiums have grown slightly in private property insurance, financial loss insurance and credit insurance (Bank of Estonia 2010b). Nonetheless, the insignificance of securitization against credit default is witnessed in the premiums collected for the insurance for pecuniary loss, i.e. credit insurance, suretyship insurance, and financial loss insurance, that had a mere 1.2% share in all collected premiums in non-life insurance category in 2004, while the same ratio for 2007 was 0.8% and for 2010 1.8% (FSA 2012; Statistics Estonia 2012). The main means for banks to insure themselves against potential customer insolvency have been higher down payment requirements, state guarantees, as well as an annuity-based loan schedule (see Bank of Estonia 2004b). In terms of securitization, banks themselves, for instance SEB, have been involved in offering loan insurance to persons that enables them to service debt in case of unemployment or losing the ability to work due to accident or illness. Furthermore, since 2006, SEB has offered financial product “interest protection”, which protected debtors against either slow and fast interest rate increases (SEB 2007; SEB 2009). In this way, credit institutions have internalized the securitization, which has acted as a self-discipline measure and reduced the risk of moral hazard.

Consequently, the main contact point between the insurance industry and the banking has been the life insurance segment, where 58% of the market was controlled by the subsidiaries of subsidiaries (credit institutions) of Nordic banking groups in 2010 (72% in 2004). This high market share has been achieved by the vigorous selling of third pillar (voluntary) pension system products by the insurance companies that have been tied to the banks (Bank of Estonia 2005b). The share of unit-linked life insurance\(^\text{17}\) and endowment insurance have had the highest share in the structure of life insurance throughout the 2000, ranging between 70%-80%, based on insurance premiums, while the asset base of life insurance companies has

\(^{17}\) In case of unit-linked insurance the investment risk is fully incurred by the policy holder, meaning that low interest rates have mainly affected the incomes of policy holders (Bank of Estonia 2011b).
been mainly comprised of fixed income debt securities (60% share as a rule), although after the crisis in 2008, the share of bank deposits increased in order to reduce the investment risks. After the crisis, insurance companies set a goal to maintain the liquidity of financial instruments, when making investment decisions, as only securities with high ratings have been obtained to curb the credit risk (Bank of Estonia 2009b). In 1995, 30.4% of investments were made into non-listed shares, 19.8% into real estate, whereas deposits had 15.8% share in assets (deposits share increasing to 25.8% of assets 3 years later, when financial crisis hit Estonia. Also, in 1998, 19.3% of investments were made into real estate and land). By 2005, deposits dropped to 3% of assets, while investments into fixed income securities increased to 46.2% and into shares 18.5% of assets (FSA 2006; EISA 1996; EISA 1999).

II. 1.6 Investment Firms

Investment banking services in Estonia are mostly offered by institutions classified as investment firms. Securities Market Act defines the investment firm as a public limited company, whose permanent activity is the provision of investment services to third parties or the performance of investment activities on a professional basis, which include the purchase and transfer of securities in its own name and for the account of a customer, the execution of orders related to securities in the name of or for the account of the client, trade in securities for its own account, management of a portfolio of securities, underwriting a securities issue, and organizing the issuance of securities, public offers or the acceptance of securities for trading on a regulated market (RT I 2001, 89, 532). Despite the operation of investment firms, investment banking, or even the whole asset management industry, is relatively small and represents a tiny proportion of the total European industry, as activities are limited by the small size of the market and are not highly developed (see Oxera 2009, 33-42). Today, there are only 6 licensed investment firms in Estonia, which unlike fund
management companies are not affiliated with licensed credit institutions\(^\text{18}\) in Estonia. Nonetheless, 5 out of 6 investment firms are controlled by foreign financial institutions. The non-existing formal investment banking industry can be explained by the fact local businesses have access to around 1500 foreign investment companies that provide cross-border investment services and who are able to outcompete local service providers [FSA 2012].

With regard to other sources of funds, the situation is quite similar. The number of venture capital (private equity) companies registered in Estonia has stayed around 10 for the last 10 years. Some of the private equity firms have been established by high wealth individuals as well as non-financial companies in business services segment, e.g. companies in information and consultancy services. For example, engineers at Skype Technologies founded in 2003 an equal partnership *Ambient Sound Investments* to offer long-term seed funding to high-technology start-ups [ASI 2012]. In 2010, the volume of assets of leading 8 private equity companies was worth around 250 million Euros (1.7% of GDP) and 120 companies were listed in their portfolios, out of which 69 were located in Estonia [InvestInEstonia 2012; EstVCA 2012]. Before 2005, there was neither a public venture capital fund nor a venture capital association, as state-owned venture capital fund was launched only in 2005 to enliven the market [Kõomägi, Sander 2006, 8]. The sluggish development of Estonian private equity and venture capital industry is also manifested in the establishment of the Estonian Private Equity and Venture Capital Association only in 2009 in order to voice the common positions of the industry and to enhance the culture of ambitious entrepreneurial thinking in Estonia [EstVCA 2012]. The reasons for the backwardness of the local venture capital market could be found on the one hand in Estonian legislation and on the other hand, in accessibility to foreign international capital markets, which has disincentivized the development of local capital market.

\(^{18}\) Wholly-owned public limited company “Ühisinvesteeringud” was established in 1997 by SEB (former Estonian Union Bank), which focused on investment banking activities, but was liquidated in 2006 due to insufficient economic activity [Ühispank 2006].
According to private equity providers, an inadequate investor protection is one of the main causes of the low employment of alternative sources of funds (see Sander, Kõomägi 2007, 196-197). For investors, withdrawing from investment venture is difficult, if the company is not listed. Estonian Commercial Code does not provide a “mandatory dividend”\(^\text{19}\) option, which enables investors to sell the shares back to a company at a fair price, if they are dissatisfied with business results. Furthermore, as minority shareholders, investors cannot influence the dividend decisions due to the fact that preferred shares are only allowed to the extent of 1/3 of share capital, which causes problems in case of mezzanine financing (ibid., 197). Moreover, preferred shares in private limited companies are not allowed at all. Thus, most of the venture capital deals have been struck by taking a minority holding in their portfolio companies and using common shares, whereas syndication and staged investments have been rarely used due to the small size of the projects that have been accepted. That said, the main roots of hardly any progress of local venture capital market could be traced back to the structure and specialization of Estonian economy with an insignificant high-technology sector, which has restrained the demand for venture capital, while the deliberate innovation policies for kick-starting the R&D based higher value added product development were brought on to the agenda only after joining the EU in 2004. This explains, why up until recently venture capitalists have preferred growth-stage investments rather than risky start-up investments, and have expanded their investment activities outside Estonia (see e.g. Sander, Kõomägi 2007). Aside from the above-mentioned public venture capital fund, *Estonian Development Fund*, which was founded by the Parliament as a legal entity governed by public law in order to invest into small- and medium-sized enterprises, registered in Estonia and focusing on innovation (Estonian Development Fund 2012), the Baltic Innovation Fund (BIF) as the most recent investment vehicle has been

\(^{19}\text{Mandatory dividend policy as a mean to protect minority shareholder’s rights is also discouraged by Estonian Income Tax Law in terms charging income tax on paid out dividends, while applying 0% tax on reinvested earnings.}\)
instituted in cooperation with European Investment Fund, Latvia and Lithuania. BIF is expected to invest 100 million Euros into Baltic small- and medium-sized enterprises through investment funds of private equity and venture capital firms (see KredEX 2012).

The recent phenomenon on the financial market has been the emergence of consumer credit providers, the so-called SMS-loan sharks, who target private households by granting high interest rate consumer loans to even no-income and no-job borrowers via easily accessible electronic channels, including mobiles (see also Culture and Norms section). After entering the market in mid-2000s, these businesses, in majority the local representatives of international service providers, have been only recently regulated due to hazardous effect on indebted households and their financial position, but also because of misleading information on credit costs of marketed loan products, i.e. the violation of consumer protection rights. As with investment firms, their role and share in total financial sector is minuscule, although in number they have grown vigorously to almost 60 different credit providers with the share of less than 1% of GDP as of 2010 (Kotto 2012; Statistics Estonia 2012).

II. 1.7 Capital Markets

Today, the Tallinn Stock Exchange (TSE) is the only regulated securities market in Estonia. Founded as a private company in 1996 by the Bank of Estonia, the Ministry of Finance and 21 other financial organizations, Tallinn Stock Exchange has been an electronic market in which a combination of the electronic dealer market and the order book market is used. On the initiative of commercial banks, the Ministry of Finance and the Bank of Estonia, private non-profit company, the Estonian Central Securities Depository (ECSD), was established in 1994 to execute the settlement and clearing function for publicly and privately issued securities, registered in the Estonian Central Register of Securities and traded on stock exchange and over-the-counter market. Aside from public limited companies, more and more private
limited companies have also found it useful to register with the ECSD in order to maintain a list of their owners (OECD 2011, 26-28; Lepik 1996).

In 2001, the Finnish stock exchange Helsinki Exchange Group (HEX) acquired a strategic holding in the Tallinn Stock Exchange with the aim to start trading with Estonian securities in the HEX system (Bank of Estonia 2002a). In 2003, TSE became a member of the alliance between Nordic and Baltic stock exchanges NOREX, while in 2008, the Baltic and Nordic stock exchange group OMX AB was merged with NASDAQ Stock Market, Inc. By 2010, the strategic owner of the Tallinn Stock Exchange was NASDAQ OMX Group with a 61.58% ownership share (OECD 2011, 26-28). These mergers have made trading with securities quoted on TSE easier for non-residents and explain a relatively large share of foreign investors. Only 20% of the stock market capitalization belonged to resident investors in 2004, while the share of residents among bond investors reached 92%. However, the share of resident investors in the bond market capitalization has decreased since 2003, standing at 69% in 2009, while in case of stock market, the share of local investors has slowly increased, reaching 48% by 2009 (Bank of Estonia 2005b; Bank of Estonia 2010,b).

Despite the acquisition of TSE by foreign financial institutions, the stock market in Estonia has not really taken off and has remained small with regard to market capitalization. The market started out with a small number of stocks, all of which were offered in traditional ways using IPOs, but over the years, the number of listed firms has gradually decreased as a result of foreign acquisitions, domestic mergers and de-listings (see e.g. Berglof, Bolton 2002, 87; Bank of Estonia 2001, 10). Active trading with the shares of a couple of listed companies has persisted throughout the years. For instance, the market value of the shares of five major credit institutions constituted about 60% of the stock market capitalization in 1997, while most of the transactions in the secondary market were concluded with the same shares. In 2004, 96% of the market turnover was given by 2 companies, Hansapank and Telecom Estonia, while in 2010, when the latter applied for delisting, the share of the
The capitalization of the company on the stock market was 44% (Bank of Estonia 1998a; Bank of Estonia 2010a). The consequences of a relatively high concentration of market turnover have been drastic fluctuations in capitalization and prices on the securities markets, whereas most of the securities have been illiquid with low capitalization (Claessens et al. 2000, 1-3; De Souza 2004, 11-14; Raudsepp et al. 2003, 58). These features of the market have been amplified by the buy-up of bonds for holding, which entails moderate trading on the secondary market (see Bank of Estonia 2006b). On the other hand, the concentration has taken place also in terms of the consolidation of the rights to trade the listed shares into the hands of a few securities brokers due to the active over-the-counter trading, which implies the convergence of the interests on the stock exchange (Bank of Estonia 2004b).

Not surprisingly, banks were the key figures on the securities markets in the 1990s. As a result of rapid growth and take-overs in the banking sector, banks listed on the stock exchange were the frontrunners in pushing the market and gave 60% of the market capitalization before the 1998 crisis and eventual delisting due to acquisition by Nordic banking groups (Liuhto et al. 2007, 157-158). Therefore, the development of the securities market was driven mostly by the banks, which intermediated securities and provided settlements as well as the majority of funds for operating in the securities markets (Lepik 1996; Bank of Estonia 1997a). By both issuing stocks and actively participating in trading, banks accounted for 3/4 of the volume and almost 2/3 of the transactions in the market in 1997 (Cavalcanti, Oks 1998, 4-5). For instance, Hansapank was the most active member on the Tallinn Stock Exchange, accounting for almost 50% of stock exchange turnover and over a third of transactions, followed by Estonian Union Bank with a third of turnover (see OECD 2011, 25). Banks have affected the development of securities markets by their risk-averse attitude that is reflected in the off-balance sheet transactions being mostly related to hedging against interest and currency risks. Approximately 70% of all off-balance sheet obligations in 1995 resulted from derivatives (swaps and forwards).
connected with interest rates and foreign exchange rates, and increased to 90% by 2010, whereas almost 50% of the derivatives were currency-related (Bank of Estonia 1996a; Swedbank 2011, SEB 2011). These derivative products have been traded among large credit institutions in the over-the-counter market, but not on exchanges, so that no secondary market for derivatives has ever existed (OECD 2011; Raudsepp et al. 2003, 58).

There are several reasons why the securities markets have been very small in relative and absolute terms. First, after the restoration of independence, the development of bond market has been affected by the government’s conservative fiscal policy. Due to the absence of government bonds, bond market capitalization has been traditionally very low. The main issuers of bonds have been Nordic financial companies, who are major stakeholders in Estonian banks (see OECD 2011, 25). Second, aside from the access to banking credit, the main sources of funds have been international capital markets and companies’ retained earnings. Many large companies have sought equity financing from abroad due to cheaper sources of funds abroad and liquidity advantages of the larger international stock markets. Hence, in the 1990s, companies listed abroad accounted for about 1/3 of domestic market capitalization, which left only a limited number of suitable companies for public listing and thus, implied a relatively high operating cost for running a local stock market (see Claessens et al. 2000, 1-3; De Souza 2004, 11-14). Third, the modesty of securities markets could be attributed to instability of the macroeconomic environment during the turbulent 1990s as well as weak institutional investors and their limited asset base. Some of the financial institutions, like pensions funds, were established only in 2002. Moreover, the strategy of potential institutional investors has been outward-oriented, i.e. capital has flowed out of the country by making investments into foreign financial assets (see e.g. Claessens et al. 2000, 11-12; Bonin, Wachtel 2002, 32-44). Fourth, aside from the general unawareness of different forms of saving, low wage level and the tax
Fifth, during the 1990s FDI largely replaced the capital markets in providing corporate financing. Furthermore, domestic investor’s low interest in the stock market encouraged non-residents to acquire Estonian enterprises relatively cheaply, which further weakened the position of securities market in the Estonian financial system, as with the change of their core investors, several companies submitted an application for the termination of their quotation on the stock exchange [see Bank of Estonia 1999; Deutsche Bundesbank 2003, 40-44].

It can be concluded that the development of Estonian financial sector has been driven by the bank-based model, as other forms of financial intermediation began to develop substantially later, which could be explained by the time needed for the initial stabilization of the banking system, whereas the absent legal and institutional environment was also an impediment for launching non-bank financial markets, e.g. pension funds [see Lepik 1996]. As stated above, the main challenges for the central bank and the government in the 1990s were to restructure the banking system in line with the principles of market economy and rescue systemically important, but crisis-wrecked banks by facilitating the mergers. For instance, the accomplished 3 largest rounds of mergers cost 60.7 million Euros for the Bank of Estonia and the government in the 1990s, which were mostly made on political considerations, e.g. to settle the disagreements between the central bank and the government or coalitions’ preferences for politically affiliated specialized banks, e.g. Maapank (Estonian Rural Bank) appealing to Estonian Country People’s Party by having branches in rural regions (Zirnask 2002).

After the stabilization in the banking sector, achieved by the takeover of local banks by foreign credit institutions, the focus of the Bank of Estonia shifted towards strengthening the financial system by taking over and aligning with international practices, in particular EU regulations, in intensified cross-border cooperation.

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20 Income from bank deposits is tax-free, while investment income from other sources is taxed.
Furthermore, the modernization of financial infrastructure continued by introducing two modern settlement subsystems for retail and large-value payments at the beginning of 2000s. Nonetheless, the first and foremost role of the central bank and the Financial Supervision Authority has been to consistently draw the attention of the banks to loan conditions and urging them to keep these up-to-date and sufficiently conservative. In 2003, the central bank called upon the government to review the need for instruments supporting households’ borrowing, e.g. the option to deduct housing loan interests from taxable income as well as the guarantees by KredEx that lower the required down payment (Bank of Estonia 2004b).


As discussed in the first chapter, Estonian economy was opened up to foreign competitors at the very beginning of the transition period. Similarly to other EU candidate countries, Estonian financial sector eliminated entry barriers. Accompanied by the liberalization of capital account, financial sector reforms paved the way for active penetration of international banks and non-bank financial institutions in Estonian market. Eventually, the largest banks were acquired by foreign strategic investors after major banking and economic crisis in 1997/1998 in a similar way as it happened in most other EU’s new member states (see Uiboupin 2004, 7; Festič 2012, 189). Aside from the financial sector, the whole range of other economic sectors have been attracting foreign capital throughout the years. As mentioned in the first section, there were several factors that attracted foreign investors’ interest in Estonia. First, from 1992 onwards, government has endeavored to allure FDI by implementing liberal macroeconomic policies, i.e. low tax base, domestic currency stability, elimination of trade barriers etc. By adhering to liberal external policies, most restrictions on capital account transactions were abolished in 1992 and since 1994 there were no capital controls whatsoever. Domestic currency was pegged to German Mark from the outset of the monetary reform in 1992, and
later being pegged to Euro and eventually abolished due to adopting Euro in 2011. Also, the privatization process in early 1990s was deliberately targeting foreign investors by implementing Treuhand model, i.e. selling state-owned assets to strategic investors (see Privatization section). On the supply side, the Estonian productive system and cheap labor were incentives for Scandinavian companies to relocated their production facilities to Estonia, which had both geographical closeness and cultural ties with Sweden and Finland. As a result of early abolishment of restrictions on current and capital account transactions, established business contacts with Scandinavian companies paved the way for increasing capital inflows to Estonia. These capital flow dynamics are unveiled in the financial account and economy’s international investment position (see also Figures 4 and 5). As seen on Figure 20, credit institutions have had a dominant role to play in absorbing foreign capital. The rest of this section focuses on the internationalization of banking sector and its implications for the economy.
One of the specific features of the internationalization process of Estonian banking sector was the simultaneous reconstruction of the banking system with the
involvement in globalization process at the same time, which could be split into two stages. The first period started at the beginning of the 1990s and was accomplished by 1998, when foreign banks bought the majority of shares in leading Estonian banks. The first stage of internationalization represents mainly the outward expansion of Estonian banks abroad, which resulted in significant outflow of investments into Latvia and Lithuania. By 1994, the share of deposits held in foreign banks was nearly 20% of the banks’ consolidated balance sheets, which could be explained by the aspiration to establish first international contacts [Bank of Estonia 1995a]. When entering foreign markets, banks were using all means: buyouts of local banks, portfolio investments and green-field investments by setting up subsidiaries and branches. By 1997, Estonia was a front runner among transition countries by per capita outward investments, led by banking sector with up to 50-60% of Estonian annual outward investments in late 1990s. The boost was given by the funds that were raised during the boom years from 1995-1997 and were used to finance foreign acquisitions rather than redirected into local businesses due to experienced problems in local economy in 1997/1998 (see Kangur et al. 1999, 14-15). Further involvement in foreign markets required additional capital, which was mostly obtained from bond issues; the largest taking place in 2000, worth of 15 million Euros (see Varblane, Sõrg 2003, 99-101; Roolaat, Varblane 2009, 228-230; Hagelberg 1997; Bank of Estonia 2001a).

The second stage reflected mainly the strategic interests of foreign banks as a result of inward FDI into Estonian banking. Nevertheless, the outward FDI stock of financial sector increased 18 times from 97.1 million Euros in 1998 to 1771.2 million Euros in 2008, although the share of financial sector’s FDI stock abroad has diminished among the fields of economic activities from 57.1% to 37.2% during the period\textsuperscript{21} (Reiljan 2006, 243; Hunya 2009). With respect to inward FDI, financial sector had only

\textsuperscript{21} In a way, the chapter of outward internationalization of Estonian banking was closed in 2011, when Swedbank sold its Latvian and Lithuanian subsidiaries to its Swedish parent bank Swedbank AB. Under the new legal structure, the Latvian and Lithuanian subsidiaries and their affiliates no longer belong to the consolidated group of Swedbank (Bank of Estonia 2012b).
the 4th position in the share of annual FDI inflows in the first part of 1990s, which was led by manufacturing industry in absorbing foreign capital. Yet, by 2008, the FDI stock of financial sector was overwhelmingly ahead among economic activities (Hannula, Tamm 2002; Hunya 2009).

*Inward* internationalization of Estonian financial system started already in 1994, when a branch of Merita Bank (Nordea) entered the Estonian market. By 1995, the degree of internationalization of financial intermediation in Estonia was relatively high, as the share of foreign assets and liabilities in percentage of total assets and liabilities reached 21% (Fink *et al.* 1998, 665). Ever since, Scandinavian banks have been the major foreign investors in Estonia. While in 1994 non-residents controlled 14.7% of the share capital in Estonian banks, the figure had reached 60.7% by 1998 and by the onset of credit boom in 2005 it was 93% (OECD 2000b; Liuhto *et al.* 2007, 158).
As said, the turning point in banking internationalization was the 1998 economic crisis, when Swedish SEB and Swedbank acquired the majority share of the depreciated share capital of Hansabank and Estonian Union Bank that were facing financial difficulties. SEB bought out 100% of shares from minority shareholders of Estonian Union Bank in 2003, while Swedbank completed a takeover of Hansabank in 2005, after which both banks were de-listed from the Tallinn Stock Exchange. Therefore, by the gradual takeovers, Scandinavian banks became majority shareholders and local banks were turned into either subsidiaries or branches of the respective banking groups (Liuhto et al. 2007, 158; Khoury, Wihlborg 2006, 134-135).

With regard to internationalization, similar propositions hold for other financial intermediaries as well. In insurance segment, companies that had belonged exclusively to local investors throughout the 1990s, started to search for strategic investors in 1998, whereas non-resident insurance companies increased little by little their presence (Bank of Estonia 1999). As noted before, the majority of the capital in the investment funds has been channeled to the EU capital markets. The share of the foreign assets of investment and pension funds has steadily grown reaching 83% of total assets by the end of 2011, where investments in shares and fund units make up 67% of the total assets of investment and pension funds (Bank of Estonia 2012b). Tallinn Stock Exchange is another example of international integration due to the smallness of local market.

Apart from the size factor, there are several reasons behind the involvement of Estonian financial sector in internationalization processes. Outward-oriented internationalization, i.e. Estonian banks expanding into foreign countries, was mostly driven by the market-seeking motive and the first-mover advantage argument. Due to limited size of Estonian market and by having competitive advantages in terms of improved quality of loan portfolios, innovative products and new technologies, banks set their sights on other Baltic States (see Varblane, Sõrg 2003, 99-101; Roolaht, Varblane 2009, 228-230; Hagelberg 1997). The expansion of Estonian financial
intermediaries into banking and insurance markets of other Baltic States was encouraged by the rapid decline of interest rates in the Estonian market. Moreover, with the opening of Tallinn Stock Exchange, banks attracted from abroad more funds (portfolio investments) than the saturated Estonian economy could absorb, so that these funds were re-directed to Latvia and Lithuania (see Zirnask 2002, 147; Bank of Estonia 1998a).

On the other hand, stock exchange collapse in 1997 and Russian crisis in 1998 turned the situation upside down. With the rise in the required minimum level of share capital and own funds, struggling local banks faced a need to attract foreign capital. At that time the support for the inward internationalization of the banking sector was based on the argument of a more stable source of credit due to the access to prospective parent bank funds (see Sõrg, Tuusis 2008, 5-6). In the end, considering Estonian banks as a gate to the whole Baltic and Eastern European region with established networks, Swedish credit institutions decided to gain control over the leading local banks, especially, when the value of their shares dropped significantly. Aside from the increased market share and the gains from economies of scale and scope, one of the motives for Scandinavian banking to expand into Estonian market was the preceding inflow of foreign capital into the non-financial sector since the early 1990s, as foreign owned companies in manufacturing, retail and wholesale and other economic sectors have preferred to use support services, including financial services, within the established home-based networks (see e.g. Clarke et al. 2003; Bonin et al. 1998; Festić 2012, 201-203). Likewise, instead of procuring support IT service from local businesses, some of the foreign credit institutions have brought their home-based partners in IT and accounting services to Estonia (see Lumiste et al. 2008, 15-16). Therefore, the presence of foreign capital in both financial and non-financial sectors has incurred the process of cumulative causation and established positive feedback mechanisms.
Yet, the underlying proposition for the high level of internationalization of Estonian financial sector is the general neoliberal economic policy focus, i.e. emphasis on macroeconomic stability and openness, low taxes, and low government involvement in the economy (see e.g. Kattel 2010, 47). Further, amendments in banking regulations in the 1990s could be considered as an impetus for both internationalization and concentration in the local banking market. For instance, in order to meet 3.2 million Euros minimum own funds requirement in 1996, banks were implicitly forced to either merge, attract foreign capital (also by entering to international capital markets), or expand activities abroad (Bank of Estonia 1997a; see also section on Regulations and Macroeconomic Policies).

The high level of internationalization has entailed important ramifications for the local financial system. Foreign acquisitions in Estonia have changed the institutional landscape and deepened financial sector’s cross-border integration. Several authors [Uboupin 2004, 8; De Haas, Naaborg 2006, 176; Festić 2012, 189] have claimed that the overall stability in terms of strong prudential supervision, improved risk management, introduction of hard budget constraints, better disclosure and reporting practices, can be associated with the presence of foreign banks in Estonia. The impact of Scandinavian mother banks is clearly revealed in increased competition and the adjustments of subsidiaries’ operations in cost management as well as credit and personnel policy via transferred know-how, which laid the ground for higher profitability and lower credit losses [Liuhto et al. 2007, 160-163; Koivu 2002, 4-7; Sörg, Tuusis 2008]. Foreign owners have also affected the design of the internationalization strategy of subsidiaries in terms of taking either decentralized or centralized approach that has been reflected in the degree of integration of technological and other support systems as well (see Varblane, Sörg 2003; Roolaht, Varblane 2009; Männik et al. 2006; De Haas, Naaborg 2006 on business strategies of subsidiaries). Usually, headquarters in Sweden have restricted the autonomy of subsidiaries in Estonia and their further foreign expansion abroad.
More importantly, the acquisitions of local banks by Swedish Swedbank and SEB helped to re-establish confidence in the banking system and expand the funding base by improved access to liquidity lines from parent banks abroad, coupled with domestic deposit mobilization and retained profits (see De Haas, Naaborg 2006, 179-180; Kal Wajid et al. 2007, 20-24). Therefore, the progressive financial deepening has implied one of highest share of foreign currency in total debt and the lowest reserve coverage of this debt among the European emerging market economies. The share of foreign currency denominated liabilities (mostly deposits and loans from parent banks with 80% share) constituted up to 40–45% of total liabilities of the credit institutions in 2002, while the share of loans granted in foreign currency was around 80% of total loan stock and stayed as high until 2010 (Ahi 2002, 9-10; OECD 2011, 9-21; Bank of Estonia 2008b). Borrowing in foreign currency became popular because of the advantage of lower interest rates on these loans, while the expectation of the stability of fixed nominal exchange rate raised confidence (see Coudert, Pouvelle 2010).
On the macro level, the effects of the inward internationalization of financial system could be detected in the structure of foreign capital inflows. As seen from the figures 18, 19 and 23, the pattern of capital inflow has changed during the years, which has to do with the institutional transformation of the banking system. Starting with the FDI in 1990s, other foreign investments, i.e. loans, trade credit, deposits and other capital, increased their share drastically during the 2000s despite the high volatility in capital flows. In a 7-year span, the volume of foreign loans grew nearly 15 times. For instance, due to insufficient domestic savings, 1.34 billion Euros were borrowed from abroad to meet the growth in credit demand in 2004, with the share of institutional foreign borrowing reaching 42% of the total liabilities, while the rest being obtained from parent banks and by issuing bonds on international markets (see Sõrg, Tuusis 2009, 4-6; Bernhardtson, Billborn 2010, 17-19; Bank of Estonia 2005a). In the aftermath of 2008 credit crisis, the need for institutional foreign borrowing slightly decreased and its share of the liabilities fell, which was caused by
an increase in deposits as well as the fact that subsidiaries of larger banking groups were more often funded by parent banks instead of market-based funds. Also, the share of foreign funding, including loan capital from parent banks, in the balance sheets of banks operating in Estonia decreasing after 2008 crisis (Bank of Estonia 2010).

One of the main perils, however, was the eastward leaning of the international
expansion, which increased the risk level of Estonian domestic banking and its sensitivity to crises stemming from Latvia, Lithuania, Ukraine, and Russia that materialized in late 1990s (Varblane, Sõrg 2003, 101-102). As local banks were active on international capital markets already by mid-1990s, the first test of resilience of Estonian financial system to turbulences on international markets took place in 1997, when financial problems in emerging markets had a significant impact on Estonia by reducing asset prices and increasing interest rates (Bank of Estonia 1998a).

Today, Estonian financial sector can be affected through two channels. Firstly, should the liquidity and funding problems strongly affect the parent banks in the Nordic countries, the subsidiaries and branches located in Estonia are in danger of being affected through a rise in funding costs. The development of the Estonian banking market, including the growth rate of loans, is, thus, affected by the operations and objectives of Nordic banking groups. In essence, market sentiments towards the European banking and real estate markets as a whole are much more relevant for Estonian financial intermediaries than the direct impact of the rise in money market interest rates or the correction on the stock market (see Bank of Estonia 2008b).

Secondly, should the external demand, which has upheld economic activity in Estonia, experience a significant contraction, the income of the banking sector and the improvement in loan quality could suffer a setback (see Bank of Estonia 2012b). In the situation, where the market is in the hands of two largest banks - Swedbank and SEB with the market share of 64% (as of 2011) - vulnerability in the Estonian banking system stems from no legal obligation on the side of home country financial authority to rescue subsidiaries from severe liquidity problems or bankruptcy, since subsidiaries are separate legal entities. Risks in such financial architecture have been aggravated by the limited lender of last resort (LOLR) function of Estonian financial authorities due to currency board arrangement. Thus, there is a clear
trade-off between the responsibility for financial stability and the ability to intervene in the market in the current institutional arrangement, where the position of foreign capital is strengthening. Financial stability of the banking sector in Estonia depends rather on the monetary policy of Scandinavian countries and the supervision of financial institutions in home country (see Valužis, Židulina 2009, 110-112). On a more positive note, the operation of international currency markets has been affected by the requirement for total net open foreign exchange position of all foreign currencies not to exceed 30% of bank’s own funds, established in 1993. In 1999, with the introduction of Euro, Estonia pegged domestic currency to Euro and lowered the requirement of total net open foreign exchange position to 15%. Due to the pegging of domestic currency, this requirement has not been held for the German Mark and Euro positions, which have been prevailing within foreign currency denominated assets and liabilities of banking sector (see Bank of Estonia 1996a; Bank of Estonia 2000a).

II. 3 Impact of European Integration on Financial System

The impact of European integration on Estonian financial system could be addressed through the regulatory framework. It must be noted that Estonia has been a policy taker from the start. By setting up the local financial sector from scratch, Estonia has endeavored to adopt financial policies of advanced economies and adjust the legal framework to the EU regulations since the beginning of the transition period. In particular, economic policies were copied and taken first from the Washington Consensus toolbox and later from the EU (Kattel 2010, 56). By joining the IMF in 1992, Estonia accepted the obligation to refrain from imposing foreign exchange restrictions in accordance with Article VIII of the IMF Articles of Agreement (Bank of Estonia 1995a). In 1996, Estonia and the IMF signed a new memorandum, which pledged that Estonia would continue with liberal economic policies (Bank of Estonia 1997a). Nonetheless, because of the aspiration to join both the EU and the Euro area, the EU has had a most significant impact in terms of providing outside anchors for
the financial and economic development as well as pressuring authorities in order to meet the criteria for a membership by providing financial and technical support (PHARE\textsuperscript{22} program). This obliged local legislators to adopt and enforce laws and regulations in alignment with the EU standards (Berglof, Bolton 2002, 98).

The high degree of financial liberalization in terms of capital account, financial sector and stock market liberalization, was an essential part of the accession process to the EU. In particular, the signing of the European Agreement already in 1995 and Free Trade Agreement with EU in 1994 required external liberalization in terms of opening its financial markets to foreign banks and financial institutions after 31 December 1999 for further integration process (see De Souza 2004, 2-6).

The European Agreement stipulated that the credit institutions of Estonia and the European Union had the right to commence their activities in the territory of each other on equal terms with the domestic credit institutions. One of the core provisions was free movement of payments, investments and other capital as well as the obligation of Estonia not to impose restrictions on capital movement (Bank of Estonia 1996a). Another precondition for EU membership was the adoption and application of the \textit{acquis communautaire} in the field of banking, including bank supervision, deposit insurance etc. (Fink \textit{et al.} 1998, 671). Therefore, all essential legal acts, related to finance and insurance, have been enforced and amended according to developments in the EU. Given the dominance of foreign capital in the Estonian banking sector via either subsidiaries or branches, today the most relevant issue of the EU regulatory framework concerns the supervision and distribution of responsibility between home and host country authorities for deposit insurance.

As a result, the regulations on prudential ratios\textsuperscript{23} and methodological issues for financial sector corresponded to the requirements of the EU by 1997. Most of the EU

\textsuperscript{22} PHARE or \textit{Poland and Hungary: Assistance for Restructuring their Economies} was one of the three pre-accession instruments financed by the EU to assist the applicant countries of Central and Eastern European countries in their preparations for joining the EU.

\textsuperscript{23} The central bank has based its prudential ratios first, on the recommendations of the Basel Committee on Banking Supervision and secondly, on the requirements set down in EU directives (Bank of Estonia 2003a).
Directives concerning credit risk as well as investment restrictions and other EU requirements, e.g. prevention of money laundering and banking secrecy, were incorporated into Estonian banking legislation by 2000, with the exception of deposit guarantee institution. Estonia applied for a transition period for the application of the minimum guarantee level – 20,000 Euros – required in the Deposit Guarantee Directive in 2008 (Bank of Estonia 2001a; Bank of Estonia 2003a). Exemplary compliance with EU regulations and Basel core principles has been found to be associated with the increasing presence of foreign financial intermediaries in Estonia, as covered in the previous section (see also Festić 2012, 201).

Aside from the institutional convergence, the integration process has been also associated with the accumulative effect of the EU enlargement in terms of transfer of funds to lower income countries, including Estonia, that has boosted economic activity and stability. However, the clearest impact of the EU integration could be witnessed in the convergence of Estonian Kroon and Euro area interest rates in terms of decreasing the spread between rates (see Varblane, Vahter 2006, 33).

Hence, the integration with the EU has affected Estonian financial system and economy in general through three main channels: 1) EU financial regulations, 2) EU interest and exchange rate policy and 3) EU transfers.

II. 3.1 Regulatory Framework

Given the ideological (neo-liberal) position of government coalitions on the one hand and the necessity to establish new institutions from scratch on the other hand, the evolution of the regulatory framework in Estonia has been a mix of de-regulation and re-regulation at the same time. Although the impact of the EU has been significant, financial reforms and amendments in the financial regulation in the 1990s were mostly of a reactionary nature.

1989 - 1998

The first Banking Act that was accepted in 1989 before the collapse of the Soviet Union was so general that banks were free to decide on how to plan their
development and was quickly rejected as it did not suit the market economy. In the early years of independence, the incipient regulatory framework was modeled according to well-developed international standards, but inadequate infrastructure and human resources disabled the effective implementation of regulations and accomplishment of tasks. At the beginning, requirements for establishing a bank were lenient because of the objective to enhance competition by granting an easy entry via fairly low minimum capital requirements and lax review process of applications for a license. As a result, the proliferation of new undercapitalized domestic banks placed an added burden on regulatory structure, rather than improved the efficiency of financial intermediation, as these weak banks were engaged in risky activities (see Bonin, Wachtel 2002, 7-9). Without risk management systems, liquidity and solvency problems were easy to emerge, while central bank could not react, because there were neither regulations nor financial instruments to restore the solvency of banks with short-term liquidity problems. Moreover, there were no rules for placing a moratorium on the activities of banks (see Sõrg 2003, 14-15).

After the first banking crisis in 1992, public authorities took a decisive steps to stabilize the banking sector. In order to restrict the excess risks taken by banks, new prudential ratios were established in 1993: solvency ratio\(^{24}\) at least 8%, liquidity ratio\(^{25}\) at least 8%, risk concentration ratio\(^{26}\) of 800%, while for limiting foreign exchange risk, net foreign exchange position ratio was established (see Bank of Estonia 1994a). The Decree of the Monetary Reform Committee of the Republic of Estonia in 1992 on obligatory renewal of bank licenses as well as the decision of the Board of the Bank of Estonia to raise the required share capital of banks to least 0.38 million Euros influenced the further development of the Estonian banking sector in terms liquidating insolvent banks, raising entry costs, and enforcing

\(^{24}\) The ratio of a bank’s own means to the total of risk weighted assets and liabilities.
\(^{25}\) the ratio of a bank’s liquid assets to current liabilities.
\(^{26}\) ratio of total liabilities of high risk-concentration clients to the bank’s own means.
mergers. At the same, restrictions imposed on non-residents to possess the shares of Estonian commercial banks were renounced. Most restrictions on capital account transactions were abolished in 1992 and since 1994 there were no capital controls (Bank of Estonia 2001, 3; Liuhto et al. 2007, 159). Further, the Procedure for Giving Licenses to Banks for Independent Foreign Operations, adopted in 1993 paved the way for outward internationalization of local banking sector by giving banks the right to apply for a license enabling them to carry out independent foreign operations after 6 months of business operations (Bank of Estonia 1994a). By the end of 1993, all valid regulations limiting the export and import of foreign cash were abolished, which opened up possibilities for more vigorous penetration of international money markets (Bank of Estonia 1994a).

The established prudential ratios in 1992/1993 were not sufficient to prevent the second banking crisis in 1994. As a reaction to the collapse of the biggest bank at that time, new methods were adopted in the supervising of credit institutions that included a complex assessment of the quality of the bank’s assets, the strength of capital base, profitability, and the effectiveness of administration. Aside from new prudential requirements, such as improved capital adequacy (raised from 8% to 10%), increased minimum capital requirement etc., pre-emptive control was strengthened on the stages of issuing licenses to credit institutions by approving the members of management, while requirements for banks’ on-site inspections were made stricter (Bank of Estonia 1995a; Fink et al. 1998, 660-661). On the other hand, the revoke of the law on foreign currency removed the last restrictions on foreign exchange transactions and allowed resident individuals to open foreign currency accounts (see Bank of Estonia 1995a).

Moreover, Law on Credit Institutions was adopted in 1995, which established the basis for universal banking and enabled banks to own and finance other financial institutions, which necessitated the introduction of principles for consolidated financial statements. Aside from provisions on establishment, management, and
supervision of the bank, tighter regulation of credit risks, foreign exchange risks, and market risks, such as off-balance sheet risks, underwriting commitment risks, derivative risks, and equity position (own and trading portfolio) risks were spelt out. As most relevant at that time, the law incorporated provisions on capital definitions, various liquidity and solvency ratios, and exposure limits in lending. One of the messages of 1995 law and following amendments was to restrict lending to banks’ staff and owners as well as to reduce the possibilities to grant large loans to persons not directly related to banks, which affected the development of the banking sector in terms of giving advantage to better capitalized foreign banks (see Zirnask 2002, 123). These measures made the entry to the banking business more difficult and induced consolidation, as weaker banks were forced to merge with stronger ones. Nevertheless, institutional and staffing constraints implied relatively weak and ineffective supervision, which was hampered by limited reporting requirements and the lack of specificity in rules for transparency, disclosure of information, and insider trading. Before 1998, asset stripping of faltering banks could not be avoided, while recapitalizations could not prevent moral hazard. The explanation for the lack of political pressure for establishing strong disclosure rules and bank supervision lied in the focus on redistribution of wealth by privatization, as in turbulent and unpredictable circumstances people were more concerned about getting rich quickly by accumulating existing state owned assets and companies rather than creating new value (see Fink et al. 1998, 662-670; Cavalcanti, Oks 1998, 1-16; Hagelberg 1997).

Regulations in banking were paralleled with the formulation of legislation for securities markets and investment funds. Securities Market Act, enforced in 1993, regulated the primary and secondary markets, the issue and registration of securities, disclosure by issuers, licensing of brokers, definition of insiders and

27 The loans to one customer or connected parties were not allowed to exceed 25% of the bank’s own funds, while the total sum of large exposures 800% of the bank’s own funds (Bank of Estonia 1997a; Bank of Estonia 1995a).
insider trading, monitoring and supervision by the Supervisory Board, and minimum capital and capital adequacy requirements for investment funds in accordance with EU Directives. To complement the Securities Market Act, the Investment Funds Act was enforced in 1997 with the objective to guarantee the transparency of the market, protect the investors, and make supervision of investment funds more effective along the principles of EU Investment Funds Directive, although the activities of investment funds were first regulated in 1994 by a Government directive, which set the supervision and several limits for the investments by the funds (Bank of Estonia 1995a). The new act stipulated the types of investment funds and introduced the minimum capital requirement for the asset management companies. Insurance Law since 1992 has contained provisions on regulating the life and non-life insurance activities, investment rules, solvency, licensing, disclosure requirements, and insurance supervision (Cavalcanti, Oks 1998, 8-18; Bank of Estonia 1997a). Nevertheless, compared to the efforts made in the banking regulation, legislation on non-banking part of the financial sector was considered inadequate, whereas the laws on protecting creditors (guaranteeing deposits), anti-money laundering issues or debt and contract matters were missing altogether in the 1990s (see Bank of Estonia 1997a).

In short, the main challenges in the early 1990s were the malfunctioning of financial institutions, weak legislation, and shortage in human capital, followed by the reorganization and reforms in the financial sector in the second part of the 1990s (see Koivu 2002, 4). Zirnask (2002) has described the evolution of Estonian banking regulation in the 1990s quite vividly, when comparing the reporting requirements and prudential ratios in 1998 and 1993 with an airplane and a bicycle, respectively (see Zirnask 2002, 243).

Stock market crash in 1997 and the following third banking crisis marked a new chapter in the Estonian regulatory environment. In the aftermath of 1997-1998 crisis,

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28 Open contract-based funds and closed share holding-type investment funds were allowed in Estonia, but no open corporate funds and closed contract-based funds.
the major revisions in the regulations included the introduction of a market risk component and the tier 3 capital to the capital adequacy ratio, while the risk-weight of local governments’ liabilities was raised from 50 to 100%. At the same time, the procedures for classifying and provisioning of loans and closer observance of the banks’ off-balance sheet activities were specified (Bank of Estonia 1998a).

In 1999 Estonia adopted a European-type Credit Institutions Act, based on EU Banking Directives, the national legislation of many countries, materials from Basel Committee on Banking Supervision and recommendations made by several foreign experts. One of the underlying changes in the Credit Institutions Act concerned the risk assessment, management and control of credit institutions to improve the transparency as well as market discipline of the banking sector. Furthermore, the new Credit Institutions Act was more specific in establishing the roles and responsibilities of the Banking Supervision Department in executing oversight. The law stipulated specific rights for obtaining information, executing on-site inspections, engaging third party auditors or experts, demanding revitalization plans and issuing prescriptive orders. The right to intervene into the management of the credit institution was significantly expanded with the right to issue precepts to convene the meeting of a credit institution’s governing bodies and demand the removal of a member of the Executive Management or Supervisory Board of the credit institution. The new Act also granted the authority to initiate legal action to invalidate the decisions taken by the governing bodies and to designate the auditor (RT I 1999, 23, 349). In 2000, Public Disclosure Reports of Credit Institutions established procedures and minimum requirements for credit institutions to disclose their management, risk profile, economic activity and condition, based on recommendations of the Basel Committee of Credit Institutions. As a result, banks were compelled to prepare comprehensive quarterly public disclosure reports of their activities, which made comparable data about banks and their subsidiaries

The institution of deposit guarantee was set up in 1998 with the enforcement of Deposit Insurance Fund Act. The Estonian deposit insurance scheme established a Deposit Guarantee Fund (DGF), which has been based on ex-post financing (Bank of Estonia 2001, 27-30). By 1999, by and large, Estonian legislators had adopted the regulations for banking sector, accounting practices and organization of work in accordance with the practices of western European banking sector, but with the exception of deposit guaranteeing system.

2000s

Several surveillance assessments and studies (see Neyapti, Dincer 2005; Oxera 2009; OECD 2011) have found Estonia’s banking system and financial services in the new millennium to be relatively well-regulated, based on the quality measures for banking regulation and supervision. With regard to institutional development, the establishment of a unified financial supervision agency in 2002 marked a fundamental reform in the financial sector. The new Financial Supervision Authority (FSA) was established as an agency with its own budget and autonomous competence, which reports to the Parliament. Budgetary independence from the government and central bank has been ensured through the application of the funding scheme, which obliges subjects of supervision to finance the activities of the agency (Bank of Estonia 2002a). Despite its independence, FSA has been conducting prudential supervision in close cooperation with the Bank of Estonia and Ministry of Finance as well as foreign supervision authorities. The cooperation agreement on the management of financial crises, which was signed in 2006, designated the duties of the Bank of Estonia, Estonian Financial Supervision Authority and the Ministry of Finance, as well as the ground for joint action in case of a financial crisis. Furthermore, the ground for more effective cooperation and exchange of information
was laid in the memorandum of understanding between the Financial Supervision Authority and Tallinn Stock Exchange (OECD 2011, 32).

Accession to the EU and the development of international financial regulations did not leave Estonian legislation unaffected. Amendments in the Credit Institutions Act in 2004 concerned the procedures for banking license application, clarifications of relationships between market participants and the Financial Supervision Authority, and the modifications of credit institutions’ prudential requirements, e.g. risk weightings for claims of residents of EU-10 states in calculating capital adequacy ratio were decreased and the 50% risk weighting ratio established for local governments and investment companies was reduced to 20% according to EU Directive. On the other hand, the risk weighting of housing loans was raised from 50% to 100% in calculating capital adequacy, implying the need to increase the share of own funds in housing loan activities, which in general increased capital buffers of banks (Bank of Estonia 2006a; Bank of Estonia 2005a). Further strengthening of capital adequacy regulations was caused by the need to adopt new Basel II framework. Also, amendments in the Credit Institutions Act in 2006 obliged credit institutions to inform clients about the potential risks related to loan-taking in order to protect them (Kallakmaa-Kapsta 2007, 17; Bank of Estonia 2009).

With regard to the challenges to the regulatory framework, several authors (Kask 2005; Kal Wajid et al. 2007) have indicated three types of problems in cross-border banking crisis management: insufficient information, limited power, and conflict of interest. In the case of Estonia, where two subsidiaries and two branches of foreign banks hold a systemically important market share in the banking sector, the institutional framework has to adhere to differing approaches and principles in the division of tasks for supervision, deposit guarantee schemes and governmental capital support between home and host country. The centralization of key business functions, such as liquidity and risk management has made separate assessments of subsidiaries more difficult, when the obligation for general financial stability runs
along the national borders. For these reasons, in addition to being anchored in the European framework, Baltic-Nordic cooperation has been bridged with memoranda of understanding (MoU) that specify the principles of emergency liquidity assistance, market intervention and cooperation, although being legally unbinding. MoUs have established the principles of information sharing between the supervisors by explicitly stating who informs whom, when, and what information will be provided at a minimum.

Apart from legally binding measures, public authorities have drawn attention to increasing risks in the economic environment, in particular in commercial real estate, housing and consumption loans, and have issued general recommendations for lending (Bank of Estonia 2003a). Already by 2003, the central bank drew attention to the threats accompanying fast credit growth. The banks were advised to apply conservative down payment requirements when granting loans and to consider the future incomes and interest rate sensitivity of the borrowers. Also, the need to inform the clients of the risks associated with borrowing was stressed (Bank of Estonia 2004a).

In response to the global financial crisis in 2008, Estonian authorities took several steps. First, the government decided to guarantee the deposits, including the deposits of large companies, held with credit institutions registered in Estonia and in the branches of foreign credit institutions to the extent of 100% of their accounts, but up to a maximum of 50,000 Euros initially, although later raising it to 100,000 Euros per depositor. Moreover, the state’s opportunities to give banks guarantees or loans for coping with liquidity or solvency problems, should it be necessary, were improved. In order to ease the limitations of the currency board arrangement in terms of the ability to act as a lender of last resort, the Bank of Estonia worked out a framework for granting emergency liquidity assistance to troubled credit institutions against sufficient collateral in the context of crisis management. Furthermore, the Parliament enforced the Law in 2009 that was related to the financial crisis
management by the State. The law clarifies the conditions, when the state reserve (stabilization reserve) can be used to address a financial crisis. It also stipulates the speeding up of decision-making processes in the Parliament during the financial crisis by permitting single decisions to be made in one reading instead of the customary two (OECD 2011, 38).

As a result, the rights of the Financial Supervision Authority were expanded for intervention into and inspection of the activities of banks in crisis. Moreover, the state was granted the right to consider expropriating the shares held by the owners of banks operating in Estonia (Bank of Estonia 2011a; Bank of Estonia 2009b). That said, interference into the everyday activities of credit institutions is allowed only in case of a breach of legal acts regulating the activities of banks, or when unjustifiably high risks are taken that can endanger the interests of creditors.

The most significant development was the adoption of Debt Restructuring and Debt Protection Act that was enacted in 2011 to enable individuals in financial difficulty to restructure their debts, thus offering them an alternative to personal bankruptcy. Under the act, a court application is filed to reduce the applicant’s debt, containing proposed measures for restructuring the debt, which include an extension of the terms for the performance of obligations, partial performance of obligations, and a reduction of obligations. The debtor may use the help of a solicitor to develop a debt restructuring plan. The court will approve the plan if at least 50% of the creditors agree to it and if those who do not agree are not discriminated against. The court may also approve the plan in case less than 50% of the creditors agree, if the court finds the debt restructuring plan to be reasonable and that the creditors are treated equally. The court may also change the method and extent of debt restructuring. After approval, the claims covered by the debt restructuring plan may be executed only in accordance with the plan. In general, the act favors extensive debt restructuring, including a reduction of principal claims (RT I, 06.12.2010, 1). Bank of Estonia (2010) has found that such legislation has several pitfalls and might incur
undesired consequences, e.g. prevent banks lowering interest margins and force them to restrain lending. For the debtor, on the other hand, the debt restructuring method is costly and requires expert consultation. Furthermore, the act states that a judge will decide upon the reduction of debt, but does not specify any clear criteria, which may create confusion about debt obligations, and increase the motivation of debtors not to perform their obligations, but to try to reduce them with the help of the court.

Related to Debt Restructuring and Debt Protection Act, there have been amendments in other legal acts (Law of Obligations Act) for regulating the activities of non-bank financiers, i.e. so-called ‘ninja loan providers’. Because of the fact that these entities have become one of the main alternative channels for indebted and poorer segments of population, who have been omitted an access to banks’ loans to get credit for servicing previous debts or cover everyday expenditures, in principle, these SMS loan providers have entailed Ponzi schemes. Due to their aggressive and even exploitative marketing strategies, several amendments have been made in 2009 and 2012 in advertising and debt regulating legal acts in accordance to EU Directives. These amendments concerned the establishment of responsible lending principle, codes in the calculation of debt servicing ability of borrowers, the requirement on the content of advertisements, and setting an upper limits on credit costs, i.e. interest rates, based on average monthly loan interest rate of credit institutions, announced by the central bank (RT I 2001, 81, 487; Kotto 2012). As of 2012, the financial sector is directly regulated with 14 legal acts, numerous decrees of the Governor of the Bank of Estonia, decrees of the Minister of Finance, and the decisions and guidelines of the Council of Financial Supervision Authority.

II. 3.2 Macroeconomic Policy Context

In addition to financial regulations, Estonia’s aspirations to join the EU and the Euro
area have integrated the local macroeconomic policy environment with the EU since the introduction of Euro and implicitly even before. Estonia run the currency board system from 1992 until 2011, when it joined the Euro area. In short, maintaining fixed rate of the Estonian Kroon has implied the full coverage of the central bank’s liabilities, including the monetary base, i.e. M0, in the economy, with gold or foreign exchange reserves and complete convertibility of the Estonian Kroon in current and financial account transactions. The exchange rate of the Estonian Kroon was rigidly pegged to the German Mark and later to the Euro, while the devaluing of the Estonian Kroon or the financing of government debt by the central bank were prohibited. Therefore, the money supply was limited by the increase of the foreign exchange reserves of the Bank of Estonia (RT 1992, 21, 300; see also Khoury, Wihlborg 2006; Cavalcanti, Oks 1998; Bank of Estonia 1994a; Bank of Estonia 1996a on peculiarities of Estonian currency board arrangement).

Such monetary arrangement eliminated traditional central bank functions, such as monetary control via interest rates and lender of last resort (LOLR), and left no scope for discretionary monetary policy. In these circumstances, domestic interest rates and monetary aggregates have developed freely, based on market mechanism and the impact of anchor currency interest rates on domestic interest rates. By pegging Estonian Kroon to the Euro, European Central Bank’s (ECB) monetary policy decisions had an almost immediate impact on real sector loan interest rates in Estonia and directly affected the economy in the condition of free movement of capital (Bank of Estonia 2002a; Raudsepp et al. 2003, 57). Thus, in essence, Estonia outsourced its monetary policy in terms of interest and exchange rate determination from the outset.

On the other hand, the currency board arrangement has imposed constraints on commercial banks’ operations by requiring them to hold sufficient reserves of domestic currency or assets that can be freely converted into foreign currency.

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30 The main function left to the central bank was a forex window standing facility, i.e. enabling local credit institutions to purchase or sell unlimited all primary currencies at the Estonian Kroon exchange rate.
Hence, the central bank has mostly relied on minimum reserve requirement facility for ensuring adequate liquidity buffers and thus financial stability (see Cavalcanti, Oks 1998, 1-4; Pilinkus et al. 2011, 392-393; Hagelberg 1997; Bank of Estonia 2001a). According to legal provisions, the reserve requirement obliges credit institutions to keep a part of their liabilities as buffers in the central bank or in high-quality foreign assets. Once again, the reserve requirement facility has been adjusted according to developments on the local market and in line with the EU integration as well as broader internationalization. In response to the first banking crises in the early 1990s, the Bank of Estonia implemented prudential measures in accordance with international standards (Basel II), which among others included a 10% reserve requirement of deposits. After 1997/1998 crisis, several adjustments were made. In order to reduce the negative impact of the large capital inflows, Bank of Estonia extended the reserve requirement to the net liabilities of domestic banks vis-a-vis non-resident credit institutions in 1997. At the same time, the central bank also reduced the share of cash permitted in calculating the reserve requirement to 30%. As a temporary measure with the purpose of enhancing liquidity buffers and suppress excessive credit growth, additional liquidity requirement was set for banks, which required them to hold an additional 3% of reserves over the reserve requirement base. Also, daily reserve requirement of the reserve requirement base was increased from 2% to 4% (Bank of Estonia 1997; Cavalcanti, Oks 1998, 1-16; Hagelberg 1997). At the same time, the constant maintaining of reserves was replaced by the obligation of keeping the balance of the deposits in the central bank at the required monthly average level, which gave banks a considerably larger base money buffer at their disposal for everyday transfers. Furthermore, in addition to the central bank’s decision in 1999 to pay interest on reserves, which eliminated the need to issue interest-bearing instruments that could be purchased by the commercial banks and count them as reserves, credit institutions were allowed to invest a designated part (25%) of the deposits with the central bank in Euro-
denominated high-quality liquid foreign bonds that possessed high credit rating
After the turn of the millennium, the central bank continued with the precautionary
reserve policy. In order to limit risks, related to rapid credit growth, the Bank of
Estonia reminded credit institutions several times of potential risks related to rapid
credit growth. In 2006, the reserve requirement was increased from 13% to 15% for
all liabilities. In line with Euro-zone accession, the minimum reserve requirement
was gradually lowered from 15% to the 2% of the Euro area in 2010 (Bank of Estonia
2011a; OECD 2011, 35). Therefore, aside from implementing conservative reserve
policy, the only leeway for the central bank to alleviate imbalances in the economy
was to draw attention to emerging macro risks and exert moral pressure on the
financial sector. The communication by the central bank via official studies, annual
reports and press releases has on several occasions reiterated the importance of
curbing inflation and converging the price level in Estonia with the EU average
indicators. The argument for the currency board system was belief in its ability to
guarantee macroeconomic stability by primarily constraining high inflation in the
early 1990s. Hence, the task of the monetary policy framework has been to secure
an unchanged transfer of external signals into domestic prices and to allow smooth
adjustment of the price level and structure with that of developed market
economies. Since the monetary reform in 1992, Estonia’s inflation pace has been
subject to inflation in the EU and later the Euro area. These are primarily monetary
policy benchmark rate decisions taken by the European Central Bank that have had
an impact on Estonian economy. The movement of the interest rate in the Euro area
and the exchange rate of the Euro have not impacted only Estonian interest rates
and the exchange rate of the Estonian Kroon against other currencies, but also the
real economy, as these transmitted external signals have had a long-term impact on
the gross demand and inflation rate in Estonia (Bank of Estonia 2003a). Therefore,
inflation in Estonia has been first of all influenced by the growth rate of international
prices transmitted by the medium of the fixed exchange rate, not discretionary monetary policy measures by the central bank.

*Fiscal Policies*

Although the fixed exchange rate policy left the government with fiscal policy instruments as the main tools for adjusting economic cycles, the currency board arrangement stipulated conservatism in fiscal policies with the adherence to balanced budget and low public debt level. By keeping public sector total debt burden low at about 4-6% of GDP, the state and consolidated government budget was in surplus during the 2000s until the crisis in 2008 (Lumiste *et al.* 2008, 33). Thus, the same macroeconomic policy environment in terms of conservatism in fiscal policies and neutrality in monetary policies has been sustained for almost 20 years since the early 1990s with the belief in simple taxation system, based on the principle of proportional and uniform tax rates, and balanced government budget for the purpose of the price and macroeconomic stability (see e.g. Khoury, Wihlborg 2006; Raudsepp *et al.* 2003; von Tunzelmann *et al.* 2006; Purju, 2004 on the history of Estonian macroeconomic policy).
One needs to acknowledge that government budget deficit in late 2000s would have been even more substantial, if not cushioned by EU transfers. Controversially, the EU structural funds, which were supposed to be supplementary to the state’s contribution, have replaced a large share of the state’s allocations for R&D and innovation development, which testifies the secondary importance of innovation from the public finance perspective (see Madureira et al. 2007, 40-41; Lukason, Masso 2010, 262).

Quite palpable channels could be distinguished whereby fiscal policies have affected the financial deepening of the Estonian economy. Moreover, some of the fiscal decisions have directly impacted upon the operation of credit institutions. For instance, the establishment of Stabilization Reserve Fund\textsuperscript{31} involved the withdrawal of deposits from commercial banks, while the 1993 decision to transfer the servicing of state budget from the largest commercial bank to other banks precipitated the second financial crisis in 1994 (see Cavalcanti, Oks 1998, 1-16; Hagelberg 1997).

\textsuperscript{31} The Stabilization Reserve Fund was instituted for collecting budget surpluses and privatization proceeds that amounted to 3.5% of GDP in 1999 and 9% of GDP in 2008. The assets of the fund were not allowed to be invested into domestic securities, but abroad (OECD 2000; Bank of Estonia 2010a).
The most significant reforms have taken place in the tax system. The tax reform in 1994 introduced a flat 26% tax level for both personal and corporate income tax, while from 2000 undistributed profits from the corporate income tax have been exempted. Flat income tax rate, introduced in 1994 instead of three tax rates on personal income, has decreased from 26% level in 1994 to 21% by 2009. Moreover, social contributions in terms of unemployment insurance premiums and funded pension payments have been pegged to wage levels. Corporate tax reform in Estonia in 2000 nullified the taxation of retained earnings and levied corporate income tax only on distributed profits, mostly dividends. In other words, the taxation of profits was postponed until the moment of distribution [Lumiste et al. 2008, 33]. Thus, instead of providing cross-border financial services, 2000 amendment in the Income Tax Act incentivized the banks and other financial intermediaries to re-invest accumulating profits back into the economy instead of taking these funds out as dividends. As of 2011 neither of the largest credit institutions in Estonia, i.e. Swedbank and SEB, has paid out dividends since 2000.

Furthermore, already in 1993, the Income Tax Act provided the possibility to deduct housing loan interests from taxable income, which has contributed to upholding the high level of household indebtedness and the widening of real estate market. On top of that, in 1999, Hansapank (the largest one at the time) made a proposal to the Government to partly guarantee the down payment of loans within the framework of the housing program for young families, which would enable the bank to reduce the required down payment rate. The support scheme that was implemented by the state-owned fund KredEx in 2000, gave access to loans also for those borrowers, who could not afford a loan without the state support scheme. In essence, this decision by the Government provided security to banks and enabled them to earn more interest income on the increased number of issued loans [see Kallakmaa-Kapsta 2007, 11-12].

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32 Currently, personal income tax has a 21% flat rate. VAT is 20% as a standard, but there is no capital gains tax on institutions, while individuals are taxed at a flat rate of 21%.
When the possibility of an overheating economy was acknowledged at the beginning of 2000s, the Estonian government, on the recommendation of the central bank, withdrew part of the deposits from local banks in 2002 in order to draw the attention of the public and the financial sector to scarce savings in the private sector in financing credit growth as well as to growing external borrowing (Bank of Estonia 2003a). In addition, the 2001 amendment in Income Tax Act limited the maximum amount of housing loan interest, deductible from income to 6391.16 Euros per one taxpayer, while the 2005 legislation lowered this amount twofold [see Kallakmaa-Kapsta 2007, 7-12]. The Bank of Estonia also advised the government to run an even larger budget surplus and to renounce the tax deductibility of mortgage interest payments altogether [see OECD 2011, 35]. Nonetheless, relatively expansionary fiscal policy helped to stimulate the growth of Estonian economy, as during the boom years, wage increases in the public sector were coupled with the easing of the general tax burden [see Bernhardtson, Billborn 2010, 10]. In practice, none of these measures had a significant effect on curbing the increasing credit growth and imbalances in the economy, but the opposite.

Estonian case is a good example of the implementation of neoliberal policy toolbox in transition context. Raudla and Kattel (2011) have studied the roots of the consistency in macroeconomic policies in Estonia in terms of interactions between political ideas and institutions. Fiscal policy choices made in the 1990s became path-dependent as a result of positive feedback loops from previous periods of fiscal consolidation. During the previous major crises in the 1990s, governments responded by cutting expenditures to curtail the budget deficit. As the period of fiscal retrenchment was followed by economic recovery, the conception of such causality became rooted in the mindset of politicians. Given the high growth rates during the 1990s and early 2000s, the economic success has been ascribed to the adopted policy choices that could not be neglected nor challenged without getting politically stigmatized. Such path-dependency has been further reinforced by the lack of institutional capabilities
created by initial macroeconomic policy choices, which in turn, hindered the development of specific institutions for more activist macroeconomic management. Moreover, governments embraced the idea of maintaining balanced budget, which was propagated throughout the years by IMF in Estonian public finance discourse. Thus, at the outset of financial crisis in 2008, there was essentially no experience with alternative macroeconomic policy ideas among politicians or public servants due to the lack of a domestic heterodox economic tradition. These developments explain the passive attitude and the implementation of vigorous austerity measures in the aftermath of 2008 crisis, fueled by the desire to join the Euro-zone as a way out of economic recession by attracting foreign investors and raising confidence in Estonian economy. The arguments of the need to protect foreign creditors and maintain good reputation on international arena were echoed in the resistance to undertake external devaluation, which would have damaged the financial position of credit institutions. Berhardtson and Billborn (2010) have elaborated on the foreign ownership of Estonian banking as the reason for neglecting the possibility of adjusting nominal exchange rate and instead, opting for internal devaluation to restore the competitiveness by reducing wages and public expenditures. Maintaining the fixed exchange rate was in the banks’ interests, as otherwise, debts and loan losses would have increased very rapidly. The option of external devaluation was off the table by joining the Euro area in 2011.

II. 4 The Nature and Degree of Competition Between Financial Institutions

With regard to the issue of competition between the financial institutions, the situation is ambivalent and depends on the interpretation as well as the general market conditions. For instance, a variety of investment services is provided by only 6 licensed investment companies in Estonia. On the other hand, given the access to around 1500 cross-border service providers for Estonian non-financial companies, the market for investments services, e.g. purchase and transfer of securities for the account of a customer, underwriting a securities issue, management of a portfolio of
securities for customers etc. is more competitive. With regard to the insurance sector, it was dominated by small companies with high operating costs in the 1990s, but saw gradual concentration as a result of mergers and take-over, which were affected by the introduction of requirements for the minimum capital of the insurance companies in 1996, when the leader of the insurance market in both life and non-life insurance, Estonian Insurance, was privatized (Bank of Estonia 1997a). As of 2010, the life insurance sector was very concentrated with 3 insurance companies out of 5 holding about 85% of the total market, whereas in the life-insurance market 5 of the largest insurance companies out of 8 controlled 84% of the market. As stated above, the majority of the insurance industry has been under the control of foreign capital (FSA 2011). Essentially, the Estonian financial sector has competed with international institutions, as many companies have incorporated funds from their parent companies or directly from international capital markets (see Bank of Estonia 2002a). Therefore, more important than domestic competition is the penetration of foreign banks into the Estonian market and the integration of the Estonian banking sector into Scandinavian banking groups, which implies close linkages between domestic and external credit, and essentially, increased vulnerability to external rather than internal shocks.

Accordingly, the competition in the banking sector and its evolution have to be addressed in broader institutional and international framework, where internal and external factors to the banking sector are taken into account. Rather liberal licensing practices and limited supervision caused a flourishing of new banks in the early 1990s. The period until 1994-1995 could be characterized by the presence of a large number of small and inadequately capitalized banks, followed by substantial consolidation. This was affected by the waves of banking crises and regulatory amendments in terms of stricter requirements on the share and equity capital of banks, which motivated banks to look for strategic investors and possible mergers. Because of the reforms that the central bank initiated with the aim to enhance the
supervision of banks, the number of banks decreased dramatically – from 42 banks in 1992 to only 16 in 1996. Another reason for consolidation in the banking segment has been the increasing number of large-scale projects, which small banks have not been able to finance, and high unit costs or small returns on scale. 1997 was the year of rapid expansion and saw an increase in the level of competition among banks in lending activity. Pre-1997 competitive pressures compelled the banks to engage in risky economic and management decisions, which surfaced with the worsening of the business environment in 1998 and resulted in the dropout of three banks from the marketplace. Thus, financial crisis in 1998 brought along another wave of restructuring, which reduced the number of banks to 7. Moreover, four major banks formed two big banking groups - Hansapank and Estonian Union Bank - in 1998 that controlled 80% of the market. In spite of the consolidation of the banking market, the increasing activity of foreign banks in local market as well as the extension of alternative investment possibilities and decreased state participation in banks increased the competition, which was reflected in the decreasing interest rate margins and drop in mortgage loan rates. All in all, most of the mergers in the 1990s were not undertaken to derive synergy or cost efficiencies, but to meet the harsher equity capital requirement (see Ahi 2002; De Souza 2004; Khoury, Wihlborg 2006; Zirnask 2002; Bank of Estonia 1995a; Bank of Estonia 1999a on competition in the banking sector).

According to the study by Philippatos and Yildirim (2002) and Ahi (2002), by the beginning of 2000s the Estonian banking sector was characterized by monopolistic competition, which could be explained by the small size of the market. Even currently, the specific characteristic of the banking system is its very high concentration, where a few large banks dominate. The two largest banks had a 63% share of the total assets in 2011 (FSA 2012). When considering two concentration ratios - the Herfindahl-Hirschman index (HH) and the market share of the top five banks - these indicators are the highest in Estonia among the EU countries. While
the HHI index of banking market concentration decreased from 4,312 in 1997 to 3,120 in 2008, the G5 for banking increased from 75% to 94.8% during the same period (see Sõrg, Tuuis 2008, 15; Ahi 2002, 11). Given the bank-based financial system with the universal banking model, development in other non-bank sectors, i.e. insurance, leasing and fund management, have been paralleled by these trends in the banking segment with respect to competition.

By considering the loan market, competition has been on the rise, as evidenced by the shrinking interest margins and their convergence between banks. Over a third of mortgage loans were issued with an interest margin of 0.50–0.75% during the period of 2005-2008 and 75% of the new mortgage loans had an interest margin lower than 1%. Such a narrow range of interest margins reflected the fierce competition between banks to provide new housing loans (Bank of Estonia 2010, 16-20). Aside from the household segment, competition has been strong on the loan market for large companies. Thus, even though concentration in the banking sector has been high, the loan market has remained highly competitive (see Männasoo 2003, 35).
In addition, lower scale economies, enabled by e-banking solutions, particularly among financial services, such as bill payment services, mortgage loans, insurance etc., have increased competition as well (see Claessens et al. 2002, 1-2; Festić 2012, 189). Hence, from the position of authorities, there are seemingly no issues to be raised in relation to competition in the banking sector (see OECD 2011, 21).

In addition to competition among financial intermediaries, there are several cases of joint undertakings. Cooperation among financial institutions has mainly taken place in the establishment of supportive infrastructure and non-core business activities. In addition to the afore-mentioned securities settlement system, the Estonian Central Securities Depository, that was established by the credit institutions, a card payment system managed by Card Centre of Banks operated from 1993 to 2008 under the ownership of three biggest Estonian banks - Swedbank, SEB and Danske Bank (OECD 2011, 17-18; Estcard 2012). With the increasing number of point-of-sale terminals and the use of card payments, three banks gained control over the operation and costs of card payments infrastructure. This has raised concerns among merchants and service providers, as the banks have been able to impose a
fee as a percentage of turnover of up to 3%. Such fee has been considered as an extra value-added tax, imposed by banks (see Reinap 2003; Rand 2010). The most formal institutions for strengthening the position of financial intermediaries in the economy have been the representative associations. Credit institutions, private equity providers, insurance companies and real estate companies have all instituted associations mainly to represent the common interests of members in legal issues, discipline the members, share information, and formulate best practices. Moreover, cross-sectoral cooperation has occurred occasionally, in particular for raising funds via syndicated loans, which has taken place among venture capital funds, but also with commercial banks and “business angels”, when a venture capital has been insufficient to finance a project, but also to share risks and accumulate knowledge (see Sander, Kõomägi 2007; Kõomägi, Sander 2006).

II. 5 Survey of Previous Research on Efficiency of the Financial Sector

Several authors (see Claessens et al. 2001; Gual 1999; De Brandt, Davis 2000; Hasan et al. 2000; Berger et al. 2000) have argued that liberalization significantly affected the integrated banking sector’s performance and efficiency in the conditions of cross-border competition. In general, these studies have found that foreign banks tend to be more (cost) efficient and profitable than either state-owned banks or domestic private banks. For instance, Claessens et al. (2001) have claimed that the greater presence of foreign banks has enhanced the efficiency of the domestic banking system by decreasing banks’ overhead costs, which indicates higher efficiency. On the other hand, Yildirim and Philippatos (2003) have claimed that higher cost efficiency can be attained by higher degree of competition, which according to their study has not been the case in Estonia. Hence, despite the significant influence of foreign banks on local banking system at the end of 1990s and eventual acquisitions by Scandinavian banking groups, Estonia appeared to have one of the least cost efficient banking markets in CEE region due to highly concentrated financial structure and lack of competition, as three largest domestic
banks controlled more than 95% of the assets in 2000 (Yildirim, Philippatos 2003, 21-22). Liuhto et al. (2007) have specified that foreign banks’ entry significantly reduced the profitability and operational efficiency of domestic banks as a result of intensified competition in the banking market. On aggregate, however, higher cost efficiency of Estonian banking sector has been improved due to the wide-spread use of electronic channels and modern banking techniques, brought by foreign banks (Liuhto et al. 2007, 155).

One of the main topics in the studies on efficiency and profitability sources in Estonian banking has been the field of e-banking and its evolution. By having rudimentary e-banking elements, i.e. ATMs, bank cards, electronic banking solutions etc., in place already in the early 1990s, the history of Estonian electronic banking is only some years younger than the history of Estonian commercial banking in general. Almost all banks invested in expanding and improving their IT systems and as a result, the number of new e-banking services have been developed. Compared to the French and German IT hardware systems, all local banking technologies were relatively modern by the turn of the millennium, and therefore, more efficient (Ilison 2002 cited in Luštšik 2003).

Rapidly advancing e-developments have eventuated in e-brokering, e-insurance, e-exchanges, and even e-supervision. In essence, e-banking has enabled cost efficient expansion in the provision of financial services. E-banking services have offered a perfect opportunity for minimizing costs, as on the cost side, the payment in an internet bank costs 12.5 times less than payment at branch, whereas on the fee side, the average payment in an internet bank costs 4.8 times less than the payment at office. Therefore, Estonian banks have been operating on a relatively low cost base, as an estimated 95 percent of bank transactions are done electronically. Widespread use of e-banking that has enabled economies of scale, has been significantly influenced by the concentration of the Estonian banking sector, which in turn has provided a good platform for developing common standards for e-banking services
in all local banks. Moreover, subject to Digital Signature Act, which was enforced in 2001, these standards have been public and thus, have not incurred extra technological expenses. Aside from efficiency gains, e-banking has been an engine for maintaining continuously high incomes of banks despite the tendency of decreasing interest margins. Given the fact that on average 95% of total volume of all payments are concluded via e-bank facilities, i.e. online and offline internet banks and other electronic channels, and the share of branch network in payments decreased from 27% in 1999 to 5% in 2004, low unit costs compared to fees collected from clients have resulted in high profitability (see Liuhto et al. 2007; Eriksson et al. 2008; Luštšik 2003; Claessens et al. 2002; Sõrg, Ivanova 2008; OECD 2011 on Estonian e-banking).

Although incorporation into Nordic banking groups improved the operational base of local banks, the previous geographic expansion to other Baltic countries and rapid growth of leading banks in Estonia laid the ground for higher operational efficiency.
and economies of scale. Thus, aside from local internet and mobile banking services, banks have enjoyed efficiency gains also from common information technology (IT) platform in all 3 Baltic States. For instance, Hansapank group level IT cooperation and solutions have led to cost savings of around 10 million Euros per year. Also, product development has been centralized to save on costs. Thus, with the 20-40% annual increase of banking transactions, but IT related costs kept stable, Hansapank has managed to achieve increasing returns to scale. During the turbulent times in 2008-2009, Swedbank emphasized the importance of improving loan granting processes and increasing operational efficiency by reducing costs and implementing Lean Sigma Six model (see Hansapank 2002; Hansapank 2003; Hansapank 2005; Swedbank 2009).

Apart from the efficiency gains that have been achieved with the introduction of innovative technologies, public policies have had an impact on the operational side of banks as well. Bank of Estonia (2002a) has claimed that since 2000, banks’ efficiency and profitability, but even more stability, have been enhanced by the market-based approach to reserve requirement. Since the introduction of the liquidity portfolio option, i.e. reserve requirement met with foreign debt securities, banks have used it actively and the share of debt securities in the security portfolios of credit institutions increased on account of stocks kept for the purpose of trading (see Bank of Estonia 2002a).

II. 6 Profitability of Financial Sector

Given the model of Estonian banking and its high level of internationalization, the figures on the profitability of financial sector’s sub-sectors need careful interpretation. Figures on profitability in asset management (investment fund) or insurance might present a wrong picture, as most of the companies that dominate in these segments belong to credit institutions and thus, their profits are reflected in the consolidated income statements of banks. Moreover, the reliability of profit figures in the early 1990s is questionable, as at that time immature accounting
practices and loopholes in legal framework led to the manipulation of profit figures in reporting [Terk 1999, 160].
II. 6.1 Banks

Exceptionally high profitability of the banking sector is witnessed in the tripling of profits during a 3-year span from 2005 to 2007 before going into decline and eventual losses in 2009. Up until 2009, the banking sector was recording profits every year, with the exception of 1993 and 1998. Annual profits increased from 73.7 mln Euros in 2002 to 472.5 mln Euros in 2007. After the crisis in 2008, banking sector in Estonia carried losses for 5 straight quarters in 2009-2010 before recording positive profits in the 2nd quarter of 2010, achieved by the decline in the provisions established to cover loan losses. By comparing the profits of domestic banks to foreign owned banks, then all three local banks had varying patterns in their profitability: the largest local bank carried losses for 3 years during a 4-year period (2008-2011), while the second largest bank recorded profits during the whole period and the smallest one carried losses only for 2008 and 2009. An even worse drop in the
profitability of banks was avoided by the cut-down on expenses, sale of assets, one-off incomes from the reduction of the reserves accumulated earlier, and the decrease in contributions to the Guarantee Fund (see Bank of Estonia 2009b; Bank of Estonia 2011b). The mechanisms for increasing profitability before the crisis, however, were rather different.

The first reason for high profits of the banking sector could be found in the asset and liability structure of banks. Against the background of a rapid growth of banking assets, the share of loans to private persons and non-financial companies grew from 36% of total assets in 1994 to almost 70% in 2010, while during the boom years of 2004-2006 the loan stock nearly doubled. Given such dynamics in the structure of banks’ assets and the relatively high share of deposits in the liability structure, the main source of income and also profits for banks has been interest income with above 60% from total income (see Figure 30). Moreover, relatively high share of demand deposits that stood at 60% of banks’ total deposits before the 2008 crisis enabled to decrease the costs of banks’ liabilities (Sõrg, Ivanova 2008, 484-489; Bank of Estonia 2008b). The impact of increasing loan stock on profits has been clearly felt due the rise in interest rates, as most of the bank loans in Estonia have been granted with a floating interest rate (Sõrg, Ivanova 2008; Bank of Estonia 2007a). In spite of the declining interest margins, profitability has been maintained by consistently improving efficiency of the banking sector in terms of decreasing cost-to-income ratio, as was seen in the previous section. As a result of ongoing cost-containment, expenses of banks grew 3.3 times during the period of 2000-2007, whereas incomes grew more than 4.2 times due to rapid growth of credit and improving quality of assets, which allowed for the reduced provisioning from the end of the 1990s till the financial crisis in 2008. Banks’ total net write-downs of claims did not exceed 0.1% of assets as an annual average before 2008 events (Festić 2012, 190-192).
Furthermore, the provision of services and the wide range of financial products, offered to clients, have contributed to the profitability. As covered in the previous section, automated e-banking services have offered a perfect opportunity for maximizing profits for Estonian banks, as the growth of self-service banking has been exponential (Luštšik 2003). Sõrg and Ivanova (2008) have concluded in their study that the reason for high profitability of the Estonian banking sector is its openness to innovation by introducing new products and new servicing methods irrespective of ownership structure. Aside from issuing loans and drawing loan contracts, service fees have been charged also for the use of electronic channels. By offering a multiple of cash management instruments to non-financial sector and private persons on internet sites, such as investment options into overnight, short-

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33 For instance, in 2008, SEB Bank introduced packaged products for private persons, whereby the most important bank services were made free of charge and instead of paying bank fees for transactions and services, customers paid fixed monthly fee. This new product won the prize for the most innovative marketing solution in 2009 (SEB 2010).
and long term deposits, into bonds and equities, into varying funds etc., service fees have grown consistently. Within nine years, the volume of payments made via direct debits has grown most drastically (160 times), while the number of card payments has increased nearly 27 times. At the end of 2007, 100% of the population had debit cards and 30% owned credit cards (Sõrg, Ivanova 2008, 484-489). As a result, already in 2005 the fee and commission income accounted for over a half of the net interest income of the banking sector (Bank of Estonia 2006a).

Secondly, the corporate structure of credit institutions and the competitive situation have had an important role to play in affecting the profit indicators. As lower competition is linked to higher profitability and banking concentration in Estonia is very high, bigger banks have managed to increase their profitability. Another way to increase the profit capacity has been to establish and overtake financial institutions, which offer non-banking services. In principle, high profits in the banking sector have been recorded as a result of dividend income earned from the profits of banks’ subsidiaries. For years, leasing has been an important way for the banks to increase their profits, which explains the 99% control of leasing segment by banks (Koivu 2002, 14-21). For instance, the biggest bank Hansapank earned 2/3 of profits outside of the banking services in 2006, whereas the second biggest bank SEB earned 1/3 of profits from additional out-house financial services (Sõrg, Tuusis 2008 7-11; Sõrg, Ivanova 2008, 484-489).

Thirdly, the impact of financial policies cannot be overlooked. Both corporate income tax reform and state guarantees provided by KredEx (see above) have contributed to increased profits of banks either directly or indirectly. The corporate tax regime has stimulated the consistent re-investment of profits, which has led to excess capital in the banking sector. Due to modest dividend payments boom-driven earnings have increased the capital cushions, while parent banks have supported their subsidiaries by setting relatively low dividend pay-out ratios. As of 2010, all the biggest foreign-owned credit institutions in Estonia have abstained from paying out dividends after
the full acquisition (De Haas, Naaborg 2006, 177-178; Männasoo 2003, 35-36; OECD 2011, 24). Another factor influencing banks’ profitability has been the central bank’s policy to remunerate all credit institutions’ deposits with the Bank of Estonia, while before 1999 central bank paid interest only for the credit institutions’ deposits exceeding the reserve requirement minimum (Bank of Estonia 2000a). Last but not least, the effect of the pension reform on the financial sector has been an increased funding to asset management companies, including banks. The state-supported pre-funded private capital-based mandatory pension (Pillar II) and voluntary pre-funded pension (Pillar III) have turned out to be a profitable business opportunities for financial institutions, in particular to banks, with administration fees as a stable source of income. All major financial institutions in Estonia have fought for a good position in the pension market, and have altogether created 16 pension funds.

Fourthly, in addition to consolidation, improving profitability has been attained by the involvement of strategic foreign investors, who have enhanced (risk) management systems (Bank of Estonia 2002a). From the outward looking perspective, external markets have been playing an increasing role with regard to banking groups’ profitability, where most of the external profits have been earned from Latvia and Lithuania. For instance, in 2004, dividend income from non-resident subsidiaries accounted for 28% of banks’ profit on a solo basis (Bank of Estonia 2005a). Since the growth in profits earned in the local banking and leasing market were showing signs of potential slowdown in mid-2000s, Estonian banks continued to look for opportunities to expand their operations to neighboring markets in order to maintain profitability (Bank of Estonia 2005b).

II. 6.2 Non-Bank Segment

Rapid economic development and stable external demand offered opportunities for all financial sector segments to flourish in pre-2008 period. All market participants in the financial sector generated profits for years before financial crisis in 2008 (see Figures 28 & 29). Before the crisis, the price correction on global stock markets in
2006 affected the yield and profitability of investment and pension funds as well as the insurance sector, entailing a slight slowdown of the brisk growth rate of assets (Bank of Estonia 2007a).

The impact of crisis on insurance companies was modest, but the continuing recession in the securities markets has undermined their profitability. The decline in profits in the life insurance market has been related to the decreasing yield of investments, whereas low investment profitability has also affected the profitability of non-life insurance companies, but this market has managed to maintain profits due to cost-efficient operations, conservative investment decision, and the decrease in the loss ratio (Bank of Estonia 2009b).

II. 6.3 Non-Financial Sectors

The treatment of non-financial sector as a homogeneous entity disguises important disparities and developments within the sector. The efficiency gains in non-financial sector in the early 1990s were achieved by reallocation and reorganization of productive assets, which required little investment in fixed assets. During the early transition period there was little correlation between investment and production dynamics. These facile sources of productivity were not sufficient for further improvements, as obsolete capital required new investments. The financing of these investments, however, was problematic due to poorly working capital markets and underdeveloped banking sector (Mickiewicz et al. 2006, 80). While in the 1990s, the efficiency indicators among non-financial companies revealed no significant differences between small and large companies with net operating profitability indicator (profit margin) being on average 3.1% and 3.4%, respectively (see Raudsepp et al. 2003, 69), the increasing FDI inflows and accompanying restructuring created dualistic structure of the economy that had implications for performance indicators.

The presence of foreign capital has gone beyond passive funding and usually involved hands-on restructuring, which, in turn, impacted the operational side and
financial profitability. Furthermore, foreign owned firms have experienced approx. 1/3 higher labor productivity than domestically owned firms, as foreign affiliates have tended to be larger than domestic enterprises, more export-oriented, and spend more on R&D per enterprise than local companies. In general, large medium-to-high-technology companies with core foreign owners have performed better than small resident-owned businesses in terms of profitability, productivity, export sales and so forth. Thus, the relatively high average ROE of 20% in 2005 in the Estonian economy could be mostly attributed to the impact of foreign investors [see Bank of Estonia 2004a; Vahter 2005, 9-10; Golebiowski 2007, 26; Männik et al. 2006, 283; Varblane, Ziacik 1999]. The profitability of foreign owned companies in Estonia could be seen in the increasing factor income outflow and reinvestment of profits that has kept up the high level of FDI inflows into Estonia.

Since the early 2000s, the higher profitability, credit and investment demand have been recorded in real estate and construction, compared to manufacturing industry
[Bank of Estonia 2004b; Bank of Estonia 2006b]. However, manufacturing industry has been able to maintain its profitability by growing sales without cost reductions, while the real estate and business services sectors have managed to retain high profitability only as a result of major cuts in expenditures against the declining sales incomes. Even higher profits and profitability indicators of non-financial companies before the 2008 crisis were curbed by the increasing wages that exceeded the productivity growth. This was a consequence of labor shortage in many sectors [Bank of Estonia 2007a]. Nonetheless, the growing profits of companies during the boom years increased their liquidity buffers, which were used during the crisis years [Bank of Estonia 2010, 11]. One cannot underestimate the impact of the EU structural funds and other transfers as the source of income for non-financial sector throughout the years [Bank of Estonia 2005a].

The total profitability of companies shrunk in all sectors in 2008 on y-o-y basis, where the profits of hotels, restaurants and real estate companies declined the most [Bank of Estonia 2009b]. The level of total profits in 2010 stood below the pre-boom level of 2003. Profits plummeted mainly in larger manufacturing companies with 100 or more employees, although recent recovery of external demand has improved the financial situation of export-oriented large companies. Against the deteriorating internal demand, the position of domestically oriented small manufacturers, on the other hand, has not improved by the increasing foreign demand [Bank of Estonia 2011b]. On the whole, the possibilities for gaining from increasing returns in the manufacturing sector have been hindered by the relatively large role of low-technology and medium-to-low-technology industrial sectors, as their share in the creation of the total manufacturing value-added stood at 58.2% and 21.2%, respectively, in 2001, while the same figures for 2009 were 53.2% and 20.5% [Männik et al. 2006, 271; UNIDO 2012].
III. RELATION OF FINANCIAL TO NON-FINANCIAL SECTOR

III. 1 Sources of Funds for Business Investments

Before discussing the situation with regard to financing of investment and access to external funding for non-financial companies, it is important to keep in mind that on European scales, Estonia has had a limited number of private companies that have grown beyond the criteria of small- or medium-sized enterprises (SME). Therefore, Estonian industry has been dominated by SMEs\(^\text{34}\) after the dismantling of centralized production facilities of the Soviet period. Companies with up to 100 workers made up almost 95% of registered enterprises in 1998. Based on the EU classification, there have been only a few large enterprises, which indicates different financing problems of most Estonian firms, compared to conventional corporations (see Raudsepp \textit{et al.} 2003, 58-59; Hansapank 2004). In addition to the size issue, the ownership structure in terms of domestic or foreign ownership has had an important impact upon funding sources too, although these two tend to be connected in Estonian case. On top of that, differences in the structure of sources of funds vary among industries that need to be acknowledged, when drawing conclusions.

When analyzing the sources of funding of business investments, including the role of the banking sector, the peculiarities of transition economies and the initial condition of the financial sector at the beginning of the 1990s need to be taken into consideration. In the 1990s, the structure of capital was affected by relatively few fixed assets that were acquired by businesses, which in turn indicated a low mechanization of the work and thus a high rate of manual labor. Furthermore, businesses found a niche in commerce, services etc., but not so much in production (Raudsepp \textit{et al.} 2003, 69). Thus, investments were mostly covered with own funds, although there were tendencies towards debt financing from 1993-1998 due to decreasing interest rates among Estonian commercial banks. In principle, the most

\(^{34}\) In 1996, approx. 28,500 SMEs were operating actively, employing 74% of the labor force, exporting 72% of total Estonian export value, and investing 60% of total investments in fixed assets, while most of the R&D investments were undertaken by large enterprises (Kinks 2000).

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preferred source of financing of Estonian enterprises has been internal equity capital, while the use of external funds, primarily in the form of bank loans, has occurred in the cases of a dire necessity, when internal funds are insufficient, or when cheap funds have been obtained from banks or within intra-group foreign parent companies (see Kõomägi, Sander 2006, Sander, Kõomägi 2007; 22-54; Zirnask 2008). In addition to bank loans, businesses started to rely increasingly on leasing facility in the early 2000s and borrowing less from banks, as bank credit was still relatively expensive; high net interest rates spread in the 1990s was one of the factors behind the limited demand for bank-based funding (see De Nicolo et al. 2003; Bank of Estonia 2001a; Masso et al. 2011, 22).

The increasing private sector investments were sustained by the increasing profitability of businesses and their optimistic future outlooks (see Bank of Estonia 1997a; Bank of Estonia 1998a). By 1998, non-financial companies financed more than half of their investments from own funds and only one third was borrowed from banks (Bank of Estonia 1999a). As a preferred funding source, internal equity consisted mainly of the savings of an owner, family members and relatives. This was
supported by the fact that the dividend payout ratio, i.e. the proportion of net income paid out as dividends, was low, being around 10% in mid-1990s (Raudsepp et al. 2003, 61-67). The reliance on internal funds was further supported by the corporate income tax reform in 2000, when income tax on reinvested profits was lowered to zero (see Sander 2003). The corporate tax reform in 2000 resulted in increased holdings of liquid assets and lower use of debt financing. As a result of the reform, the share of debt in total assets decreased by about 7 percentage points, despite firms’ improved access to bank loans and favorable interest rates, while the share of retained earnings and reserves increased by 11 percentage points by 2003 (see Figure 34). Although the major intention of the reform was to increase investments, it also increased liquid assets such as cash and equivalents by 2-3 percentage points, which contributed positively to firms’ survival during the recent global economic crisis due to the relatively higher liquidity (Masso et al. 2011, 5-23). After 2008, slower growth in profits and the need to finance investments as well as current expenses with savings have shrunk internal funds as buffers, which in turn have decreased the coverage of debt liabilities and the ratio of liquid financial assets to debt liabilities (Bank of Estonia 2009b). Nevertheless, the availability of internal resources, i.e. increased deposits and excess capacities (utilization of production capacities amounted to 67% in 2010, compared to its peak of 80% in 2006) has thwarted credit demand from the non-financial sectors. Companies have covered their financing needs mostly from their internal cash flows, such as sales revenues and profit growth, as smaller need for real estate investments, which has been relying to a great extent on external funds, has subsided demand for bank credit (see Figure 33). Hence, during the post-2008 period, the non-financial sector reduced its financial leverage that was increased during the 2003-2007 period, by raising equity capital (see Figure 34; also Bank of Estonia 2010, 4-12; Estonian Institute... 2010, 13; Bank of Estonia 2011, 4).
This project is funded by the European Union under the 7th Research Framework programme (theme SSH) Grant Agreement nr 266800

Figure 33. Stock of bank loans to non-financial companies by purpose, 2000-2011 (% as share)

Source: Bank of Estonia 2012
Based on the surveys among entrepreneurs, preference has been also given to internal funds, followed by bank loans, external common equity from existing shareholders, external common equity from target capital providers, and finally debt in the form of bonds. The fact that external common equity from existing shareholders or target capital providers is prefered to bonds reveals the importance of corporate control among local companies (Raudsepp et al. 2003, 61-67). This explains why Estonian corporate landscape is characterized by a concentrated circle of shareholders and raising capital from external equity has not been considered, while the role of the stock market has not been an option because of the small size of the majority of Estonian companies. Another reason for an insignificant reliance on external equity has been related to weak investor protection that also explains the underdeveloped venture capital market in Estonia. With a relatively poor protection of minority shareholders, the concentration of ownership has increased: only 2% of public limited companies had more than 50 shareholders in mid-2000s (see Kõomägi, Sander 2006, 22-54; Zirnask 2008; Raudsepp et al. 2003, 60).
Such a financing pattern is supported by the development of lending activity of credit institutions. The role of banks in relation to Estonian businesses was relatively modest in the early 1990s, as the importance of money moving outside the banks was bigger, while the significance of bank loans in financing companies was small (Zirnask 2002). De Haas and Naaborg (2006) have found that the loan portfolios of local banks tended to be focused on large corporate customers and, at that time, only some enterprises were considered creditworthy and were granted long-term loans. Since the mid-1990s, however, banks’ credit was gradually channeled into export-oriented companies as well as SMEs (Bank of Estonia 1997a). Nevertheless, according to the findings by Koivu (2002), even foreign-owned credit institutions saw relatively large risks in SME financing and thus established tighter relationships with large enterprises. The position of banks changed during the 2000s, when the market for corporate finance got saturated and the competition increased from both internal and external sources. Aside from competition argument, the improvement of subsidiaries’ lending technologies have led banks to gradually expand into the SME and retail markets (De Haas, Naaborg 2006). For instance, Sampo (Danske) Bank has focused on local SMEs from the outset, since large corporate business would require too much capital at the local level (ibid.). In similar way, the main business of Swedbank comprises of servicing medium-sized local companies with the declining share of large companies. In fact, besides mortgage loans, loans to SMEs have been the main source of income for Swedbank (Hansapank 2003; Hansapank 2007). SEB has defined itself as a financial group that provides financial products and services to corporations as well as SMEs35 (Ühispank 2001). The reason for such transition lies in the increased competition in the market for large corporate customers with eroding interest-rate margins as well as fees, while the ability to efficiently screen

35 For instance, in 2000, Hansapank brokered credit lines of EBRD and EIB in the amount of 20 million euros to finance the activities of small- and medium-sized enterprises, while in 2002, Estonian Union Bank and Kreditanstalt für Wiederaufbau signed a contract for credit line of 15 million euros to finance the investments of small and medium sized enterprises in production, service, commerce, tourism and construction areas (Ühispank 2003; Hansabank 2001).
and monitor smaller firms gradually improved. Furthermore, legal and accounting practices have become more sophisticated, which have improved the ability of banks to base lending decisions on cash-flow analysis, backed up with collateral, and thus, rendered SME lending less risky (De Haas, Naaborg 2006, 169-173). The main issue with bank lending, however, is related to the priority given to the banks’ home-country customers. As stated above, the inflow of foreign capital to Estonian non-financial sector was one of the reasons for Scandinavian banking groups to enter Estonian market. For instance, Sampo Bank and SEB have actively supported the clients from their Nordic home countries, which has resulted in a bias in their corporate credit portfolio towards Nordic customers (ibid., 174).

In 2004, for the first time, the price of credit in Estonia equaled the Western European countries, which opened up possibilities for more expensive capital-intensive investments (Hansapank 2005). Nonetheless, increasingly higher share of credit was directed to real estate business during the boom years from 2003 to 2007 (see Figure 35), while over half of the loans were taken for a purpose of purchasing real estate. In post-2008 period, the share of loans for financing start-ups and expansion of businesses gradually increased (Bank of Estonia 2011, 11; see also Figure 33).
Due to a gradual increase in debt commitments and a relative decrease in own funds, the debt-to-equity ratio of non-financial companies rose to 61% by 2006 and 110% by 2008, while at the same time, the coverage of corporate loan and bond commitments by liquid financial assets decreased (Bank of Estonia 2007b; Bank of Estonia 2008b). Nonetheless, credit growth to the corporate sector has lagged behind loans issued to households, which again indicates the fact that a significant share of investments by the non-financial sector has been financed by retained earnings, and in case of multi-national enterprises (MNE) by intra-company loans as well as foreign capital, including credits from oversea banks. Hence, enterprises have primarily relied on internal funds, and the majority of external long-term finance has come from FDI (see Festić 2012, 190-192; Berglof, Bolton 2002, 77-87; Bank of Estonia 2010b). During the transition period, local corporate sector gained better access to alternative financing sources, as many corporations have found financing elsewhere either from foreign investors or in European financial markets.
The capability of enterprises to borrow foreign funds without the intermediation of domestic banks, both from mother companies and other foreign investors, has been enhanced by the accumulating FDI stock. Thus, heavy reliance on FDI, which in later stages of transition period was substituted with portfolio investments and foreign loans has been one of the peculiarities of the Estonian economy. In 2000, the share of foreign financing in the structure of debt-creating financing of the non-financial sector was approximately 50% and without intra-company loans (i.e. FDI flows), it was 25% (Bank of Estonia 2001; Festić 2012). Moreover, with the access to international capital markets, these foreign owned companies have tended to be independent of the local economic conditions in terms of demand and financing (Raudsepp et al. 2003; Hansapank 2004).

It is evident that among external sources of non-financial companies, domestic bank loans and leasing, FDI and other foreign liabilities have been equally important (see Bank of Estonia 2004b). Thus, in principle, one can conclude that external financing in terms of bank loans has been derived from local credit institutions, i.e. foreign subsidiaries in Estonia, while equity financing has been inclined towards foreign capital (see Kangur et al. 1999, 25-27). As a result of these developments, two categories of non-financial companies has emerged in Estonia: 1) large, but also medium-sized foreign owned companies, which tend to be the leaders in their industries with the advantage of availability of cheaper foreign credit and know-how, and 2) local capital based small and micro enterprises that rely on both internal funds and loans from domestic banks (Kangur et al. 1999, 17-20; Terk, Reid 2011; Mickiewicz et al. 2006, 78). The following figures unveil the financial position, the composition of investments and key data as well as ratios of micro, small and medium-sized, and large companies. As can be seen, the most financially sound companies are large firms that have outperformed SMEs and micro-enterprises in nearly all indebtedness and profitability indicators (ROE, ROA, ROI). The reasons for that are their access to cheaper funds, economies of scale from expanded
production, and reliance on export sales, while the business results of micro enterprises, operating mainly in the sheltered sector, depend on the volatile domestic demand.
Table 3. Key indicators and ratios of large companies (250+ employees), 1996-2010.

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<tr>
<td>Number of companies</td>
<td>192</td>
<td>167</td>
<td>165</td>
<td>149</td>
<td>160</td>
<td>171</td>
<td>182</td>
<td>137</td>
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<tr>
<td>Debt-to-equity (excluding</td>
<td>37.9</td>
<td>33.1</td>
<td>30.2</td>
<td>49.1</td>
<td>49.1</td>
<td>35.9</td>
<td>45</td>
<td>34.6</td>
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<td>prepayments and supplier</td>
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<tr>
<td>payables; %)</td>
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<tr>
<td>Financial leverage (times)</td>
<td>1.72</td>
<td>1.56</td>
<td>1.53</td>
<td>1.76</td>
<td>1.77</td>
<td>1.66</td>
<td>1.76</td>
<td>1.67</td>
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<tr>
<td>Capitalization ratio (times)</td>
<td>0.20</td>
<td>0.19</td>
<td>0.18</td>
<td>0.27</td>
<td>0.28</td>
<td>0.23</td>
<td>0.24</td>
<td>0.20</td>
</tr>
<tr>
<td>ROE (%)</td>
<td>3.69</td>
<td>0.63</td>
<td>3.5</td>
<td>9.34</td>
<td>10.29</td>
<td>17.18</td>
<td>12.07</td>
<td>10.20</td>
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<tr>
<td>ROA (%)</td>
<td>2.15</td>
<td>0.41</td>
<td>2.29</td>
<td>5.32</td>
<td>5.82</td>
<td>10.33</td>
<td>6.86</td>
<td>6.10</td>
</tr>
<tr>
<td>ROI (fixed assets; %)</td>
<td>n/a</td>
<td>n/a</td>
<td>24</td>
<td>44.36</td>
<td>74.16</td>
<td>135.73</td>
<td>77.48</td>
<td>147.47</td>
</tr>
<tr>
<td>Net profit to net sales ratio</td>
<td>1.66</td>
<td>0.46</td>
<td>2.65</td>
<td>5.66</td>
<td>6.69</td>
<td>10.71</td>
<td>6.84</td>
<td>7.55</td>
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<td>Fixed assets turnover (times)</td>
<td>1.94</td>
<td>1.15</td>
<td>1.11</td>
<td>1.32</td>
<td>1.21</td>
<td>1.50</td>
<td>1.58</td>
<td>1.29</td>
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</table>
Depreciation to net sales ratio (%)  

4.49  6.73  8.07  10.03  6.22  4.86  4.67  4.63  

Source: Statistics Estonia 2012, authors’ calculations
Table 4. Key indicators and ratios of SMEs (10-249 employees), 1996-2010.

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<td>7037</td>
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<td>7330</td>
<td>7975</td>
<td>8223</td>
<td>6375</td>
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<tr>
<td>Debt-to-equity (excluding prepayments and supplier payables; %)</td>
<td>75.8</td>
<td>81.2</td>
<td>70.5</td>
<td>60.5</td>
<td>57.6</td>
<td>58.1</td>
<td>66.2</td>
<td>60.5</td>
</tr>
<tr>
<td>Financial leverage (times)</td>
<td>2.55</td>
<td>2.69</td>
<td>2.42</td>
<td>2.18</td>
<td>2.06</td>
<td>2.03</td>
<td>2.04</td>
<td>1.93</td>
</tr>
<tr>
<td>Capitalization ratio (times)</td>
<td>0.31</td>
<td>0.34</td>
<td>0.31</td>
<td>0.29</td>
<td>0.29</td>
<td>0.28</td>
<td>0.31</td>
<td>0.29</td>
</tr>
<tr>
<td>ROE (%)</td>
<td>0.73</td>
<td>8.24</td>
<td>21.31</td>
<td>20.67</td>
<td>19.93</td>
<td>24.31</td>
<td>7.49</td>
<td>7.96</td>
</tr>
<tr>
<td>ROA (%)</td>
<td>0.29</td>
<td>3.06</td>
<td>8.81</td>
<td>9.47</td>
<td>9.65</td>
<td>12</td>
<td>3.68</td>
<td>4.13</td>
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<tr>
<td>ROI (fixed assets; %)</td>
<td>n/a</td>
<td>n/a</td>
<td>83.92</td>
<td>92.67</td>
<td>113.21</td>
<td>108.26</td>
<td>43.81</td>
<td>81.93</td>
</tr>
<tr>
<td>Net profit to net sales ratio (%)</td>
<td>0.16</td>
<td>1.59</td>
<td>4.73</td>
<td>5.45</td>
<td>6.45</td>
<td>8.61</td>
<td>2.92</td>
<td>4.3</td>
</tr>
<tr>
<td>Fixed assets turnover (times)</td>
<td>3.31</td>
<td>3.5</td>
<td>3.51</td>
<td>3.18</td>
<td>2.65</td>
<td>2.6</td>
<td>2.18</td>
<td>1.59</td>
</tr>
</tbody>
</table>
Depreciation to net sales ratio (%)  

2.8  2.96  3.19  3.03  2.95  2.72  3.03  3.99

Source: Statistics Estonia 2012, authors’ calculations
### Table 5. Key indicators and ratios of micro enterprises (1-9 employees), 1996-2010.

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of companies</th>
<th>Debt-to-equity (excluding prepayments and supplier payables; %)</th>
<th>Financial leverage (times)</th>
<th>Capitalization ratio (times)</th>
<th>ROE (%)</th>
<th>ROA (%)</th>
<th>ROI (fixed assets; %)</th>
<th>Net profit to net sales ratio (%)</th>
<th>Fixed assets</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>17320</td>
<td>19789</td>
<td>23586</td>
<td>27057</td>
<td>32133</td>
<td>29362</td>
<td>47148</td>
<td>51853</td>
<td>122.5</td>
</tr>
</tbody>
</table>
III. 1.1 State Support & the EU Funds

Tiits et al. (2007, 126-130), Kalvet (2006) and Reid (2011) have found in their study on Estonian R&D, innovativeness and industrial clusters that aside from insufficient private investments in R&D and product development, the most constrained financing areas for Estonian non-financial companies have been export marketing, i.e. promotion of products in foreign markets, and entering the foreign markets with own brand products (see Tiits et al. 2007, 126-130). In order to overcome these obstacles, several EU-funded public financial schemes have been established and being mainly operated by Enterprise Estonia and KredEx since the early 2000s36.

Alternative public channels of lending were widely used already in late 1990s, in which lending policies were more liberal and more SME-friendly than in case of bank loans. SME-targeted financial institutions were for instance Small Equity Fund, funded by EBRD, Agricultural and Rural Life Fund, Export Credit and Guarantee Fund, Start-up Grant Program for the Unemployed etc., funded by the government (Kinks 2000). During pre-accession period, Estonia used PHARE fund of the EU to finance entrepreneurship and employment growth (OECD 2000b). With the accession to the EU, development programs have been aimed at seizing the opportunities of new technologies in prioritized key areas as well as encouraging innovation in

<table>
<thead>
<tr>
<th>turnover (times)</th>
<th>1.95</th>
<th>2.76</th>
<th>2.75</th>
<th>2.60</th>
<th>2.52</th>
<th>2.19</th>
<th>3.24</th>
<th>3.26</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depreciation to net sales ratio (%)</td>
<td>2.76</td>
<td>2.75</td>
<td>2.60</td>
<td>2.52</td>
<td>2.19</td>
<td>3.24</td>
<td>3.26</td>
<td></td>
</tr>
</tbody>
</table>

Source: Statistics Estonia 2012, authors’ calculations

36 KredEx has provided startup loan up to 31955 euros with an interest rate between 10-14% for starting and growing SMEs for investment activities or financing current assets. Personal surety is enough that covers 30% of the loan amount, the rest is guaranteed by KredEX. The advantage is related to a smaller amount of own funds to be used in financing, compared to bank loans. Enterprise Estonia has offered start-up grant and development grant for starting companies and developing growing exporting start-up companies, respectively. These grants, mostly funded from EU structural funds, have grown from 0.58 million euros (120 enterprises) in 2002 to 1.4 million euros (189 enterprises) in 2007 and 1.7 million euros (263 enterprises) in 2011 for financing investments in fixed assets and marketing activities (Zirnask 2008; EAS 2012; KredEX 2012). A research on start-up grants by Lukason and Masso (2010) indicates that 682 firms got financial support from Enterprise Estonia during 2004-2006 due to lack of equity and financing possibilities brought out as one of the reasons. These grants have been differentiated between small and large size firms to support exporting activities and the acquisition of fixed assets.
companies. As mentioned in the first part of the report, for years Estonia served as a low cost subcontracting hub for Scandinavian companies at the lower end of their international value chains. Thus, in order to improve the competitiveness on international arena, which has been undermined by both the specialization in low value-added economic activities and overvalued domestic currency, increasing innovativeness and R&D expenditures are seen as essential factors in catching-up process. For that reason, access to EU finance (structural funds) has become an alternative source of funding for SMEs in different economic sectors with the focus on high-tech start-ups and R&D capable businesses (see e.g. Madureira et al. 2007, 36-37). Yet, the priority in allocating public grants and also loans has been given to start-ups or growing enterprises that are export-oriented and are engaged in prioritized technology fields, produce higher value added products, and thus, pay higher than average salaries (Traks 2012). In line with national and EU priorities, these EU funds have been financing projects dealing with environmental issues, agriculture, and regional development (infrastructure). This has been taken into consideration in banks credit policy by offering loans for co-financing to the companies that have been granted funds from state budget (see Hansapank 2005; Hansapank 2007). The growing volume of EU subsidies has induced the demand for bridge financing and loans for required self-financed contribution of the subsidized investment projects. The credit volume, related to structural subsidies was approximately 2.2% of the corporate loan stock in 2005 (see Bank of Estonia 2006b). In post-crisis years, loans for expanding businesses have been most common in the manufacturing sector (60% of all sectors), which among other things, reflects the impact of the crisis measures implemented through the state-owned credit and export guarantee fund KredEx (see Bank of Estonia 2010, 13; Bank of Estonia 2011, 12).
III. 2 Involvement of Financial Sector in Restructuring Non-Financial Companies and Privatization – Role in Relation to Non-Financial Sector

The impact of the financial sector, i.e. primarily banks, on the restructuring of non-financial companies in Estonia has been marginal. As stated in the prior section, the banks’ role in channeling funds to non-financial sector at the beginning of independence period was modest. Because of the destruction of the Soviet legacy, discussed in the first chapter, the domestic banking sector was eventually alienated from the domestic productive sector and instead focused on consumption and real estate (see Kattel 2010, 54). Fink et al. (1998, 663-664) have concluded in their study that with the prevalence of non-prudent banking, uncertain bank capitalization and supervision, banks were not able to exert positive effects on the management of enterprises and increase their efficiency, which was aggravated by the high-risk character of small Estonian economy. Thus, before 2002 the financial sector played a small role in restructuring manufacturing sector due to reluctance to extend long-term finance (Berglof, Bolton 2002, 77-78). Only in 2002, bank loans were involved more than before into the formation of new companies by overtaking the borrowing from parent companies (Bank of Estonia 2003a). On the other hand, the low investment activity is reflected in the small securities portfolios of banks operating in Estonia. Although the proportion of securities in assets has increased slightly owing to a decrease in the credit portfolio, it still comprises only around 9-10% of all assets, most of which are debt instruments (Bank of Estonia 2012b). The liquidation of the public limited company Ühisinvesteeringud in 2006 due to insufficient economic activity in investment banking segment testifies to the meager role of financial sector in restructuring economy in terms of promoting or undertaking mergers and acquisitions. Also the largest bank, Swedbank, has followed the policy of staying away from taking positions in its trading activities, but to focus on brokering transactions (Hansapank 2005). Furthermore, investment banking activities have been constrained for credit institutions with the limit of 60% of net
own funds set on equity holdings in other business associations (Zirnask 2002). In the Estonian banking business, one peculiar mode of having an impact on non-financial sector has been associated with the development of e-banking. Eriksson et al. (2008) have considered internet banking as a cluster of incremental process innovations with a support of closely interlinked technologies and infrastructure, developed and provided by IT and other companies. Hence, internet banking is seen as integral part of the development of the information technology cluster (see Kalvet et al. 2002). Indeed throughout the 1990s and early 2000s, Hansapank’s (later Swedbank’s) IT department was in fact larger than any IT company in Estonia.

Although private equity companies emerged at the beginning of the 1990s, they have not had a crucial role to play either. As mentioned in the previous chapter, Estonian economy is dominated by SMEs in mostly service sector, which is not appealing business opportunity for Estonian investment or private equity companies, who have mainly focused on emerging markets in the CEE region and beyond. High-tech start-ups have popped up only recently as a result of efforts made in technology parks etc. As noted above, private equity, mostly venture capital has been primarily directed into growth and start-up stage, where 18% of the assets have been used for buyout strategy among different investment strategies. The insignificance of private equity firms could be seen in the share of their assets, which stood at 1.7% of GDP in 2010, while the assets under control of investment companies did not reach even 0.5% of GDP (FSA 2012). Also, inactive local securities market with low capitalization and small number of publicly traded companies has not supported the vigorous growth of investment companies. The most significant mergers and acquisitions occurred in 1998 and afterwards as a result of takeovers of listed companies on the stock exchange by foreign investors (see Ühispank 2003). As stated above, for the last 15 years there have been only 19 instances of listed companies merging with non-listed companies, and 20 takeovers, out of which 4 have been undertaken by resident companies, which have led to de-listing from stock exchange. Secondly, institutional
investors have invested their funds into financial assets abroad and most influential of them, such as pension funds, emerged only at the beginning of 2000s, when the privatization and thus, vigorous restructuring of the economy had long ago been accomplished. The same proposition holds for private equity firms, who have expanded into foreign markets. With regard to venture capital, most of the investments have not been made in high-technology sectors, but instead in existing production and service enterprises, which need impulse for the growth (see Sander, Kõomägi 2007, 194). On the whole, the involvement of financial sector in restructuring non-financial sector has mostly taken place in the form of advisory services. For instance, SEB Bank’s subsidiary SEB Enskilda, which is specialized in financial advisory, facilitated the acquisition of 40% of the shares of Estonian Telekom by finnish TeliaSonera in the amount of 326 milion Euros or 2% of GDP in 2009 (SEB 2010).

The meager influence of local financial sector on the restructuring of non-financial companies could be explained within the historical context as well as evolutionary perspective. After regaining independence, the main concern in the restructuring of economy was related to a very big share of manufacturing and agriculture, dominated by limited number of large companies in every branch, and only a modest proportion of small- and medium-sized companies (Purju 2000). Therefore, the restructuring of Estonian economy has been all about the emergence of SMEs primarily in the service sector, e.g. management advisory, training etc. as a result of the destruction of large Soviet-style companies with 790 employees on average. By 1997, the number of large companies was 81, compared to 3437 micro-companies and 1796 small- and medium-sized enterprises (OECD 2000b). Subsequently, most of the manufacturing industries were dominated by only 1-2 large companies, who accounted for the major share of output37. Yet, by 2003, firms with less than 20

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37 Today, roughly 2/3 of the sales turnover and output is controlled by 5 largest companies in most of the industries (see for instance Lindpere et al. 2011).
employees gave work to 25% of the labor force (Masso et al. 2006, 134; Reiljan 2006, 241). The overall depth of the restructuring was reflected in the change of occupation from plant and machine operators, clerks, professionals, and craft workers to service workers, salesmen and managers among 50% of all wage-earners in Estonia (Campos, Dabušinskas 2003, 552).

Instead of step-by-step incremental approach, restructuring of the economy was mainly done with economic shock therapy approach by using macroeconomic reforms as well as liberalizing trade and almost all prices, which relatively rapidly changed the composition of economy with the help of high flexibility in labor reallocation and flows (see Hannula, Tamm 2002; Purju 2000; Norkus 2011). Thus, structural changes were left to be determined by market forces with the shifts in price structures, while government took a neutral, or even passive position (see Kattel 2010, 54). More importantly, such approach to the restructuring decreased both employment and comparative advantage in the most capital- and knowledge-intensive branches of the economy, such as mechanical engineering and electronics (see OECD 2000b). Therefore, it is not so much financial sector itself that could be seen as the factor behind de-industrialization, but as Reinert and Kattel (2007) have argued, the free trade shocks promoted by the Washington Institutions. Deindustrialization in Estonia could be explained by Vanek-Reinert effect (Reinert 1980), whereby domestic companies lost their market share due to rapid liberalization of markets and prices, which undermined demand for their products. This process hit the companies with high fixed costs and relatively extensive liabilities the hardest, which tended to be technologically advanced enterprises (Tiits

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38 Between 1994-1997, around 8,500 job positions (5.5% of all positions) were lost in the manufacturing industry, whereby the majority of positions were eliminated in the large companies (29,000), although compensated with new employment in SMEs. It is noteworthy that capital- and knowledge-intensive sectors lost most of the job positions in between 1994-1997, whereas most of the new positions were created in low value-added traditional economic activities, such as wood, textile, and furniture industry. As a result, Estonia has exported a limited number of low-quality, price-sensitive and low value-added products, particularly in the 1990s, while high-technology production was rare even by 2000 (OECD 2000).
et al. 2008). Several authors (Grigoriev, Abigalov 2011; Reinert, Kattel 2007) have elaborated on the effects of liberalization on the economy with the focus on ensuing deindustrialization and the destruction of advanced economic activities with high-growth potential. Accompanied by the demolition of complex cluster-like vertically integrated economic structures in the privatization process, rapid liberalization hit the most advanced industries first and also hardest, which paved the way to deindustrialization in terms of specialization at the lower end of the value chain with grave difficulties of upgrading. In principle, the restructuring of the Estonian economy in the 1990s entailed de-linking processes, enclavization, and essentially the primitivization of productive capacity that subdued demand for external, bank-based financing (Kattel 2010, 54).

That said, the restructuring of the economy has been affected primarily by foreign capital. Instead of supporting local resource mobilization, economic policy choices have stressed the importance of FDI in restructuring the economy as well as technological, managerial, and organizational capabilities (Thorhallsson, Kattel 2012, 8). As a result, the privatization process, which was to large extent accomplished before the introduction of Tallinn Stock Exchange, did not affect the size of the stock market due to the use of particular privatization model (see below). Instead, in the liberalized economic environment the privatization process attracted FDI that headed into the manufacturing industry, although the share of manufacturing industry in Estonian economy shrank gradually (Hannula, Tamm 2002, 19). Due to the tenfold difference in wages between Estonian and Scandinavian manufacturing sectors, several Swedish and Finnish enterprises relocated the manufacturing of labor-intensive products to Estonia (Reiljan 2006, 256). In case of selling companies to foreign investors, privatized companies were often turned into the producers of semi-final goods or subcontractors fulfilling certain operations in the wider international production networks (Purju 1996). On the other hand, FDI has contributed to re-specialization by giving rise to telecommunications and furniture
industry (OECD 2000b).

As covered in the last section, non-residents have mostly controlled large and medium-sized capital-intensive companies, where restructuring has taken place with increased investments due to better access to bank credit (OECD 2000b). Several studies (Lumiste et al. 2008; Hannula, Tamm 2002; Sakkeus 2000) have considered FDI as not only an important financing channel, but also the source of technical knowledge, business practice, and other skills for supporting structural change in the whole economy. Foreign owners have participated in the strategic restructuring process of Estonian manufacturing enterprises and contributed towards raising efficiency in terms of labor productivity. While domestic enterprises have relied on decreasing costs and reducing number of employees, coupled with meager investments into new technologies, foreign subsidiaries have been more capital-intensive as well as export-oriented, and possessed higher investment capabilities due to the availability of funding. Also, foreign-owned companies increased the number of employees throughout the 1990s, which indicated higher economies of scale. Varblane and Reiljan (1999), Purju and Teder (1998), and Terk and Pihlak (1997) have shown that companies, which were privatized to foreign owners were demonstrating better results than locally owned businesses in terms of turnover per employee, export sales, profitability, and creditworthiness. As a result, these dynamics have reinforced the dependence of the Estonian economy on foreign investors (see Vissak 2003). However, taking into account the current techno-economic paradigm and the general product’s life cycle theory, it is hard to expect the positive impact of FDI on the sustainable development of Estonian economy, given the structure of inward FDI.

The restructuring process in Estonia has been closely linked with the privatization of state-owned companies, where the role of financial sector in relation to non-financial sector has been limited. Again, the privatization process was mostly carried out by drawing upon foreign capital, which has had more importance in providing
funding to non-financial sector than in the advanced and stable market economies. A strong correlation has been found between privatization rounds and FDI inflow until 1996 (Kangur et al. 1999, 25-27; Varblane 2000 cited in Ehrlich et al. 2001). The motives for opening up the possibilities for international tenders since the early privatizations of eminent industrial enterprises of Soviet heritage were meager savings of the population and undeveloped commercial banking, not to mention non-existent capital markets and institutional investors. The need of foreign investments was explicitly proclaimed in the annual privatization programs in the mid-1990s (Terk 1999). As an outcome, the majority of companies acquired by foreign investors were large and medium-sized companies in the manufacturing, sales or business services area. By 1998, 31% of the total revenues from the privatization were attributed to foreign investments, 6% of all registered companies belonged to non-residents, and FDI into privatized companies gave 34% of total inward FDI into existing companies in Estonia (OECD 2000b).

The privatization model rested on continental (German) tradition according to the lead of Treuhand agency, whereby the privatization process that began in manufacturing and services and was completed by 199639, followed an open tender approach with preliminary negotiations and the requirements to guarantee the maintaining of business, investments and employment for a certain period of time after the privatization. Moreover, only core ownership of enterprises was put up for the sale. Hence, the absence of employee privileges in privatized enterprises and a limited role of privatization securities, led to the privatization of companies to strategic investors, who obtained at least 51% of the shares for fully convertible means of exchange, as the main modus operandi. Because of this, foreign investors played a key role in the privatization process, which explains the high inflows of FDI. In particular, as potential sub-contractors, companies in mechanical engineering, forestry, textiles and needlecraft attracted foreign investors, whose interest

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39 The privatization of infrastructure continued into the 2000s.
increased in 1996, when the large companies were privatized. Already by 1995, approximately 40% of the sales were concluded with a foreign buyer (Purju 1996; Terk 1999). Thereafter, FDI inflows were in larger part the result of the growth of reinvested profits of foreign investors and acquisitions of privately owned firms and banks. Therefore, neither securities markets (Tallinn Stock Exchange was launched only in 1996) nor privatization investment funds (established in the middle of 1995) had a primary role to play in privatization process. Also the impact of privatization on capital markets was found to be neutral (OECD 2000b). Investment funds that dealt with privatization vouchers were mostly engaged in the process of distribution of minority shares. Voucher holders could open a “privatization securities account” in banks, which were licensed to engage in transactions with privatization securities from 1994, when these privatization securities were declared freely tradable. This opened up possibilities for privatization investment funds to get engaged in voucher privatization process, i.e. the use of vouchers in the purchase of publicly offered shares and the acquisition of real estate. Despite this option, only 0.14% of issued vouchers were invested into 7 privatization investment funds with the volume of 0.06% of GDP in 1996 (Paju 1996). The marginal impact of investment funds and preference for (mass)privatization for foreign currency could be also explained by the need to acquire backing for Estonian Kroon, modernize expensive production infrastructure, and most importantly, to create a circle of active entrepreneurial owners. On the other hand, 1994 reform opened up the possibilities for foreign investors to use vouchers as well in buying privatized companies to the extent of 33% of the total price, which boosted the sales to foreigners. Coupled with better access to capital, tradable privatization vouchers favored foreign investors, who were able to buy up large companies that included also energy segment and public utilities (OECD 2000b). Yet, the main use of vouchers was related to privatizing dwellings and land to residents (see Lepik 1996; Lumiste et al. 2008; OECD 2000a; Eamets et al. 2003; Liive 1996 on Estonian privatization).
The chosen privatization model, which was supported by the overall privatization policy, was one of the severest in CEE region in terms of setting up resolute and strictly followed bankruptcy law. As stated in the first section of the report, government did not provide assistance in the form of either buying up illiquid assets, writing off debts or granting loans to companies that got into troubles. Because of the currency board arrangement that limited the possibilities of the Bank of Estonia to act as a lender of last resort, the central bank did not hesitate to close down distressed banks with substantial losses to depositors. For this reason, the denationalization of the local businesses escalated in the 1990s, as companies faced the choice of liquidation or privatization. As a result, companies were bought up first by Finnish, and later by Swedish investors (see Grigoriev, Abigalov 2011, 25-28; Khoury, Wihlborg 2006, 137; OECD 2000a, 36-48; Bank of Estonia 2008a).

Aside from the low profile of financial sector in overall privatization process of non-financial sector, the character of the privatization process in the financial sector itself differed from Western counterparts. The burden for local authorities was to take over ex-Soviet all-union specialized banks, which were a liability for the government rather than an asset due to the poor quality of loan portfolios. In early 1990s, it was decided to turn these ex-Soviet banks into the property of state-owned companies, who became bank owners. During the 1990s, all ex-Soviet banks went either bankrupt, lost license, or were merged with newly established commercial banks. Such fast-paced privatization or rather appropriation strategy that dominated during the re-organization of the ex-Soviet banking inheritance, was reasoned with insufficient financial resources on the part of government and the central bank to be able to re-capitalized these banks. After the separation from the all-union system, only the Tallinn Department of Vnesheconombank (Foreign Operations Center of the

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40 The ideology of privatization was shaped by both outside influences in terms of relying on German Treuhand experience and consultants as well as taking into account the opinions of the EU advisors and other foreign counselors through PHARE support program, and insiders, who were guided by economic or legal reasoning due to implementers’ profession in universities (economics department) (Terk 1999, 85-98).
Bank of Estonia became part of the central bank and Estonian Savings Bank was turned into the ownership of the central bank. On some occasions, in particular during the several instances of banking crises in the 1990s, the central bank had to take a position in the share capital of commercial banks in order to provide financial support to troubled but systemically important banks. Although some of the rescued private banks were taken under the control of the central bank, former Soviet banks and the shares of few state supported private banks were sold to local capital based commercial banks in the mid-1990s. In 1997 the last state-owned bank was privatized (see OECD 2000a, 31-32; Zirnask 2002; Bank of Estonia 2003a). Essentially, the shaping of the banking landscape was left to the market, where the establishment of new privately owned banks gained momentum since the very beginning, while ex-Soviet specialized banks were gradually crowded out. During the recent 2008 financial crisis and its aftermath the status quo was maintained and the option of nationalization of banks was not seriously considered.

In the general privatization program, the main role of commercial banks was related to granting investment guarantees and credit to the buyers of privatized state-owned companies. In one of the most widely used privatization methods - the sale of shares of an enterprise or its structural units by way of tenders with preliminary negotiations -, that was applied for the sale of large enterprises, bidders had to submit a business plan and a bank guarantee of 5% of the value of the bid. In this way, banks decided, who got the chance to participate in the privatization process and who did not (Terk, Reid 2011; Purju 1996). In addition, from 1994 banks provided accounting system for privatization vouchers until the end of 2006, as mentioned above.

III. 3 Culture and Norms

It goes without saying that by shaping the political discourse, market fundamentalism has been transferred to other spheres of every-day life as well, although social safety nets that have not been totally dismantled have managed to
counter-balance the prevailing individualism in Estonian society to some extent. As mentioned above, the testimony to economic Darwinism was the first decade of independence, when mediating and opportunism gained the ground. For instance, it was not uncommon to sell the parts of dismantled privatized companies abroad, which was more lucrative than to keep the company in operation, or arrange credit for risky and even suspicious business projects. Instead of ensuring long-term success of loan decisions, the structure of incentives in the 1990s was strongly geared to reward actions that gained market share without efforts to improve the key functions that would manage the risks of lending and asset portfolios (see Cavalcanti, Oks 1998; Zirnask 2002). Similar opportunism could be seen in speculative behavior on real estate market in the mid-2000s that was made possible by cheap credit from Nordic banking groups.

It can be said that the embeddedness of banking in everyday activities of private individuals and businesses in terms of critical importance of bank services for conducting daily transactions, has increased year-by-year. Such development has been mostly affected by the digitalization processes in the economy and government sphere, whereas the state has vigorously developed e-culture in the society as one of the political goals. After the introduction of internet banking in 1997 the number of users increased at a 10% monthly growth rate. Within a three year span that is the usual time period of acceptance of innovations, the internet bank became the most widespread channel for paying utility and phone bills. Also, having a bank account has a necessary prerequisite in investing one’s money or getting loans. Possibilities offered by internet banks have continually expanded, broadening to electronic loans, investment banking and insurance. For instance, Hanza.net that was launched in 2000, enabled customers to apply for loans or leasing, trade with shares, and send e-mails in addition to conventional transactions. Since 2000 even income declarations could be submitted electronically to the Tax Board via Internet banks (see Sõrg 2003, 9-10; Hansabank 2001). Hence, the introduction of e-voting and
ability to submit annual tax returns via internet have created a whole new culture and expectations to the service providers, other than public institutions. Most of the e-developments, including e-banking, have been facilitated by the introduction of electronic signature that is legally equal to handwritten signature (RT I 2000, 26, 150). As a result of public and private efforts, by 2010, almost 70% of households had an access to the internet and the same proportion of adults used internet for banking transactions (OECD 2011, 8-19). On the other hand, e-mania has entailed several drawbacks and increased risks. For instance, cyber-attacks against two leading banks, SEB and Swedbank, that took place in 2007 caused the over-load of internet banking channels and banks were forced to limit access to their internet banking channels from outside Estonia. Rapid digitalization and wide-spread promotion of internet banking have created additional problems. Although the digital culture has brought along new solutions and opportunities, it has also increased exclusion due to unequal access to a variety of services due to gaps in IT-literacy, which has created tensions. The most recent instance of vexation against the banks stemmed from the elderly bank customers, who are not accustomed to use internet banking services, but use bank offices for payments and other financial transactions. The cause for discontent was the decision of the largest bank, Swedbank, to raise the service fees for transactions made in the offices. With regard to the frictions on the regional level, the decisions on the removal of ATMs by the largest banks in some peripheral areas, where yet to be removed ATMs have been the only ones accessible for the local habitants, have created heated debates even on the media (see Eesti Koostöökogu 2011; Veldre 2012; Lamp 2012). The digitalization process and thus easier access to customers data has also increased the violations of consumer protection rights by the banks and raised complaints by the customers. By monitoring the financial situation of their clients, banks have reacted to significant improvements in the financial position of their clients by ‘spamming’, i.e. e-mailing,
This project is funded by the European Union under the 7th Research Framework programme (theme SSH) Grant Agreement nr 266800

calling and contacting clients in other ways with the aim to sell financial products [Tahula 2012].

Since 1993, every year the amount of payments made with the non-cash payment instruments has increased, which include the credit orders (mainly used by companies for settling inter-company debts), direct debits (for private persons paying the rent, phone, electricity or other bills), and plastic cards [Bank of Estonia 1997a]. The popularity of direct debits could be explained by their convenience and simplicity as well as free of charge service for the payer, while the payee gets an opportunity to manage cash flows more accurately and simplify payment information processing [Bank of Estonia 2005b]. In six years, from 1998 to 2003 the number of payments made by direct debit increased 85 times, while the number of electronic credit orders increased by nearly 3.5 times. Therefore, the conventional paper-based payment orders have increasingly given way to internet banking and card payments [OECD 2011, 17-18].
Aside from internet banking, rapid growth in debit and credit cards coincided with the installation of ATMs from 1994, which also made the use of non-cash payment instruments more convenient for households (Bank of Estonia 2001, 13). Per capita, the number of ATMs in Estonia is approximately the same as in Finland and even higher than in Sweden (Bank of Estonia 2004b). Almost 20% annual growth rate in the number of the points of sale accepting bank card and that of internet banking contracts have resulted in 2/3 of households making card payments for daily purchases, while 80% of households making regular payments through banks, including 75% via electronic channels. From 1998 to 2003, the number of card payments grew by more than 10.5 times (Bank of Estonia 2007b; OECD 2011). Compared to 1995, when Estonian banks began issuing international bank cards, the number of cards had increased tenfold by the end of 2003, while the number of ATMs exceeded the respective 1995 figure five times and the number of point-of-sale
terminals was up by nearly 37 times (Bank of Estonia 2004a). In general, the payment habits and preferences are strongly related to how incomes are received. Thus, one of the reasons for the popularity of making payments via banks and in particular, electronic channels, is that more and more people receive their incomes on bank accounts, as only 15% of Estonian residents aged over 18 get their income in cash. In general, the use of bank channels has been popular with the young and the wealthier, while a considerable number of the elderly and people with lower incomes have preferred to make payments in cash or through a post office (Bank of Estonia 2009b).

**TABLE 6. Number of banking cards, point-of-sale, and ATMs in Estonia, 1995-2009.**

<table>
<thead>
<tr>
<th>Year</th>
<th>Bank Cards (thousand)</th>
<th>ATMs</th>
<th>POS Terminals</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>119.5</td>
<td>140</td>
<td>250</td>
</tr>
<tr>
<td>1997</td>
<td>607.4</td>
<td>591</td>
<td>2153</td>
</tr>
<tr>
<td>1999</td>
<td>770</td>
<td>680</td>
<td>3267</td>
</tr>
<tr>
<td>2001</td>
<td>987.2</td>
<td>747</td>
<td>5260</td>
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<tr>
<td>2003</td>
<td>1197.9</td>
<td>841</td>
<td>9184</td>
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<tr>
<td>2005</td>
<td>1419.7</td>
<td>1000</td>
<td>12730</td>
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<tr>
<td>2007</td>
<td>1772.4</td>
<td>1006</td>
<td>15885</td>
</tr>
<tr>
<td>2009</td>
<td>1845.2</td>
<td>987</td>
<td>17671</td>
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<tr>
<td>2011</td>
<td>1785</td>
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<td>19586</td>
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Easy access to financial services by electronic channels has been reflected in the financial behavior of private individuals. In general, credit demand has been higher among medium-income families (see Bank of Estonia 2004b). As seen from figure 43, the loans taken for purchasing or renovating housing have accounted for the majority of loan stock of households, but the share of families that have taken a loan has remained relatively low. The share of families that have taken a housing loan/leasing in the total number of households has increased from 8% in 2004 to 22% in 2008 (Bank of Estonia 2009b; Bank of Estonia 2006b).
Despite the rapid growth of debt burden of households, their net financial position has not deteriorated significantly due to relatively high share of shares and other equity, mostly unquoted shares, in the total financial assets of households.
With regard to financialization of public services, one can consider higher education as the main institution that soaks up non-housing bank credit. Given the guarantees by the state, banks have seen student loans as a luring opportunity to increase the client base and attract younger customers. Government has agreed to guarantee student loans in the amount of 1280 Euros for the whole period of post-secondary education with either two sureties or real estate as a collateral. Within an 8-year span from 2000, student loans grew 73.5%. Concerning the retirement guarantees, pension reform in early 2000s formed a three-pillar pensions system. Until the reform, almost all responsibility for the pensions was borne by the state, while after the reform individuals themselves had to assume part of it - a reflection of increased individualism and emphasis on personal responsibility. Social insurance in terms of unemployment and health insurance has been mandatory since the mid-1990s for all employees and self-employed entrepreneurs, which has not incurred dependence on loans for funding health care, while the debt burden of some unemployed adults has increased, in particular of those, who have had to re-finance their previous loans. Here the loan sharks have taken advantage of the situation with aggressive marketing campaigns. In a way, irresponsible lending by credit institutions during the boom years in mid 2000s, coupled by the e-hype, has facilitated the emergence of loan sharks, who have extended so-called ninja loans, i.e. high interest rate loans, to no-income and no-job borrowers via easily accessible electronic channels, including mobiles. The clearest evidence of the financial problems of heavily indebted borrowers is a high number of help seekers (on average 70 per month in the capital city), who turn to social workers in local municipalities to look for financial advice and debt counseling (Kotto 2012). Nonetheless, the susceptibility to apply for these high interest rate loans has increased during the post-2008 recession, as on average the share of inescapable expenses, i.e. expenditure on housing and food in household budgets, has increased to 45% and has been aggravated by the fall in real incomes (Bank of Estonia 2011, 13).
To some extent, the financial deepening of the economy has been counter-balanced by the educational and awareness raising activities. For several years before the crash in 2008, the Bank of Estonia made many appearances in media to address the risks related to strong credit growth by repeatedly calling for vigilance in this respect. Also, economists of the central bank held lectures to raise the awareness of people on various aspects of borrowing (Bank of Estonia 2007a). Furthermore, the activities of the Estonian Consumer Protection Board (CPB) encompass the publication of financial information, which is available from its website under the sections “Useful for consumers” and “Protecting consumers”. CPB has also launched a website (www.nupukas.ee) for the younger generation with the aim to raise awareness on consumer related issues by providing information on consumer protection related subjects, like financial services, acquiring loans, credit cards, bank accounts, mobile payments, etc. In addition, the website www.minuraha.ee, which has been created by the Estonian Financial Supervision Authority, offers comparative analysis on different financial services and products, while Tallinn Stock Exchange has launched the basic investor education program (OECD 2011, 46).

The crisis in 2008 gave rise to new institutional developments that could be labeled as social lending. This has implied the establishment of operational peer-to-peer lending platform allowing individuals and businesses to borrow and lend between each other. The infrastructure just facilitates transactions between the customers without providing loans or collect investments or deposits. The main purpose has been to create cheaper financing and efficiencies through the financial disintermediation by empowering individuals and businesses of all shapes and sizes, not credit institutions, to decide on the issue of finance. The aim of the platform or web-based portal has been to expand the social banking network not only in Estonia, but also abroad (see isePankur 2012).

Also in the banking sector certain features of corporate social responsibility (CSR) can be detected, e.g. setting lower prices for transactions made by senior and junior
clients (see Sõrg, Tuuis 2008, 20). SEB Bank and SEB Life-Insurance have established a non-governmental organization SEB Charity Fund to improve the situation of homeless children, provide financial support to orphanages and shelters (Ühispank 2006). Furthermore, SEB together with partners launched a business idea competition “Brainstorm 2007” to support entrepreneurship among young scientists and students by offering free counseling and advisory services (SEB 2008). Also, SEB Bank was the first bank and corporation in Estonia that started to use more than 75% of the energy from renewable sources (SEB 2010). In its CSR policy, Hansapank has focused on supporting youth, children, educational activities, culture, sports, and financing environment protection as well as social projects by launching several projects, e.g. supporting youth in teacher career with the program “Teach First”, raising the awareness of HIV via social programmes etc. (Hansapank 2006). In society, Hansabank has promoted the improvement of IT-literacy among citizens by supporting the growth in the number of computer and internet users, but perhaps the most remarkable gesture was launching a program “Borrow Responsibly” to educate borrowers, and stepping back from active advertising of consumer loans in 2007 (Hansapank 2008). Nonetheless, in spite of these activities, the priority has been given to attract as many clients as possible by using every means. Lately, the focus has been to sign up newborns as early as possible to the banks by offering different saving and insurance products. Also, in cooperation with Estonian Student Union and other educational unions, SEB has aspired to become the most student and pupil-friendly bank in Estonia by offering several benefits for bank card holders (SEB 2008), while Hansapank also established its own brand for youth “Hansapank Youth Bank NPNK” (Hansapank 2006). Therefore, brands, life-styles, and other associations related to banks have been actively used to establish their position in the society. At the same time, banks have tried to position themselves by narrowing down their customer base. As an example, SEB has explicitly declared that its main customer base is comprised of middle and upper class private individuals, aside
from corporate business (Ühispank 2001). In 2006, Hansapank Group came out with the similar statement, by proclaiming that above average private individuals in terms of purchasing power are its main target group (Hansapank 2007). However, the void left behind has been filled up by smaller banks that have also specialized in their corporate loans, e.g. Tallinn Business Bank Ltd. specialized in precious metal markets.

III. 4 Housing Finance

Housing finance became relevant in Estonian economy only at the turn of the millennium after the institutional preconditions for take-off of the real estate sector growth were created. In 2000s, real estate and construction markets have been one of the most dynamic, but also increasingly indebted sectors in the Estonian economy that eventually led to the overheating of the economy and crisis in 2008-2009.

The reasons why the financing of real estate and construction sectors became so popular in the banks’ asset portfolio can be traced back to the developments in the 1990s. In 1991, 60% of the housing stock belonged to the state and municipalities, while 30% was made up of private homes and 10% of housing co-operatives. The following years did not give rise to increased demand for mortgage loans, as the privatization of land and dwellings was accomplished with national capital bonds\(^41\) (Purju 1996). This explains, why before 2000, mortgage financing for commercial and residential building was virtually non-existent with mortgage loan to GDP ratio reaching over 5% only in 2000 (Sõrg, Tuusis 2009, 4). Aside from difficulties in applying for collateralized bank loans\(^42\), mortgage loans were curbed by high interest rates, whereas low purchasing power implied inactive real estate market, although it was liberalized (OECD 2000b). However, one of the main issues in the housing sector was outdated housing stock that had to be dealt with in the conditions, where the responsibility for the maintenance was transferred from state

\(^41\) The basis for calculating the value of these bonds was the employment period, while the basis for all calculations of the value of national capital bonds was the amount and the book value of the housing to be privatized. On the basis of this value and the estimated total sum of employment years, the price of 1 year was fixed at 19.2 Euros.

\(^42\) Long-term, up to 10-year housing loans were introduced only in 1996 by Hansapank (Zirnask 2002, 128).
to private individuals. These developments laid the foundation for increasing integration between finance and real estate in 2000s, as a relative backwardness of the real estate market compared to other markets, including financial markets, meant expanding investment opportunities (Bank of Estonia 1998a). By 2001, around 98.5% of housing units were in the hands of private persons, which broadened the possibilities to use real estate property as a collateral for housing loans with the purpose of renovation or building new houses and apartments of higher quality, while at the same time the decision to include Estonia into the EU triggered foreign capital inflows, including in real estate, and reduced the risk perceptions that were manifest in decreasing interest rates (see Varblane et al. 2009).

III. 4.1 Real Estate Business

As evidence of increasing interdependence between real estate and banking, banks have established either subsidiaries in or partnerships with real estate sector. For instance, a subsidiary of the largest bank Hansapank (later Swedbank), Hansa Capital, which was focused on leasing and factoring financing in 2000s, broadened its reach by setting up its own subsidiaries in different business segments, including real estate and renting (Hansapank 2001). The second largest bank SEB, on the other hand, signed partnership contracts with the 8 largest real estate companies in 2003 before the housing boom took off. Furthermore, in cooperation with Estonian Union of Cooperative Housing Associations, SEB came out with Energy Conserving loan product to cooperative housing associations, which consisted of a loan, energy audit, and services by an assistant (Ühipank 2004). On top of that, SEB offered for years the property management service until 2007 (SEB 2008). Consequently, real estate and construction companies have become the most borrowing-oriented sectors since the early 2000s. The leading position of real estate companies in absorbing bank loans could be witnessed in the growth of loan stock. In the corporate loan portfolio, the share of loans granted to commercial real estate companies has been the largest, accounting for almost 35% in the banks’ loan and
leasing portfolios at the peak of the boom in 2006. That year investments increased 22% on y-o-y basis, reaching 34% of GDP, where the biggest contribution was made by construction and real estate sector (Bank of Estonia 2007a; Grigoriev, Abigalov 2011, 25-28). As a result, the combined share of real estate and construction in value-added has reached 21% in 2007 and this is reflected in the portfolios of credit institutions (OECD 2011, 10-23).
As seen in the Figure 46, over 40% of the loans to non-financial companies consists of real estate and construction loans. Coupled with mortgage loans, the share has been even higher – over 60% of the banks’ credit portfolio. Aside from domestic bank loans and leasing, the development of real estate and construction sectors have been supplemented by FDI. It is noteworthy that unlike other Central European countries, Estonia has attracted most of the FDI inflows into non-tradable sectors, including real estate business (Festić 2012, 193; Tiits 2007, 8-16).

As in many other advanced and transition economies, real estate boom in Estonia collapsed in 2008, although the slowdown in credit growth occurred already in 2007. For instance, in 2007, Swedbank acknowledged that rapid economic growth had entailed imbalances in the Estonian economy and thus, took a rather conservative stance in its credit policy, in particular putting the brakes on granting loans to domestic market oriented sectors, such as construction, real estate, retail and wholesale. Stricter credit policy in terms of additional requirements for collateral and higher risk premiums was implemented for both private and legal persons (Hansapank 2008).
After 2008, corporate lending shrunk the most in the real estate and construction sectors (Bank of Estonia 2010, 4). At the same time, commercial real estate and construction sectors had the most overdue loans both in terms of share and amount (Bank of Estonia 2009b). The share of overdue loans in the construction sector stood at 1.2% in 2007 and at 5% in 2008 (19.2% in 2009) and that of the commercial real estate sector at 0.5% and 5.3%, respectively, in the loan portfolio of banks (Bank of Estonia 2009a; Bank of Estonia 2010a).

III. 4.2 Households

Similar trends can be detected in the financial position and behavior of households. While in 1997 the household loan stock accounted for only a third of the corporate loan stock in banks’ credit portfolio, by 2006 they were almost equal. The main contributor to the credit growth to households was mortgage lending (Kallakmaa-Kapsta 2007, 6-13; Grigoriev, Abigalov 2011, 25-28). The drastic expansion of mortgage loans is unveiled in the growth of outstanding housing loans of 29 times over a 9-year span from 287.6 million Euros in 2000 to 6.2 billion Euros in 2008 or from 4.1% to 41% of GDP (Varblane et al. 2009; see Figure 47).
Such a rapid growth in lending to households during the pre-2008 period was achieved by the lack of restraints on both the demand and supply side, as substantial amounts of inflowing capital fueled the increasing demand for mortgage credit during 2005-2007, while high inflation in combination with low interest rates implied negative real interest rates. In the condition of tightening market competition, mortgage credit was made more attractive by interest rate declines, longer terms in servicing housing loans, favorable loan-to-value ratio of 70%-85%, and declining minimum income requirement in real terms (Bank of Estonia 2005b; Bank of Estonia 2004b; Bernhardtson, Billborn 2010, 10-11). As of 2010, the majority of Estonian households had their own housing, with 17%\(^{43}\) of them having real-estate related financial liabilities (Bank of Estonia 2011, 14-15). More importantly, 90% of the mortgage loans were denominated in Euros at adjustable interest rates (Bank of Estonia 2010b). This made the repayment capacity of borrowers dependent on employment situation, the evolution of real estate prices, and to a significant extent on continued low interest rates.

\(^{43}\) Over the years since 2002, the indicator has fluctuated between 13-22%.
Favorable conditions in the labor, real estate and financial markets prevailed until 2007-2008. According to the survey carried out by Global Property Guide in 2006, the price hike in real estate was the largest in Estonia among 40 countries. The average rise in apartment prices in Tallinn was so fast that a person earning average wage was not able to purchase even one square meter of a two-room apartment for a whole net monthly income. The factors behind the faster rise in real estate prices than in incomes were the inflow of loan money to Estonian banks and low interest rates. In these conditions, investment in real estate was seen as an alternative form of saving, which also increased the share of speculative real estate investments, i.e. housing was increasingly purchased for speculative purposes, including for rent (see Bank of Estonia 2006b). With regard to public policies affecting the real estate market, guarantees extended by the Estonian Credit and Export Guarantee Fund, KredEx, enabled people to take out housing loans at a down payment of just 10%. In addition, the state has provided the opportunity to deduct housing loan interests from taxable income, all of which spurred the real estate boom. Therefore, the emergence of booming real estate market from 2004 to 2007 was supported by the privatization process, gradual reduction of interest rates, loosening credit policy by well-capitalized and financially backed Nordic banks, moderate inflation, wage growth that outpaced productivity growth, and fiscal incentives.


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<tr>
<td>Average purchase-sale price per square meter of dwellings of satisfactory condition in Tallinn (Euros)</td>
<td>249</td>
<td>268</td>
<td>275</td>
<td>326</td>
<td>396</td>
<td>601</td>
<td>588</td>
<td>761</td>
<td>933</td>
<td>1476</td>
<td>1821</td>
<td>1463</td>
<td>741</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>The number of purchase-sale contracts [thousand]</td>
<td>4.5</td>
<td>6.9</td>
<td>9.2</td>
<td>14.7</td>
<td>20.4</td>
<td>25.7</td>
<td>35.5</td>
<td>42.9</td>
<td>56.1</td>
<td>60.2</td>
<td>49.3</td>
<td>34</td>
<td>26.3</td>
<td>30.9</td>
<td>32.3</td>
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The value of purchase-sale contracts (mln Euros)

| Value | 115 | 176 | 270 | 437 | 608 | 819 | 1193 | 1680 | 3034 | 4716 | 3738 | 2101 | 1135 | 1204 | 1522 |

Growth of floor area of dwellings (thousand m²)

| Value | 57 | 120 | 68 | 65 | 80 | 70 | 110 | 220 | 280 | 320 | 400 | 560 | 460 | 310 | 230 |

Source: Statistics Estonia 2012

In 2009, however, the fall of GDP by 14% was accompanied by the fall of prices of real estate to 2005 level (Swedbank 2010), while interest rates were raised. Thus, banks became more conservative and risk-averse after the crash by focusing on their existing loan portfolios and considering more client-specific risks. As collateralized housing loans reached over 80% of all loans, the largest banks were sitting on growing inventories of real estate collateral (mostly residential estate), which forced them to establish affiliated asset management companies in order to offload real estate collateral from the books (Bank of Estonia 2010, 16-20; OECD 2011, 10-23). For instance, in risk management, Swedbank opened a Baltic Financial Restructuring and Recovery Division to deal with problematic loans and debtors. Also, Ektronet AB was established to administer and improve obtained assets, mostly real estate, which were collateralized for issued loans (Swedbank 2010). However, the severity of banking problems has been alleviated by the fact that housing loan customers consisted primarily of households with higher incomes, who were able to service their loans (Bank of Estonia 2009b). 4 years later after 2008 crisis, two largest banks and mortgage credit providers, SEB and Swedbank, have not indicated any significant problems in the debt servicing ability of their clients. Study by SEB in 2012 (Tänavsuu 2012) has shown that almost 70% of their clients consider their financial situation as good and not deteriorated since 2008. Nonetheless, as indicated earlier in the report, debt to disposable income ratio has increased significantly from less that 5% to almost 60% in 2009. While in case of SEB the average credit costs amount to 18-30% of private individuals’ income, in Swedbank’s case, 2/3 of clients have to allocate 40% of their monthly income for debt servicing (ibid.).
III. 5 Inequality and the Financial System

Very rapid changes in the development process during the last two decades revealed social inequalities and marginalization of weaker members of society as a natural co-product of market economy reforms (Lauristin 2011). By adhering to the principles of liberal market economy, which has been manifest in relatively low social expenditures, weak union movement, low minimum wages, and low decommodification level in terms of increased private contributions into safety nets (e.g. pensions and healthcare coverage) and reduced transfer payments (e.g. less emphasis on passive labor market measures), Estonia has been categorized as neo-liberal welfare state, which also explains high income inequality (see Aidukaite 2011). Study by Kokkota (2000) on income distribution has found that relative inequality that was established after the independence in 1991 persisted until the late 1990s. For example, in 1996, a household in the first decile needed to double its income in order to reach the next decile. In 2002 disparities still existed: the poorest 40% of the population received 20% of the total income, while the richest 20% of the population acquired around 40% of the total income, which indicated relatively large inequality. This was supported by the average 0.356 Gini coefficient for the period of 1996–2002, which was one of the highest in Europe (Paulus 2003). However, since
early 2000s, Gini coefficient has improved, reaching 0.307 in 2005 and 0.279 in 2010 (Bastagli et al. 2012). In addition to general income inequality in the society, disparities have emerged also in the remuneration of work for women and men, as covered in the first section of the report (see OECD 2000b).

Paulus (2003) has argued that disparities in incomes can be attributed to the differences in employment and educational level. From the ownership and class perspective, income distribution has been affected by the ownership structure in individual firms and banks, which has been rather concentrated with low turnover of shares (Berglof, Bolton 2002, 87). As stated above, during the privatization process, conditions were conducive for the concentration of assets into the hands of those, who were either smart or lucky enough to take advantage of opportunities in chaotic economic environment. The concentration of ownership started already with the first rounds of privatization, when apart from the control of strategic foreign investors (in medium and large companies), small companies in services, catering and commerce were first acquired by employees, but then taken over by the managers. The restructuring of economy broadened inequalities on regional axis as well, as mono-functional areas in the periphery that had ex-Soviet narrow specialization in heavy industry did not possess similar dynamics, which existed in the regional centers. Moreover, capital city Tallinn hosted 59% of all registered companies in Estonia, while 80-90% of all FDI were made in the capital city by 1998 (OECD 2000b).

Inequality has also been revealed in the financial sector. Regardless of average annual rise of real wages of 7% between 1996 and 2008, wages have been higher in financial intermediation, government sector, and real estate (OECD 2000b; Estonian Institute... 2010, 50). Average gross salary in financial intermediation was 10,780 Roubles in 1991 and 13,086 Kroons in 2001, while average monthly salary in Estonia was 5,490 Roubles and 5,098 Kroons, respectively (Zirnask, 2002). Two largest banks, SEB and Swedbank, reward the management on the basis of achieving profitability measures based on economic capital rather than book capital (see De
Haas, Naaborg 2006, 183). The payments to the management have been classified as remuneration or compensation of board members. For instance, in SEB, the compensation of a member of the board is equal to 12 month salary, if he/she is not re-elected (Ühispank 2006). In case of 2 largest banks, Swedbank and SEB, the amounts allocated for remuneration of board members have increased on an annual basis until 2008-2009, although their share to total personnel costs have been stable.
After 2008, performance pay reserves were reduced and organizations adjusted according to the market situation, e.g. Swedbank’s performance pay fund in the amount of 18.5 million Euros was closed due to financial losses in 2009 (Swedbank 2010; Bank of Estonia 2009b).

IV. RECENT DEVELOPMENTS AND CONCLUSIONS

IV. 1 Preliminary Outline of Crisis

To some extent, the credit boom of the 2000s and eventual crisis were inevitable consequences of deeper structural problems that were created through the restructuring of the economy in the 1990s, as the furious restructuring had implied de-industrialization and specialization in low value-added activities [see Kattel 2010, 50-51; Männik et al. 2006]. On the other hand, the financial strategy that has been based on exchange-rate stabilization by the means of currency-board system and fiscal discipline, implied an external debt-led growth, which created a carry trade of easy credit in the 2000s and entailed increasing financial fragility, i.e. growing risks of reversal of capital flows as well as currency appreciation, which were amplified by the extreme openness of the economy [see Thorhallsson, Kattel 2012].
The combination of structural dependence on uncontrolled capital inflow and deteriorating competitiveness of the local economy led to accumulating imbalances in terms of large current account deficits that persisted throughout the years until 2009. Moreover, instead of building up sustainable production capacity, foreign-funded rapid credit growth fueled consumption and investments in non-tradable sectors, which in turn, increased both interest and currency risks. The exceptional growth rates that were achieved by speculative behavior, at least to some extent, led to unrealistic expectations of ongoing growth, which, in turn, attracted additional foreign capital. These optimistic sentiments on the market implied high leveraging of banks, which was manifested in deteriorating loan-to-deposits ratio. In such a spiraling vicious circle, Estonia’s stock of gross private external debt rose to more than 100% of GDP at end 2007. Apart from the accumulation of net foreign liabilities, also double-digit inflation and accelerating wage growth signaled the overheating of the economy. Hence, given the dependence of the local economy on external funding that underpinned double-digit growth rates, the drying-up of international inter-bank as well as debt markets put the brakes on capital inflows to Estonia. Consequently, reduced credit supply as well as tightened credit standards, coupled with increased cost of funding and overall uncertainty about economic prospects, resulted in weakened consumption, borrowing, and investment activities after 2008 (see Kattel 2010; Festić 2012; Dietrich et al. 2011; Bernhardtson, Billborn 2010; Grigoriev, Abigalov 2011, 33-35; Kattel, Raudla 2012; OECD 2011; Sõrg, Tuusis 2009; Coudert, Pouvelle 2010 on increasing imbalances in Estonian economy).

Therefore, Estonian case could be described as a classical Ponzi scheme that would have collapsed even without 2008 global crisis. 2008 crisis in Estonia could be addressed using Minskyian analysis, where underestimation of risks and excessive optimism are essential features of the market developments. Only the majority of risks were mostly carried by real sector and private individuals due to increasing currency mismatch. While overall foreign currency exposure of private borrowing
has been up to 70%-80% of all liabilities, the share of net foreign currency assets to GDP has been around 35% (see Csajbok et al. 2010; Kattel 2010). The high share of foreign currency-denominated loans in total loans has increased the default risks on the non-financial sector side, although large depreciations have transformed this currency risk into credit risk for the banking sector (see Dietrich et al. 2011, 421; Csajbok et al. 2010, 4). However, credit risk was reduced by the activity of banks and borrowers in preventing problems and finding solutions to maintain the loan servicing ability. For instance, in deteriorating economic conditions, banks did not require additional collateral to safeguard themselves against potential credit defaults, while the solutions for debtors, who were struggling with loan repayments, were full grace period, only-interest period, extensions of contracts etc. Nevertheless, lowering income levels and tightened budgets meant that borrowers’ capability of servicing debt remained the greatest threat to financial stability in Estonia (Bank of Estonia 2010b). Banks themselves, on the other hand, have not been the main source of credit risk or systemic risk, since the largest banks are the net debtors of foreign parent banks, while being irrelevant debtors on the local interbank market, unlike in developed interbank markets in Europe (Valužis, Židulina 2009, 106-107). Severe financial problems of the Estonian financial sector were avoided by the decision of Swedish parent banks to strengthen the capital base of their subsidiaries in Estonia, when the recession hit the economy in 2008-2009 (Bernhardtson, Billborn 2010, 19-20). Such dependence on Swedish banks reveals the risks of default or illiquidity of foreign-owned banks in Estonia, should their parent banks face financial problems.

Essentially, the inability to avoid or mitigate the imbalances was rooted in the currency board arrangement, as it impeded external adjustments in a timely manner to so as to alleviate the deepening imbalances in the Estonian economy. Furthermore, pegging the currency significantly impacted output and economic activity due to appreciation of real exchange rate, which was driven by high price and
wage increase as well as large capital flows (see Pilinkus et al. 2011, 393; Bernhardtson, Billborn 2010, 10-11). As was covered in the last sections, Estonia witnessed a 10-fold increase of real estate price during the 1997-2007 period, while prices of housing doubled from 2005 to 2007. Furthermore, the real estate boom that increased the aggregate demand in the economy, manifest in the 8.9% and 10.1% real GDP growth rate in 2005 and 2006, respectively (Statistics Estonia 2012), created labor shortage that induced wage increases and even increased the use of foreign labor from other CEE countries to reduce the costs, in particular in construction sector. Against the background, where wages were growing faster than productivity, e.g. the annual growth rate of unit labor costs increased from 2.5% in 2000 to 17.5% level in 2007 (OECD 2012), real exchange rate against developed industrial countries as main trading partners, appreciated (see Figure 51; Kattel, Primi 2008, 10-14, 17-19). The risks were also increased by low international reserves, as it has been in Estonia during the last years. In general, the likelihood of banking crisis in Estonia was associated with a low level of foreign exchange reserve relative to M2 (see e.g. Coudert, Pouvelle 2010, 87).
IV. 1.1 Results and Effects

As a result of the global financial crisis, the Estonian economy plummeted by 14% in 2009. Investments were undermined by the underutilization of productive resources, while tax increases, propensity to save and high unemployment that reached almost 20% at one point in 2010 deteriorated private consumption (Bank of Estonia 2010a). On the other hand, the possibilities to switch to the export-led growth that would balance declining domestic demand after 2007, were hampered by the declining external demand, although current account turned positive due to larger fall in imports than in exports. Affected by the fall in aggregate demand, bankruptcies and unemployment soared, while the creditworthiness of the borrowers deteriorated (see Bernhardtson, Billborn 2010, 14-15). Since August 2008, the number of bankruptcy petitions to courts rose sharply. While about 25 bankruptcy petitions were filed per month in 2007, on average 67 petitions were registered per month a year later (Bank of Estonia 2009b). Thus, the main effect of the financial crisis in 2008 was rapidly increasing unemployment, coupled with decreasing working hours.
and nominal wages, which indicated a rather large flexibility in labor market and weak unionization. The biggest decrease in employment occurred in the sectors, where demand rapidly dropped, e.g. in the construction sector, where the employment rate declined by over 40%, while manufacturing has been another sector struggling with above-average unemployment growth rate (Bank of Estonia 2010b). Moreover, clear signs of emigration are seen in the aftermath of 2008 events. If before 2008, on average 15,000-20,000 people were working abroad, then in 2009, the number increased to 30,000. These developments indicate the lack of traditional institutional factors that would provide protection to workers and satisfactory safety nets in terms of unemployment benefits for the unemployed. Thus, the result has been a high share of long-term unemployed in the conditions of underfinanced social protection and lacking active labor market policies (Eamets 2011). Essentially, the crisis in 2008 affected the real economy by increased risk premiums, stricter credit conditions, and drop in assets prices, which undermined investments and private consumption (Swedbank 2009).

The repercussions for the financial sector were mostly felt in banks’ profits and funds’ yields. In addition to write-downs during 2009 that amounted to nearly 3.5% of the total loan portfolio of banks, banks had to bear losses due to write-downs of investments in subsidiaries as well. With decreasing incomes and loan portfolios banks cut expenses by 10%, partly by eliminating the bonus reserve (Bank of Estonia 2010a). Nonetheless, the banking sector managed to safeguard itself with the reserves and buffers that were accumulated during the booming years. These were, in turn, facilitated by higher reserve requirements compared to the EU ones. With regard to investment funds, 1/3 of the value of their assets was lost in 2008 due to their external market exposure (Bank of Estonia 2009a; Bank of Estonia 2009b).

IV. 1.2 Response

Not surprisingly, some of the leading scholars in Estonia (e.g. Varblane et al. 2009) have suggested that guidelines for dealing with the consequences of a real estate
bubble burst should include the avoidance of expansionary fiscal policy, higher borrower responsibility, and the initiation of wage and price cuts. In line with these propositions, government’s behavior during the crisis was weak and followed procyclical approach, which was evident also during the rapid economic growth years, when fiscal policy was expansionary and aimed to reduce taxes, whereas public expenditures were expanded. Moreover, the government can be accused of not conceiving the systemic risks that lay behind the collapse of the real estate market. Because of the embeddedness of neo-liberal and non-corporatist features in the Estonian political-institutional system, analytical competences to deal with the consequences of crisis were non-existent and alien for policy-makers. Hence, the only tool envisioned, was an adjustment with budgetary cuts in investments, transfers, and the government wage bill in 2009 that were complemented by tax rise and increased absorption of the EU funding that covered widening budget deficit gap by constituting 12% of the entire 2009 budget and exceeded 4% of GDP. Without these transfers, Estonia would have faced much worse public deficit or unemployment figures (Kattel 2010, 41-44; Raudla, Kattel 2011). Therefore, given the currency board arrangement, Estonia opted for internal devaluation of the currency, which implied the downward adjustment of nominal wages and fiscal contraction (Kattel, Raudla 2012, 2). Another response was related to turning labor market more flexible, which resulted in persistently high unemployment without significantly higher social expenditure due to relatively low and brief benefits (ibid., 3). Against these austerity measures that were coupled by the contraction in domestic consumption and investment demand, GDP growth rate dropped to -14.3% level in 2009, but recovered in 2010 (2.3%) due to increased external demand, which was reflected in the positive current account balance for the first time since 1993. With regard to the response in the banking sector, banks reduced operating expenses, mainly administrative costs, which were reduced by almost 63.9 million Euros (18%) within one year from 2008-2009 to counter contracting incomes and
credit portfolios (Bank of Estonia 2010b). Furthermore, Nordic banking groups extended share capital by issuing new shares and included subordinated loans to mitigate potential solvency problems and cover up deteriorating loan quality (Bank of Estonia 2010b).

IV. 2 Summary
The study on the ‘financialization’ and development in Estonia during the last 20 years has revealed several peculiar features of the Estonian economy that can be addressed from either small states or transition economies perspective. Estonian case is a good example for understanding the implications of transition from socialist socio-economic production system into capitalist mode within a specific political and institutional context. Being one of the more successful transition economies, Estonia’s economic policy framework is perhaps the clearest example of applying neoliberal policy toolbox in transition context and beyond. As the neoliberal toolbox would prescribe, Estonia has not relied on intensive intervention into the economy nor used any foreign investment management policies beyond macro-economic reforms oriented towards price stability, balanced public budgets and low taxes. Consequently, while being a small and extremely open economy, Estonian case offers relatively unique opportunity to understand the consequences and impacts of neoliberal policies, such as unmanaged FDI policy, on both financial and non-financial sectors. On the international comparative basis, the Estonian case provides an opportunity to get a grasp on the challenges and lessons to be learned on the political level that stem from the rapid catching-up process during a relatively short period, compared to the decades-long evolution of financial systems of advanced industrial economies.

The openness of the economy in terms of rapid liberalization of restrictions on prices, trade and capital flows was the reflection of the neo-liberal political stance of the government(s) and its aspiration to adopt what were perceived as the ‘Western standards’, leading to copying of many policies from Washington Consensus toolbox
or from EU policies and regulations, in the build-up of the country’s legal and institutional framework. Being coupled by the shock therapy in terms of the liberalization of trade barriers, price controls and non-existent state support, the approach to the restructuring of the economy, including the privatization process, was based on the models and practices used in developed economies. This emulation process took place without the full consideration of contextual aspects, which reflected ‘one size fits all’ strategy in the introduction of market economy principles. Active promotion of the Estonian economy and business opportunities as well as targeting prospective foreign investors ensued in massive capital inflows to both financial and non-financial sectors in the 1990s. This was paralleled by the similar developments in other CEE countries in the 1990s as well as in Latin America that relied on FDI-led economic growth and industrialization. Seen as a potential satellite hub, Swedish and Finnish investors acquired privatized companies in Estonia but also undertook green-field investments due to relatively skilled and cheap labor force, while the geographical closeness and cultural ties with Estonia created additional incentives to relocate production to Estonia. For international financial institutions, Estonia was seen as a gate to the rest of the CEE region and in 1998 Swedish banks seized the opportunity to acquire two largest local banks in Estonia, which were suffering from illiquidity and financial losses in the aftermath of stock market collapse in 1997 and Russian crisis in 1998.

Although capital flows to Estonia have given the boost to economic growth, several weaknesses in the productive system that undermined the sustainable economic development, were reinforced by the business models of multinational companies in both financial and non-financial sectors. Affected by the increasing re-specialization into services sector, the weakening of the industrial base, which was caused by the inability of manufacturing industry to withstand intensifying foreign competition, was worsened further by the decisions of foreign companies to relocate low value added labor-intensive stages of production to Estonia. Efficiency-seeking motives of foreign
investors to yield short-term gains in the manufacturing did not create spillover effects in Estonian industries nor significantly upgrade or diversify the industrial production, which was suffering from the ‘primitivization’ and technological backwardness. In these circumstances, banks that were acquired by foreign financial institutions gradually shifted the focus in their credit policy to households and real estate companies, unlike in the 1990s, when industries were the main clients of banks. Furthermore, banks expanded their operations into non-bank segments, such as insurance, asset management and leasing, which implied the implementation of universal banking model in Estonia. This increased further the dominance of banks in the financial sector, who were enjoying a better starting position in the 1990s due to the first mover advantage, as Estonia was allowed to experiment with commercial banks already in 1988, while other financial institutions, such stock market, investment and pension funds and venture capital firms, emerged only later in the mid-1990s and early 2000s. As a result of these developments, the financial sector has witnessed a very high level of market concentration in terms of the control of the market share and ownership structure. Essentially, the financial sector in Estonia, which is to a large extent controlled by the foreign wholly owned subsidiaries in the banking segment, is directed by the external forces and decisions made abroad.

The consequence of these developments in the financial and non-financial sectors has been a dualistic structure of the economy. Industries in Estonia have been led by large and medium-sized companies that in majority belong to foreign owners and do not rely on local economic infrastructure in terms of financing and demand conditions due to their focus on export markets. On the other hand, micro and small enterprises, predominantly in the services sector, target local market and are owned by local investors. The patterns of the financing of these companies have been also diverging. While large companies have relied on internal funds as well as intra-group capital transfers and foreign loans, small enterprises have preferred internal
equity that has been supplemented by bank loans. The cumulative implications of the financing sources and market targeting strategies of these firms have been increased vulnerabilities for the sustainable development of the economy. By taking advantage of low labor costs and taxes without notable wider positive (spillover) effects on the whole economy, foreign owned companies have entailed the ‘enclavization’ of the significant part of the industrial sectors by rendering the acquired businesses in Estonia into simple arm extensions of multinational companies. The contribution of the FDI to the sustainable development of Estonian economy would have required the integration of foreign capital into indigenous economy by established supply-demand linkages between domestic and foreign producers. Therefore, due to the meager embeddedness of foreign owned companies in the Estonian production networks, heavy reliance on these companies as a source of income from exports has increased the susceptibility to external imbalances of the economy, should the external markets suffer from declining demand. Thus, the stability of the Estonian economy has to great extent relied on the successful operation of multinational companies in Estonia due to their superior profitability and productivity indicators, compared to local companies. On the other hand, as the inward FDI in Estonia has been concentrated in limited number of economic sectors and tends to finance the production of maturing products that face saturating markets, FDI in Estonia is becoming mature in terms of both shrinking new FDI inflows and increasing FDI related income outflows.

Aside from real economy, vulnerabilities stem from financial sector as well. Foreign capital in the form of loans that has been channeled through foreign owned banks to households, real estate businesses as well as retail and wholesale sector, has increased the financial fragility of the economy from 2003, when the first signs of real estate boom appeared. Due to the propensity to use bank credit for consumption rather than investments, the domestic market orientation of foreign loans has eroded the margins of safety by insufficient generation of foreign currency
earnings to meet the external liabilities. Hence, such external financing of the economy, both businesses and households, without sufficient buffers has revealed Ponzi financing position of the Estonian economy before the global crisis of 2008 hit the country. Unrestricted capital inflows have been feeding the monetary expansion, which led to inflationary trends and deteriorating real exchange rate. These factors contributed to the widening current account deficit and the increasing external debt level of the economy. Thereby, the institutional causes of the increasing financial fragility in Estonia were rooted in both fixed exchange rate system, which against the free movement of capital could not prevent high inflation nor disincentivize the capital flows of speculative nature, and overall liberal economic policies that left policy-makers only with traditional fiscal policies as the main tools to alleviate external imbalances, while the prudential capital-account controls or specific FDI policies have been off the agenda. Nonetheless, the fiscal measures taken by the government have had a pro-cyclical bias, leaving the internal devaluation via wage cuts as the only option to improve external balance and attract new investments, which under the conditions of high indebtedness and reduced government expenditures have had a negative effect on domestic demand, employment, and economic growth.

The conditions of economic Darwinism, i.e. leaving the survival of enterprises to be determined by the market forces alone without any significant assistance from the government, have locked the economy into continuing dependence on foreign capital inflows that would keep the economy afloat and maintain the ability to service the debt. The development path of the Estonian economy, affected by the political decisions made in the 1990s, has exposed the economy to the developments outside Estonia. Aside from local industrial or wider economic policies, the monetary policies of the European Central Bank, the EU fiscal transfers, decisions by the Scandinavian parent banks, and the external demand for leading foreign owned companies in Estonia have had a major impact on the development and growth path
of the economy. Nowadays, the challenge is to depart from the path dependency that was set in in the 1990s on the political level as well as in the economic structure whereby the financialization process in Estonia was unveiled in a heavy reliance on foreign capital of both financial and non-financial sectors that underpinned rapid but unsustainable economic growth, which culminated in financial crisis in 2008.
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THE ABSTRACT OF THE PROJECT IS:
The research programme will integrate diverse levels, methods and disciplinary traditions with the aim of developing a comprehensive policy agenda for changing the role of the financial system to help achieve a future which is sustainable in environmental, social and economic terms. The programme involves an integrated and balanced consortium involving partners from 14 countries that has unsurpassed experience of deploying diverse perspectives both within economics and across disciplines inclusive of economics. The programme is distinctively pluralistic, and aims to forge alliances across the social sciences, so as to understand how finance can better serve economic, social and environmental needs. The central issues addressed are the ways in which the growth and performance of economies in the last 30 years have been dependent on the characteristics of the processes of financialisation; how has financialisation impacted on the achievement of specific economic, social, and environmental objectives?; the nature of the relationship between financialisation and the sustainability of the financial system, economic development and the environment?; the lessons to be drawn from the crisis about the nature and impacts of financialisation? ; what are the requisites of a financial system able to support a process of sustainable development, broadly conceived?
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