

## ORGANIZATIONAL AND SECTORAL CHANGES IN TRANSITION BANKING: ESTONIAN EXPERIENCE

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**Abstract.** Our study examines organizational and sectoral developments in the Estonian banking sector. It can be concluded that despite the unstable economic and legal environment during the transition period, banking in Estonia has been much more profitable than in many developed countries. But at the same time the effectiveness of banking in a transition economy is volatile and the risk of bank failures is high. The Estonian banking sector is clearly dominated by foreign banks that have brought stability and modern banking techniques with them and increased the competitiveness of the market. We also prove that new electronic channels are more cost-effective than traditional channels and explain the difference in the cost structure.

**Keywords:** banking sector development, banking internationalization, electronic banking

### 1. Introduction

In transition economies, introduction of the market economy takes place simultaneously with structural and legal reforms. Therefore, in the period of reforms, the economy undergoes one or more periods of crisis (economic recession, instability of monetary system) in which development rates and volatility are high.

In chapter one we give an overview of the development and changes in the banking sector in Estonia during the transition period. In chapter two the internationalization, especially the role of foreign banks in Estonian banking market is discussed.

In chapter 3 we bring out benefits of e-banking from the point of view of banks, their clients and the economy in general. In the research we find that electronic channels are cost-effective for banks and for the clients. In the case of Hansabank, online bank payments are 12.5 times cheaper and offline bank payments are 30 times cheaper than traditional transactions concluded within branch network. We argue that Estonia has achieved significant success in the implementation of electronic banking; it is on the top of the emerging markets in this

area and even outpaces the achievements of some developed countries. We analyze the main reasons and factors responsible for the rapid growth of electronic banking in Estonia.

## **2. Development and changes in the banking sector of Estonia**

In addition to the transition to market economy, Estonia had one more aim in reconstructing its banking system – to restore financial independence, and the result was that Estonia became a pioneer in the reformation of banking system in the USSR. In September 1988, Tartu Kommertspank was granted the first commercial bank license in the Soviet Union. Shareholders of the bank were mostly state-owned enterprises all over Estonia.

The hyperinflation in 1991 had reduced the real value of the obligatory initial capital of the commercial banks by several times. Now businessmen who had made money with inter-mediation of government property had an opportunity to establish their own banks to pump supplementary resources into their business through their banks. In Estonia, a boom in establishing banks occurred in the first half of 1992 when 21 new commercial banks were issued a license. Before the currency reform, the number of banks was the biggest, but the total number of commercial banks at the end of 1992 was 41. However, the banks were relatively small. The banks were also small with respect to the number of shareholders: at the end of 1992, 11 banks had less than 10 shareholders and among them there were two banks that had only one shareholder.

During the central planning system, the banking sector was doing little more than allocating funds to the various sectors and companies according to the authorities' decisions. Consequently, at the time the transformation process began, the banking sector was characterized by parameters such as:

- Competition practically zero;
- Lack of customer orientation;
- Low degree of management know-how and insufficient technical equipment;
- Last, but by no means least: a very poorly developed loan-culture and risk-awareness (Stepic, 2002).

Most of the transition countries have preferred commercial banking while reconstructing their banking systems to adjust them to the market economy. The main purpose of commercial banks shareholders and executive management is to increase the value of the company, which requires both a quick rise in the capacity of financial services and a high level of efficiency of the business activities. But in transition economies the macroeconomic risk level is significantly higher than in countries with advanced market economies.

Banking is one of the most profitable business activities also in the euro zone. The average sector profit margin levels for the period 1991–2001 for eight euro zone counties demonstrate that financial intermediation is one of the most

profitable sectors. Among 21 sectors, financial intermediation is on the fourth position with its over 20% level. Only three non-manufacturing sectors (real estate, post and telecommunication, and electricity, gas and water supply) have higher profit margins (Measuring..., 2004).

The aim of maximizing profits forces the banks to look for profit opportunities also in the conditions of economic crisis and instability of currencies. As giving loans is an especially risky activity in times of economic crisis, given the privatization process and large bankruptcy risks, the banks found in 1992, before the currency reform, that even more profitable than lending is speculation with currency. In the first half-year of 1992, income from currency exchange (exchange rate margins and exchange fees) accounted for 91% of total income of Estonian commercial banks. Already for the second half of the year 1992 banks had corrected their strategy for earning profits. The share of currency exchange fees increased significantly in comparison with exchange rate margins. The reason for this was the currency reform that started on June 20, 1992, which established as the legal tender the Estonian kroon with a fixed exchange rate the Deutschmark (8:1). Also, thanks to the fixed exchange rate, inflation quickly started to decline.

However, income and turnover from currency exchange declined significantly after the currency reform. This had to be compensated and the solution was found in activating the credit activities. As the economic crisis had reached its worst point in 1992, this was a very risky activity. Therefore, the interest rate was high. For some banks, the turn from currency exchange business to granting loans was too abrupt; they became illiquid and left the market.

Also the cause of the 1998 Russian economic and financial crisis is considered by some researchers to be the negative attitude of banks toward lending to industrial corporations and their continuing focus on foreign currency dealings and securities investment (Satoshi, 2001). The interest rate on loans continued to decline also in the following years (except the setback in 1998), because the inflation rate also decreased and the competition among banks forced them to concentrate more on the growth of their loan portfolios rather than maximizing the interest rates.

In 1992, interest income accounted for 30.4% of commercial banks' operating income, whereas from that time onwards their share in income has increased, being as a rule above 60%.

Most of Estonian banks had quite ambitious growth strategies. Growth was achieved by introducing new ideas, by cheaper service or by cheaply acquiring competitors during banking crises. Already the researchers analyzing the Finnish banking crisis at the beginning of the 1990s discovered the fact that a banking sector that grows faster than the overall economy will in the long run end up in a banking crisis. The economists analyzing the Japanese banking crisis came up with two reasons for this: deregulation and excess power of the banking sector. These were the reasons why they did not pay very much attention on risk management and regulative measures (Kanaya, Woo 2001). Apparently, this was also the case in Estonia: rapid growth in several years led to excess capacity of banking

and also to underestimation of risk management in 1997. The banking crisis in 1998 brought the banking back to earth (Table 1).

**Table 1. Development of banking in Estonia**

| Year | Number of operating banks* | Totally by the end of the year, Bill EEK |                |        | Banks assets, % of GDP | Loan portfolio, % of the assets |
|------|----------------------------|--|----------------|--------|------------------------|---------------------------------|
|      |                            | assets                                   | loan portfolio | profit |                        |                                 |
| 1992 | 41                         | 5,2                                      | 2,1            | 0,09   | 36,4                   | 40,4                            |
| 1993 | 22                         | 6,4                                      | 2,7            | 0,25   | 28,1                   | 42,9                            |
| 1994 | 24                         | 10,4                                     | 4,5            | 0,04   | 33,2                   | 43,6                            |
| 1996 | 13                         | 21,9                                     | 12,1           | 0,51   | 39,2                   | 55,3                            |
| 1998 | 6                          | 41,0                                     | 23,9           | -0,50  | 52,5                   | 58,3                            |
| 2000 | 7                          | 57,8                                     | 34,2           | 0,61   | 60,5                   | 59,2                            |
| 2002 | 7                          | 81,7                                     | 50,0           | 1,15   | 67,3                   | 61,2                            |
| 2003 | 7                          | 98,8                                     | 69,2           | 1,32   | 74,3                   | 70,0                            |
| 2004 | 9                          | 133,6                                    | 92,6           | 2,46   | 90,9                   | 69,3                            |
| 2005 | 14                         | 185,1                                    | 125,5          | 3,09   | 107,0                  | 67,8                            |
| 2006 | 14                         | 239,5                                    | 177,7          | 3,61   | 117,0                  | 74,2                            |

\* incl. branches of foreign banks

Source: Eesti Pank, author's calculations.

At the beginning of 1997 the index of Tallinn Stock Exchange (TALSE) equalled 160 points and it rose rapidly, reaching 493 points by the end of August 1997. The share prices of the banking sector reached already 200–300 kroons (nominal price was 10 kroons). It is clear that the banks were pushing the market as the five banks that were listed in the main list gave 60% of the market capitalization. The inflated securities portfolios guaranteed the banks high growth rates in balance sheet totals as well as profits.

The affiliated undertakings of banks were to a quite large extent securities and real estate intermediation-oriented. The stock market crash influenced significantly the revenues of the above-mentioned institutions, due to which the revenue of financial investments in 1998 was negative. The banks had holdings in many other fields as well: trading, hotels, transport, and production. But these also faced problems following the Russian economic and monetary crisis. The developments described above suggest that the banks rushed into the securities market and entrepreneurial activities with high hopes for positive future developments. However, the year 1998 was groundbreaking: the banks merged or were merged and got strategic investors who paid already sufficient attention to risk management and guaranteed adequate speed and level for the development of banking systems.

The number of banks in Estonia started to change in last years after Estonia joined the European Union. One new domestic bank was established – the Baltic Investment Group – which used to be a financing company. Before it there was only the Estonian Branch of Nordea Bank from Scandinavia. Now branches

opened also Parex Banka from Latvia and Bayerische Hypo- und Vereinsbank from Germany. At the end of 2005, over 93% of the share capital of banks belonged to foreign owners. However, the banking market in Estonia is very concentrated. The biggest bank in Estonia, Hansabank, share by assets was 53.2% at the end of 2006. The second biggest was Eesti Ühispank – 24.4%.

### **3. Internationalization development and effects in Estonian banking**

#### *3.1. Foreign banks in Estonian banking market*

The liberalization of the banking market and opening up for foreign banks was an important step of banking reforms in transition countries (Bonin, Ábel 2000, Demirguc-Kunt et al. 1998, Gruben et al. 1999). Before the 1992 currency reform, the Bank of Estonia did not allow any foreign shares in Estonian commercial banks. But the new regulations on the issuance of banking licenses after the currency reform no longer imposed such restrictions. Therefore, on 26 August 1992, Ameerika-Balti Ühispank (American Bank of the Baltics), whose sole proprietor was a US businessman, received a license, as did INKO Balti Pank (INKO Baltic Bank), a subsidiary of the Ukrainian INKO Bank, on 29 September 1994. But the Board of the Bank of Estonia did not approve all applications. For example, the representatives of the Austrian Danube Bank had to return empty-handed (Sörg, Uiboupin 2004).

The major foreign banks have always been waiting for a suitable moment to come to Estonia. Schleswig-Holsten Landesbank, based on the German capital, started a bit too early and in autumn 1997 met the refusal of the management of Eesti Investeerimispank (Estonian Investment Bank) to acquire 60% of the shares of the Estonian bank. The refusal was justified by the necessity to continue the activities as an investment bank and not turn into a retail bank. But the idea of an investment bank was not realised.

A branch of Merita bank (Nordea) was the first branch to enter the Estonian market in 1994. Scandinavian banks have been the major foreign investors in Estonia. By the end of 1998, 68.4% of Eesti Ühispank's and 64.9% of Hansabank's capital was in the hands of foreign credit institutions, the foreign share in the share capital of Estonian banks having grown to 57.8%. By the end of 2001, 85.7% of the shares of the Estonian commercial banks were owned by non-residents. At the same time, until 2003 foreign banks made up only 57% of the total number of banks.

The major Swedish banks (Swedbank and SEB) managed to bide their time. They bought from the stock exchange the depreciated shares of the Estonian major banks and in 1998 they were able to acquire without resistance an essential share of the share capital of Hansabank and Eesti Ühispank that were facing financial difficulties. The question why the Scandinavian banks were and still are active in the Baltics has its own logic. The Baltic region is geographically ideal for Scandinavian banks in their expansion pursuit. SEB bought out 96% of shares from

minority shareholders of Ühispank in 2000 and the name of the bank was changed to SEB Ühispank. Swedbank completed takeover of Hansabank in 2005. Both banks were de-listed from the Tallinn Stock Exchange after the take-over.

In general, foreign banks entered other transition countries in the same way as in Estonia – they entered when the local banks were in difficulties. For example, the analysis of the Croatian banking proves that during the period of the third banking crisis (1999–2000) the share of private capital in the banking sector increased to 90%, most of it was a foreign share (Barisitz 2000). Uiboupin (2005) has also shown that the average number of new foreign banks entries into European transition countries has been more than two times higher during banking crises.

### *3.2. The effects of foreign banks' entry*

There is a growing body of literature analyzing the effect of foreign banks' entry into the domestic banking market. Theorists who discuss the impact of FDI underestimate the importance of inter-industry and intra-industry spillover effects. The extent of intra-industry spillover effects of FDI on technology transfer depends on a particular local firm's own ability to innovate and imitate (Glass, Saggi 1998). The technology gap hypothesis suggests that the spillover effects from FDI to domestic firms will occur only if the technology gap is not overly large and if the country has a minimum required level of human capital (Borensztein et al. 1998, Kokko 1994). Besides the quantity of knowledge transfer, it is important to consider the level of quality of the knowledge transfer. Glass and Saggi (1998) that host countries with a higher technology gap, receive lower technological quality with FDI. A most comprehensive empirical survey about the entry of foreign banks was carried out by Claessens et al. (2001). It turned out that foreign banks tend to have higher profits than domestic banks in the developing countries, while in developed countries foreign banks are less profitable than domestic banks. Their results also indicated that a higher foreign bank presence is related with lower profitability, costs and margins of domestic banks.

In order to analyze the qualitative effects of foreign banks' entry into the Estonian banking market, a questionnaire-based survey was carried out<sup>1</sup>. The survey was conducted among bank managers of foreign and domestic banks from four CEE countries: Estonia, Lithuania, Poland and Romania. Some comparative evidence from Croatia is also provided. The bank managers' perception about different questions of the banks' internationalization was measured on a 5-point scale.

The results of the survey that the foreign banks' entry significantly intensified the overall competition in the banking market (average grade 4.0 points in Estonia and Romania, 4.5 in Poland), reducing the domestic banks' profitability and efficiency of operation. All other impacts were evaluated by Estonian respondents as unimportant, among them, surprisingly, even corporate governance of private firms (average grade only 1.7 points).

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<sup>1</sup> For more detailed information about the questionnaire, please see Uiboupin (2005).

Polish respondents were of the opinion that foreign banks' entry significantly forced banks to reorganize their internal structure in order to raise efficiency (4.1 points), as well as to introduce new banking services/products and improve the quality of the existing banking products and services (both 3.9 points). It is quite interesting that the Croatian respondents evaluated the impact of foreign banks' entry into the Croatian banking market more highly than the respondents from other countries.

It is interesting to note that the average effects of foreign banks' entry were clearly different in different countries. It can be seen in Figure 1 that the importance of different impacts of foreign entry in descending order is as follows: Croatia, Poland, Romania and finally Estonia. Seemingly, the general effect of foreign banks depends on market-specific factors. The Estonian banking market is comparatively more highly developed and so the overall effect of foreign banks has been evaluated to be lower. Therefore, the technology gap hypothesis seems to hold.

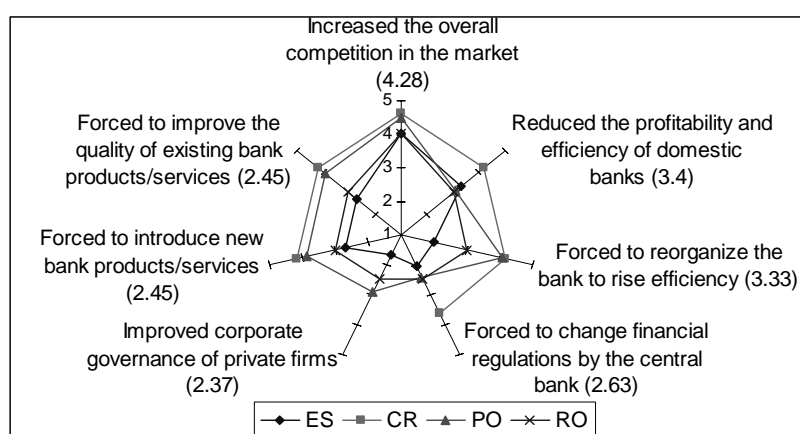


Figure 1. Impact of foreign banks' entry into the host country's market\*.

\* ES – Estonia, CR – Croatia, PO – Poland, RO – Romania;

Source: Uiboupin 2005.

The assistance in borrowing from international markets and the financial assistance in times of crises or other financial troubles were evaluated by the Estonian respondents as the most important forms of assistance rendered by the mother bank (4.3 and 4.0 grades, respectively; see Figure 2). All the other listed assistance forms were also ranked quite highly, so it can be inferred that the mother banks in general support Estonian foreign-owned banks' operations and activities at the market quite substantially. This conclusion is very important, if we take into account the openness of the Estonian economy, its sensitivity to external shocks, and the small scale of the Estonian market.

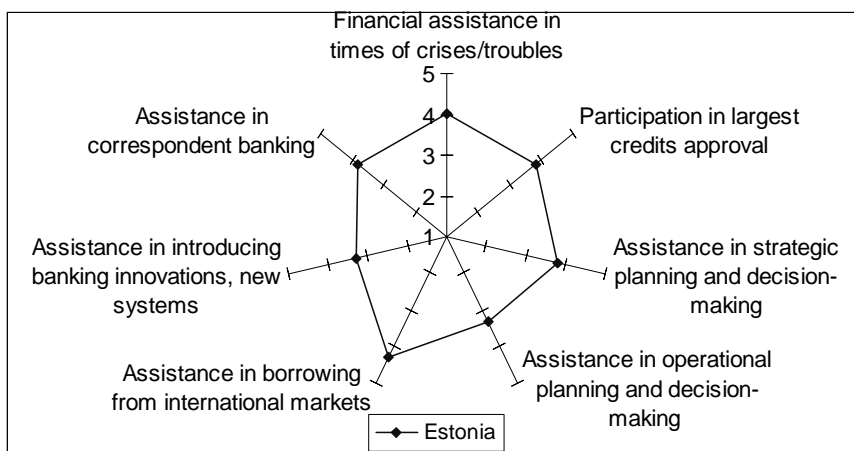


Figure 2. The mother bank's assistance and participation in decision-making.  
Source: Uiboupin 2005.

The evaluations of the adoption of the various mother bank's policies, systems and management techniques contained within the responses provided by Estonian and Romanian foreign-owned banks are presented in Figure 3. Risk management techniques, cost management and credit policy methods were evaluated by respondents as the most relevant adjustments to those of the mother bank. In general, all the listed adjustments were evaluated quite highly and we can conclude that the mother bank's impact on the foreign-owned bank's operation is relatively high.

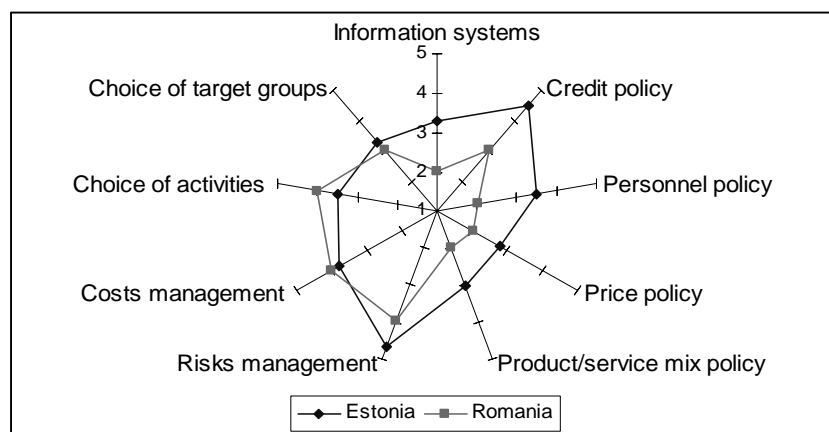


Figure 3. Evaluations of the adoption of mother bank's policies and systems.  
Source: Uiboupin 2005.



The transfer of various know-how from foreign banks has been important, especially for foreign-owned banks' management (see Figure 4). The transferred know-how about interest rates, solvency and credit risks management techniques was evaluated by respondents most highly (over 4.0 points by Estonian foreign banks' respondents). Liquidity risk management techniques, information systems, credit policy and personnel policy transfer from foreign banks was also evaluated quite highly by the Estonian domestic banks. On the other hand, the average grades given by the responding Polish domestic banks were somewhat different: the transfers of information systems and banking services/products mix policy were considered as the most important know-how transfers from foreign banks (4.3 and 4.2 grades, respectively).

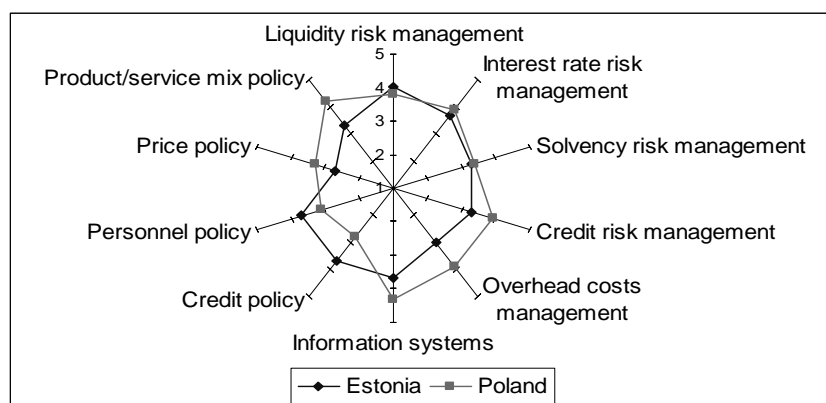


Figure 4. Relevance of the transfer of know-how from foreign banks to domestic banks.  
Source: Uiboupin 2005.

This difference between Estonia and Poland can be explained by the technology gap argument. Electronic banking and up-to-date computer technology are considered to be at a much higher level in Estonia than in the other CEE countries and therefore additional ICT know-how transfer from mother banks has not been so relevant. It is even argued that the Estonian e-banking system is more advanced than the corresponding systems in many developed EU countries.

#### 4. Development and effects of electronic banking

##### 4.1. Development of electronic banking in Estonia

Electronic banking (e-banking) is the newest delivery channel for banking services. The definition of e-banking varies amongst researches partially because electronic banking refers to several types of services through which the bank customers can request information and carry out most retail banking services via

computer, television or mobile phone (Daniel 1999, Mols 1998, Sathye 1999). Burr (1996), for example, describes it as an electronic connection between bank and customer in order to prepare, manage and control financial transactions. Electronic banking can also be defined as a variety of following platforms: (a) Internet banking (or online banking), (b) telephone banking, (c) TV-based banking, (d) mobile phone banking, and (e) PC banking (or offline banking).

The history of Estonian electronic banking is only some years younger than the history of Estonian commercial banking in general. The pioneers of electronic banking in Estonia were small banks that have since ceased to exist. The first automated teller machine (ATM) was brought to Estonia in 1994. By 1996 ten commercial banks active at that time had issued a total of 200,000 bank cards. The current bigger players went along with innovations in 1995 when Hansabank and Ühispank set up their first ATM-s. Hansabank started its first offline electronic banking solution Telehansa in 1993. The first Internet banking services in Estonia were introduced in 1996.

Estonia in general is very suitable for electronic banking applications due to the relatively high penetration of personal computers and Internet access. The percentage of Internet uses was 55% of Estonian population aged 15–74 in Q3 2005 (Emor 2006). Compared with other countries, Internet penetration among Estonians is higher than in other East-European countries (see Figure 5).

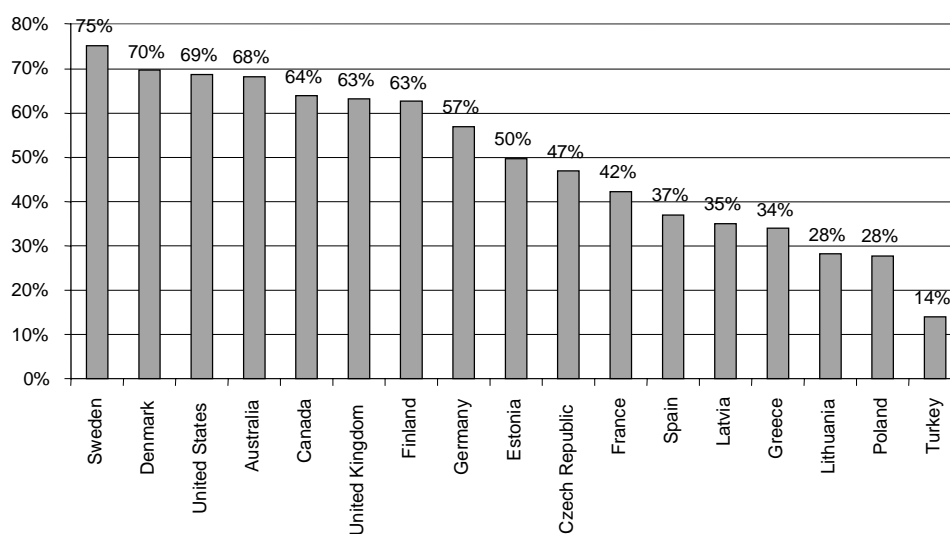


Figure 5. Internet penetration 3Q 2006 (% of population, selection of countries).  
Source: Internet World stats, 2006.

Internet bank services are used actively and most of the payment transactions are concluded via e-channels. On average, 95% of total volume of all payments are concluded via e-bank facilities – via online and offline Internet banks and other electronic channels. Figure 6 shows that in Hansabank the percentage of transactions done on the Internet has been continuously growing and in the last years e-channels became the main channel for transactions. The part of branch network in payments area decreased from 27% in 1999 to 5% in 2004.

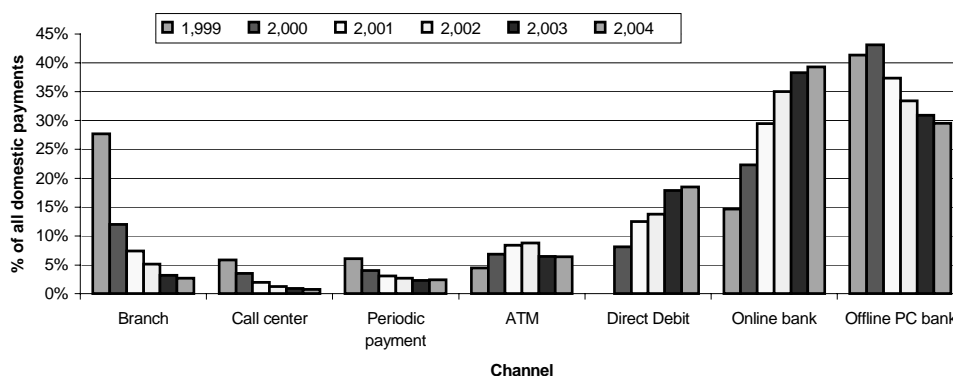


Figure 6. Usage dynamics of different transaction channels in Hansabank from 1999 to 2004 (% of total transaction number).

Source: Hansabank’s data, authors’ calculations.

#### 4.2. Factors Responsible for E-Banking Development in Estonia

It is important to consider the development of e-banking from the point of view of two counterparts – a provider of services and a consumer of services. The development preconditions from a provider’s point of view are personal interest in the service and the ability to conduct it. The provider of services must have some financial or other incentives to run the business as well as technical and financial abilities to perform it. The consumer’s attitude towards new technologies and his interest towards innovations in general are primarily important. As Karjaluoto et al. (2002) found in their research of Finnish consumer beliefs and attitudes towards e-banking, the more familiar a consumer is with technology, the more positive beliefs he or she seems to hold about an object. In other words, the acceptance of new technologies helps to use Internet banking.

Several aspects can be discussed in order to find the reason for the development of e-banking in Estonia from the service provider’s point of view. First of all, Estonian e-banking service providers did not have old technologies before starting their e-banking facilities. All banking technologies were relatively modern (compared for example to the French and German IT hardware (Ilison 2002) and therefore more efficient).

Secondly, the wave of mergers and acquisitions that took place in the Estonian banking sector in 1998-2000 had no unfavorable effects on the development of domestic e-banking. New owners did not demand local branches to take over e-banking infrastructure from Scandinavian parent banks. The local IT infrastructure remained under the influence of Estonian know-how. At the same time domestic IT workers were even used in Latvia and Lithuania, as Hansabank started its activity in these countries (Süld 2002).

The third circumstance of e-banking development is a relative cheapness of the services provided by the Estonian credit institutions via electronic channels that made e-banking more profitable. This issue will be discussed in more detail in the next section.

The fourth aspect is connected with a high concentration of the Estonian banking sector; at present there are only 5 credit institutions (excluding branches of foreign banks). This situation is perfect for the developing of common standards for e-banking services in all Estonian banks. Up to now, all developed standards are public and are not patented that allows fast and co-ordinated spreading of bank-link, and ATM. Common standards are useful and efficient not only for the users of these services, but also for brick-and-mortar and virtual shop owners, as the implementation of common standards does not require considerable technological expenses. In Finland, for example, there are multiple technological standards for some e-banking services that complicate the fast spread of these innovations (Süld 2002).

In Estonia, the public component was also very important for the fast introduction of e-banking. First of all, the current legislation is supportive of technological innovations. The best example for this is Digital Signature Act, which came into force in 2001. It stipulates the digital signature standard in Estonia and regulates the release of certificates. Digital signature is an important component for Internet banking as well as for payments concluded via bank-link.

The second factor is a relatively low level of Internet connection costs in Estonia. One of the explanations for this is free telecom market in Estonia, with two big competitors on ISDN market. For example, the monthly fee for ISDN connection in Netherlands is €30, in Finland €65 and in Estonia €15 (Süld, 2002). The dial-up connection is also much cheaper compared to other countries.

It is also important that the Estonian government supports several programs for technical assistance in secondary schools and is involved in a number of nationwide projects for increasing computer skills and knowledge about Internet among the rural residents.

As the Estonian banking sector is relatively young, possible negative banking habits do not exist. Under negative banking habits we mean non-effective, expensive and time-consuming financial instruments such as checks and ATM-only bank cards. For example in the US there are 69 billion paper checks written every year (Dynamo, 2001). In Estonia, checks have never found wide implementation. When ATM-only bankcards were introduced they were quickly replaced by multi-functional bankcards, which allow the holder to withdraw money from ATM and to pay for purchases.

### 4.3. Benefits of electronic banking

One of the benefits for the banks offering Internet banking services is better branding and better responsiveness to the market. The banks that offer such services are perceived as leaders in technology implementation. Therefore, they enjoy a better brand image.

The main goal of every company is to maximize profits for its owners and banks are not any exception. E-banking services offer a perfect opportunity for minimizing costs (see Table 2).

**Table 2. Unit costs for transactions in different distribution channels**

| Channel      | Europe average<br>(Forrester, 2003) |     | USA average<br>(Booz-Allen & Hamilton Inc., 1996) |     | Nordea (Fin)<br>(Dynamo, 2001) |     | Union Bank (Est)<br>(Toomla, 2003) |
|--------------|-------------------------------------|-----|---|-----|--------------------------------|-----|------------------------------------|
|              | Euro                                | %   | US \$   | %   | US \$                          | %   | %                                  |
| Branch       | 2.00                                | 100 | 1.07  | 100 | 1                              | 100 | 100                                |
| Call Center  | 0.96                                | 48  | 0.54  | 50  |                                |     | 67                                 |
| Mail         | 0.27                                | 14  |   |     |                                |     | 161                                |
| ATM          | 0.22                                | 11  | 0.27  | 25  |                                |     | 14                                 |
| Online       | 0.14                                | 7   | 0.01  | 1   | 0.11                           | 11  | 7                                  |
| Direct debit | 0.04                                | 2   |   |     |                                |     | 1                                  |
| Offline bank |                                     |     | 0.015   | 1   |                                |     | 2                                  |

According to the numbers in the above Table, all e-channels provide significant cost saving for banks. The difference in a net cost between the US and Finnish banks can be explained by the smaller population in Finland and the scale effect in case of the US. Forrester research (2003) covered European largest banks and found that the average online transactions cost 14 times less than branch tellers’.

Based on the ABC calculations data provided by Hansabank the relative costs for domestic payment through different bank distribution channels are as follows (see Figure 7): online bank payments are 12.5 times cheaper, offline bank payments

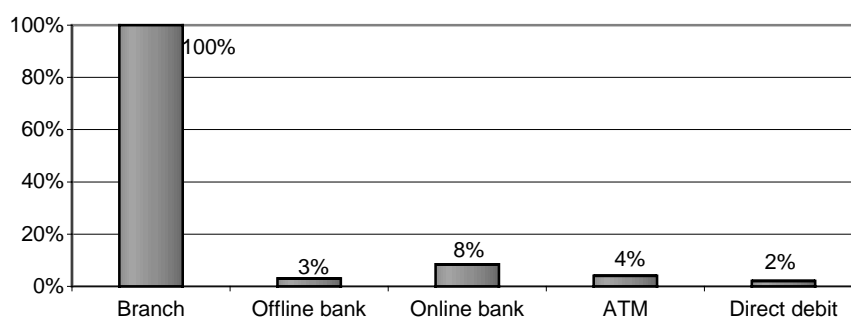


Figure 7. Relative costs for domestic payment through different Hansabank distribution channels. Source: The authors’ calculations are based on January-May average.

are 30 times cheaper and direct debit is 50 times cheaper than traditional transactions concluded in branch network. The largest distribution channel for payments is online bank (34% of all payments). The second biggest channel is offline bank – 33% and the third is direct debit – 20%

For profitability conclusions also some investigation on income side has to be conducted. In Hansabank, the fee for domestic payment concluded in branch is 12 EEK. Direct debit payment is free of charge; fees in ATM and Internet banks are 0–2.5 EEK, depending on the age of the service user.

Based on this information, it is possible to assume only some proportional data for real fee income on transactions, as there is no information available on proportion of different client segments in a bank and their behavior statistics. For the purposes of analysis, the cost/fee income ratio between different channels can be used. On the fee side (or income side from the bank's point of view), the average payment in an Internet bank costs 4.8 times less than the payment at a branch office. On the actual cost side (or cost side from the bank's point of view), the payment in an Internet bank costs 12.5 times less than payment at a branch. Direct debit payments are free of charge for a client and represent significant channels for these services.

Some controversial explanations for this pricing strategy can be proposed:

- Estonian banks use the difference in actual net cost and actual transaction fees paid by customer to cross-subsidize the delivery channels. It is possible to assume that the profitability of branch network transactions is much lower than that of electronic channels. But for some reason banks do not want to lose traditional channels and cross-subsidize them on purpose.
- Banks earn additional profits on transactions concluded via electronic channels. It can also be assumed that the e-channel banking services have the high profitability for banks, as absolute unit cost numbers are lower than fees collected from clients.
- The profitability of transactions is not a priority for banks. It can be assumed that cross-subsidization between different service groups is used, and for example profits from lending and depositing activities compensate for poor profitability from transactions services.

The main benefit from the bank customers' point of view is a significant saving of time by the banking services processing and the introduction of an easy maintenance tools for managing the customer's money. The main advantages of e-banking for corporate customers are as follows (BankAway! 2003, Gurău 2002):

- Reduced costs in accessing and using the banking services.
- Increased comfort and time-saving – transactions can be made 24 hours a day, without requiring the physical interaction with the bank.
- Quick and continuous access to information. Corporations will have easier access to information as they can check on multiple accounts at the click of a button.
- Better cash management. E-banking facilities speed up the cash cycle and increase the efficiency of business processes as a large variety of cash

management instruments are available on Internet sites of Estonian banks. For example, it is possible to manage a company's short-term cash via Internet banks in Estonia (investments in overnight, short- and long term deposits, in commercial papers, in bonds and equities, in money market funds).

Private customers seek slightly different kind of benefits from e-banking. In the study of online banking Aladwani (2001) has found that providing faster, easier and more reliable services to customers were amongst the top motives of e-banking development. The main benefits from e-banking for private customers are as follows (BankAway! 2003):

- Reduced costs. This is in terms of the cost of accessing and using the various banking products and services.
- Convenience. All the banking transactions can be performed from the comfort of the home or office or from a suitable place for the customer .
- Speed. The response of the medium is very fast; therefore customers can actually wait till the last minute before concluding a transfer.

The impact of the economy on the entire economic growth has been studied in several research projects. For example Pohjola (2002) shows that the use of information communication technology has increased the output in the Finnish market sector from 0.3 percentage points in the early 1990s to 0.7 points in late 1990s. However, unlike the US, there has been no acceleration in the trend rate of labor productivity in Finland.

According to the recent research conducted in Estonia (Aarma, Vensel 2001), bank customers use bank office services on average 1.235 times per month, and wait in queue in a bank office on average for 0.134 hours. Simple calculation shows that making payments via e-banking facilities (for instance using an Internet bank) rather than in the bank offices creates overall economy savings in the amount of 0.93% of GDP (The average distance to a nearest bank office is 4.14 km (Aarma, Vensel 2001), which takes approximately 0.21 hours to travel).

## 5. Summary

Estonian commercial banks were mostly established a bit more than 15 years ago. Less than ten banks have remained from more than 50 licensed banks, the rest were not able to continue in the conditions of economic crises independently, or have failed altogether. Taking too high risks has also played a role in this process.

The analysis of the development of commercial banking in Estonia points out several features, which are typical of the starting period of commercial banking in transition countries.

*First.* At all stages of a transition period banks may be highly effective due to taking risks by the rapid growth of their market shares, a quick implementation of new products and skilful exploitation of the peculiarities of a transition economy. However, due to the unstability of the macro-environment and the differences in

the level of risk management, the productivity of different banks is very different and the profitability is very unstable. The profitability of basic banking services is more stable and uniform, but that of new products and participation in non-financial businesses is more unstable.

*Second.* A transition economy quickly and mercilessly selects the very limited number of prosperous banks and removes a great number of weaker banks from the market. Those banks got in the way of major banks, and were not ready to take sufficiently high risks or were unsuccessful in their risk management. Only the best ambitious business plans can be successfully realized.

The Estonian banking sector is now dominated by foreign banks. Almost near 100% of bank capital is owned by foreign residents. The entry of foreign banks has made the Estonian banking sector stable, fast growing and very innovative.

Estonian banks have rapidly introduced innovative banking technologies and e-banking services in recent years. Almost all banks have invested in expanding and improving the IT systems and a number of new e-banking services have been developed. All major banks have declared e-business as one of the core strategies for future developments. At the same time, e-banking acceptance depends probably on the bank service quality, customer preferences and satisfaction. We argue that Estonia has achieved significant success in the implementation of electronic banking; it is on the top of the emerging markets in this area and even outpaces the achievements of some developed countries. This progress is no coincidence; it has external and also subjective reasons.

Electronic channels provide cost saving for banks and for bank clients. In the case of Hansabank, online bank payments are 12.5 times cheaper and offline bank payments are 30 times cheaper than traditional transactions concluded in branch network.

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