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SUMMARY

The growth of the Polish financial system slowed in the years 2001–2002, yet it was still swifter than that of the economy as a whole. The level of development and significance of the domestic financial system continued to be lower than in the countries of the European Union. The structure of the financial system was dominated by the banking sector, although the relative weight of non-bank financial institutions has gradually been increasing.

In the period under review, the domestic banking sector passed the test of stability posed by an unexpected decline in the pace of economic growth. For this reason, the analyses presented in this year’s Report on Financial System Stability primarily focus on the impact that the economic downturn had on the condition of the domestic banking sector.

While the expansion of lending in the years 1999–2000 had not been great in comparison to earlier years, the debt burden thereby created proved substantial in relation to the diminished repayment capacity of bank customers. The slowdown in economic growth recorded in the years 2001–2002 acted as a catalyst for a deterioration in the quality of bank loan portfolios, one reflection of this being an increase in the proportion of irregular loans within bank assets. In addition to the more difficult operating environment for the banks, a major issue at certain institutions were weaknesses in credit risk management and errors in the development strategies adopted. This is evidenced by the growing differentiation in loan portfolio quality at particular banks. The problems associated with decreasing loan quality proved serious enough for the banks to attempt to cushion themselves not only by widening the spread between their deposit and lending rates, but also by tightening their lending criteria.

All in all, however, the downturn did not undermine the stability of the domestic banking sector. The deterioration in loan portfolio quality did not lead to any significant worsening of the banks’ solvency position. No systemic risk was generated. The heightened credit risk at the banks was offset by the loan security taken and the specific provisioning performed. Nevertheless, this required the banks to pursue a policy of asymmetric adjustments to interest rates and enhance other income streams, which included charging higher fees and commission. The banks also took measures to streamline costs.

The rise in risk within the banking industry was smaller than might be implied by the ratio of irregular loans. This is because the high level of irregular loans was not only the expression of a deterioration in operating conditions, but also stemmed from the existing legal and tax framework, and from the prudential regulations issued by the Commission for Banking Supervision (the asset classification regime, including the exclusion of loan security as a consideration in classification).

Credit risk was the principal type of risk exposure at Polish banks. The scale of market risk exposure in the period under examination was generally small. Nonetheless, significant losses were incurred by individual banks due to risky equity investments.

Despite their worsening financial condition, the banks did not experience an erosion of their capital base. The average risk-based capital ratio (“solvency ratio”) stood at 13.7% in 2002, thereby staying well above the regulatory minimum. The few banks that failed to meet the 8% requirement accounted for around 1.4% of total banking sector assets. The Commission for Banking Supervision took a particular interest in these banks.

An analysis of the situation within the banking sector indicates that, if loan portfolio quality had declined even further than was in fact the case, the solvency of the banks would still not have been jeopardised. This attests to the growing resilience of the domestic banking industry to cyclical fluctuations.
In contrast to the financial systems of certain EU countries and the USA, developments in Poland’s sector of non-bank financial institutions gave no cause for concern. Falls in equity prices had no substantial effect on the stability of these institutions, chiefly because equity holdings are of little importance in their asset portfolios. Non-bank financial institutions primarily invested in Treasury securities, which rose in price as interest rates came down.

Many investment companies found their financial condition strengthened as business activity contracted. This is because the downswing accelerated the decrease in interest rates and ensuing increase in bond prices, which boosted the earnings of investment funds and thereby provided higher income to the companies that run them.

In the case of insurance companies, the downturn did result in the surrender of some life policies that also served as investment vehicles, yet this was in large measure the result of these instruments being out of step with real customer needs and market developments. Insurers responded to the slide in earnings by significant cost cutting.

The large problems faced by pension funds in certain countries as a result of falling share prices were not mirrored in Poland. The Polish pension system is based on a defined contribution scheme rather than the defined benefit schemes employed by pension funds in the countries concerned. This does not mean, however, that pension funds in Poland might not become a source of problems in the future. This could indeed happen, were these funds to be unable to ensure suitable asset diversification.
Financial stability is commonly defined as the absence of a threat of financial crisis\(^1\). A financial crisis is most frequently understood as the emergence of sharp disruptions to the system of financial intermediation, leading to dislocations in the real economy\(^2\). A financial crisis is the consequence of a collapse of confidence in the stability of the entire financial system within an economy or particular elements thereof. This crisis of confidence may refer to the solvency of the banks, price stability on the equity or property markets, or the capacity of a given country to sustain equilibrium in its balance of payments. Financial crises may take the form of a banking panic, a slump in equity or property prices, or a currency crisis.

Financial crises are relatively rare. Nonetheless, the threat to the economy involved is sufficiently grave for central banks to conduct constant analyses of the factors liable to affect financial system stability.

One factor aggravating the risk of financial crisis is a deterioration in the balance-sheet positions of financial institutions and non-financial corporations. The situation at the banks is of fundamental importance, since their balance sheets are particularly sensitive to changes in a given country’s economy. The condition of the banking sector is also significant in that – as is the case in Poland as well as other countries – this is generally the dominant segment of the domestic financial system and a key component of the payment system.

Financial system stability can be said to be endangered when the level of potential loss that may be suffered by a given country’s banks due to an unexpected deterioration in the economy begins to assume large proportions in relation to the capital employed by those banks, posing the risk of insolvency. Threats to financial system stability usually appear when a period of economic upturn and lending growth is followed by a downturn. It is especially at such times that a decline is witnessed in the quality of the asset portfolios held by financial institutions, particularly bank loan portfolios. Should the losses generated at the banks reduce their capital base, the risk of their insolvency arises.

The impact of the downturn on the domestic banking sector constitutes the primary area of analysis examined for this year’s Report on Financial System Stability. It is for this reason that Chapter 1 of the Report, containing an overview of the domestic financial system, is followed by two chapters devoted to issues of banking sector stability. Chapter 2 presents the relationships identified between the state of the domestic economy and international environment on the one hand, and the condition of the banking sector on the other. Chapter 3 sets out a detailed analysis of the situation at the banks themselves.

A major factor affecting the operations of the domestic financial system has been the decline in the banks’ net interest income, one cause of this being a two-year downtrend in domestic interest rates. This has reinforced the tendency, visible for some time, for banks to take up equity interests in non-bank financial institutions. This tendency has coincided with a relative increase in the weight of these institutions within the process of financial intermediation. Given the need to take these changes into consideration, the second area of analysis presented in this year’s Report is the situation in the sector of non-bank financial institutions and its potential impact on banking sector stability. These questions are dealt with in Chapter 4.

\(^1\) In an earlier edition of the Report, financial system stability was defined as the absence within the financial system as a whole of tendencies towards a lasting shortage of liquidity, or in extreme cases – towards insolvency. In the present Report, financial stability has been given a broader definition.

The rapid growth over recent decades in the scale of interbank settlements means that the safety of the payment system is of increasing importance to financial stability. The changes that have taken place in this respect are discussed in Chapter 5. This chapter mainly concentrates on an assessment of the extent to which the domestic payment system is in compliance with the "Core Principles" for payment system safety published in 2001 by the Bank for International Settlements.

Chapter 6 outlines the influence on the operations and stability of the banks exerted by regulatory changes in accounting and banking supervision.

The monographic studies contained in the second part of the present Report relate to the central issue under analysis in this year’s publication, i.e., the impact of the current downturn on banking sector stability. The first study (section 7.1) explains why there is no justification for comparing the present condition of the banking industry to that at the beginning of the 1990s, when the proportion of loans classified irregular was also high. The second text (section 7.2) spells out why, in the case of Poland, a high level of irregular loans need not signify a correspondingly high risk to banking sector stability. The final study in this part of the Report (section 7.3) presents an analysis of corporate credit capacity performed with reference to data on the banks’ large exposures.
Part I

The domestic financial system: structure and dynamics

The financial system is composed of financial institutions, financial markets and diverse regulations governing the operations of financial markets and institutions and the linkages between them. An efficient financial system represents a crucial component of a modern market economy.

The financial system ensures the creation and circulation of money within the economy by intermediation in the payments and settlements of economic agents. It therefore serves as a tool for cutting transaction costs and increasing the certainty of trading. The financial system allows savings to be accumulated and allocated, which includes the funding of investment.

The financial system transmits monetary policy impulses to the real economy. This is one of the reasons why central banks, mindful of the possibility of disruptions to the transmission mechanism, have an interest in financial system stability.

The present chapter sets out an analysis of the size and structure of particular categories of financial institution, and the development tendencies they represent. The chapter ends with an analysis of the involvement of financial institutions in financing the real economy.

1.1. Size and structure of the domestic financial system

Poland’s financial system is less developed than those of the European Union countries. The role of the financial system within the economy is also greater in the Czech Republic, Slovenia and Hungary than it is in Poland, as is illustrated by Figure 1.1. However, the financial system in Poland is growing faster than the economy as a whole, and also faster than in the remaining countries of Central Europe. In the years 1996-2002, the ratio of financial system assets to GDP rose by an average of 3.6 points per year (cf. Table 1.1). Poland’s approaching entry to the European Union and the associated increase in openness to international competition should not alter these tendencies, a conclusion indicated by the experience of Spain, for example (cf. Fig. 1.1).

Table 1.1
Financial system assets, 1996–2002

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</tr>
</thead>
<tbody>
<tr>
<td>Billion zloty</td>
<td>208.6</td>
<td>270</td>
<td>347.1</td>
<td>404</td>
<td>492.7</td>
<td>555.9</td>
<td>586.2</td>
</tr>
<tr>
<td>% of GDP</td>
<td>54</td>
<td>57.1</td>
<td>62.7</td>
<td>65.5</td>
<td>69.2</td>
<td>74.3</td>
<td>76.3</td>
</tr>
<tr>
<td>Increase (billion zloty)</td>
<td>51.6</td>
<td>61.4</td>
<td>71.7</td>
<td>56.9</td>
<td>88.7</td>
<td>63.2</td>
<td>30.3</td>
</tr>
<tr>
<td>Growth rate (%)</td>
<td>32.9</td>
<td>29.4</td>
<td>28.6</td>
<td>16.4</td>
<td>22.0</td>
<td>12.8</td>
<td>5.5</td>
</tr>
</tbody>
</table>

NB: Aggregated data.

During this period, this ratio decreased in the Czech Republic, by an average of 2.7 points per year. Hungary experienced an average annual increase of 2.3 points, while in Slovenia the increase averaged 3.5 points.
The domestic financial system: structure and dynamics

Despite the changes under way in the structure of the domestic financial system, the predominant role continues to be played by the commercial banks. However, the share of the latter in the total assets of the financial system has been shrinking noticeably since the mid-1990s, coming down from 90.1% in 1996 to 76% in December 2002 (cf. Fig. 1.2). The same period witnessed the dynamic expansion of non-bank financial institutions. Particularly swift growth was seen in the assets of insurance companies, investment funds and pension funds. The pension funds are a special case here, since their asset growth stems from the solutions adopted under the reform of the pension system carried out in 1999. The contributions of persons included in the new system are forwarded every month to open-ended pension funds, and since the first pensions under this

---

**Figure 1.1**
Comparison of financial system assets\(^1\) in Central European countries and in Spain during entry to European Union\(^2\)

\(^1\) To allow comparability between the statistical data available, the definition of the financial system applied here comprises depositary/credit institutions, insurance companies, investment funds and pension funds.

\(^2\) The data for Spain have been entered in the above chart so that the year of Spain’s entry to the EU (1986) corresponds to the year of EU entry for Poland, the Czech Republic, Slovenia and Hungary (2004).

Source: OECD, central banks of Hungary, the Czech Republic and Slovenia, NBP.

---

**Figure 1.2**
Asset structure, Polish financial system, by category of institution

### Table 1.2
Financial institutions in Poland, 1996–2002

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>1. Depositary/credit institutions of which:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1. - Banks, of which:</td>
<td>1,643</td>
<td>1,576</td>
<td>1,492</td>
<td>1,086</td>
<td>901</td>
<td>854</td>
<td>791</td>
</tr>
<tr>
<td>1.1.1. commercial</td>
<td>1,475</td>
<td>1,378</td>
<td>1,272</td>
<td>858</td>
<td>754</td>
<td>713</td>
<td>667</td>
</tr>
<tr>
<td>1.1.2. cooperative</td>
<td>1,394</td>
<td>1,295</td>
<td>1,189</td>
<td>781</td>
<td>680</td>
<td>642</td>
<td>605</td>
</tr>
<tr>
<td>1.2. - Credit unions</td>
<td>168</td>
<td>198</td>
<td>220</td>
<td>228</td>
<td>147</td>
<td>141</td>
<td>124</td>
</tr>
<tr>
<td>2. Insurance companies, of which:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.1. - Life insurance</td>
<td>41</td>
<td>50</td>
<td>54</td>
<td>58</td>
<td>66</td>
<td>72</td>
<td>74</td>
</tr>
<tr>
<td>2.2. - Non-life insurance</td>
<td>13</td>
<td>20</td>
<td>23</td>
<td>26</td>
<td>32</td>
<td>36</td>
<td>36</td>
</tr>
<tr>
<td>3. Investment companies/investment funds</td>
<td>41</td>
<td>50</td>
<td>54</td>
<td>58</td>
<td>66</td>
<td>72</td>
<td>74</td>
</tr>
<tr>
<td>4. Brokerage houses</td>
<td>50</td>
<td>47</td>
<td>46</td>
<td>48</td>
<td>49</td>
<td>42</td>
<td>41</td>
</tr>
<tr>
<td>5. Open-ended pension funds</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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</table>

<table>
<thead>
<tr>
<th>Financial institutions</th>
<th>Assets (billion zloty)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Depositary/credit institutions, of which:</td>
<td></td>
</tr>
<tr>
<td>1.1. - Banks, of which:</td>
<td>197.3</td>
</tr>
<tr>
<td>1.1.1. commercial</td>
<td>197.1</td>
</tr>
<tr>
<td>1.1.2. cooperative</td>
<td>188.0</td>
</tr>
<tr>
<td>1.2. - Credit unions</td>
<td>9.1</td>
</tr>
<tr>
<td>2. Insurance companies of which:</td>
<td></td>
</tr>
<tr>
<td>2.1. - Life insurance</td>
<td>8.1</td>
</tr>
<tr>
<td>2.2. - Non-life insurance</td>
<td>3.9</td>
</tr>
<tr>
<td>3. Investment companies/investment funds</td>
<td>1.4</td>
</tr>
<tr>
<td>4. Brokerage houses</td>
<td>1.8</td>
</tr>
<tr>
<td>5. Open-ended pension funds</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Financial institutions</th>
<th>Assets to GDP, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Depositary/credit institutions, of which:</td>
<td></td>
</tr>
<tr>
<td>1.1. - Banks, of which:</td>
<td>50.9</td>
</tr>
<tr>
<td>1.1.1. commercial</td>
<td>50.8</td>
</tr>
<tr>
<td>1.1.2. cooperative</td>
<td>48.5</td>
</tr>
<tr>
<td>1.2. - Credit unions</td>
<td>2.4</td>
</tr>
<tr>
<td>2. Insurance companies of which:</td>
<td></td>
</tr>
<tr>
<td>2.1. - Life insurance</td>
<td>0.1</td>
</tr>
<tr>
<td>2.2. - Non-life insurance</td>
<td>2.1</td>
</tr>
<tr>
<td>3. Investment companies/investment funds</td>
<td>2.1</td>
</tr>
<tr>
<td>4. Brokerage houses</td>
<td>1.0</td>
</tr>
<tr>
<td>5. Open-ended pension funds</td>
<td></td>
</tr>
</tbody>
</table>

1 In the columns giving numbers of institutions, the first figure represents investment companies (fund management companies), while the second represents investment funds. The columns giving asset figures refer to the assets of investment funds.

2 Preliminary data.

NB:
(i) The above table does not include Staff Pension Schemes. The assets of such schemes are managed by either investment funds or insurance companies (depending on the contract concluded by the given scheme) and are shown in the assets of those institutions as relevant.
(ii) The above table does not include leasing companies and finance brokers, since the specific nature of their business does not allow comparison between the statistical data on them and those on other financial institutions.
(iii) Numbers may not sum due to rounding.

The domestic financial system: structure and dynamics

The domestic financial system will not be paid out until 2009, the role of these funds will grow naturally in the years ahead.

The dominant role of the banking sector within the domestic financial system is largely attributable to the history of the development of Polish financial institutions following 1989. The evolution of financial institutions in this period can be tracked by looking at the development of the financial products employed by households to invest their surplus funds.

When systemic transition was launched, the sole financial products available were the simplest banking and insurance products (e.g., deposits, non-life insurance and group life insurance). As reforms progressed and an appropriate legal framework was established, financial institutions emerged that offered more sophisticated products, such as units in investment funds and individual life insurance. Demand for these was initially limited, as demonstrated by the relatively small significance of these institutions as recently as 1996.

Table 1.3
Asset structure, Polish financial system

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>1. Depositary/credit institutions, of which:</td>
<td>94.6</td>
<td>93.3</td>
<td>92.6</td>
<td>90.6</td>
<td>87.6</td>
<td>85.2</td>
<td>80.4</td>
</tr>
<tr>
<td>1.1. - Banks, of which:</td>
<td>94.5</td>
<td>93.2</td>
<td>92.4</td>
<td>90.4</td>
<td>87.3</td>
<td>84.9</td>
<td>80.0</td>
</tr>
<tr>
<td>1.1.1. commercial</td>
<td>90.1</td>
<td>89.0</td>
<td>88.5</td>
<td>86.5</td>
<td>83.7</td>
<td>81.0</td>
<td>76.0</td>
</tr>
<tr>
<td>1.1.2. cooperative</td>
<td>4.4</td>
<td>4.2</td>
<td>3.9</td>
<td>3.8</td>
<td>3.7</td>
<td>3.9</td>
<td>4.0</td>
</tr>
<tr>
<td>1.2. - Credit unions</td>
<td>0.1</td>
<td>0.1</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.3</td>
<td>0.4</td>
</tr>
<tr>
<td>2. Insurance companies, of which:</td>
<td>3.9</td>
<td>4.9</td>
<td>6.0</td>
<td>7.2</td>
<td>7.7</td>
<td>8.6</td>
<td>9.8</td>
</tr>
<tr>
<td>2.1. - Life insurance</td>
<td>1.8</td>
<td>2.4</td>
<td>2.9</td>
<td>3.7</td>
<td>4.1</td>
<td>4.8</td>
<td>5.7</td>
</tr>
<tr>
<td>2.2. - Non-life insurance</td>
<td>2.0</td>
<td>2.5</td>
<td>3.0</td>
<td>3.5</td>
<td>3.6</td>
<td>3.8</td>
<td>4.2</td>
</tr>
<tr>
<td>3. Investment fund companies/investment funds</td>
<td>0.7</td>
<td>0.7</td>
<td>0.5</td>
<td>0.8</td>
<td>1.9</td>
<td>2.2</td>
<td>3.9</td>
</tr>
<tr>
<td>4. Brokerage houses</td>
<td>0.9</td>
<td>1.1</td>
<td>0.9</td>
<td>0.9</td>
<td>0.8</td>
<td>0.5</td>
<td>0.4</td>
</tr>
<tr>
<td>5. Open-ended pension funds</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>0.6</td>
<td>2.0</td>
<td>3.5</td>
<td>5.4</td>
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Table 1.4
Annual asset growth, Polish financial system

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</tr>
</thead>
<tbody>
<tr>
<td>1. Depositary/credit institutions, of which:</td>
<td>32.1</td>
<td>27.7</td>
<td>27.6</td>
<td>13.9</td>
<td>17.9</td>
<td>9.7</td>
<td>-0.4</td>
</tr>
<tr>
<td>1.1. - Banks, of which:</td>
<td>32.0</td>
<td>27.7</td>
<td>27.5</td>
<td>13.9</td>
<td>17.8</td>
<td>9.6</td>
<td>-0.6</td>
</tr>
<tr>
<td>1.1.1. commercial</td>
<td>32.2</td>
<td>27.8</td>
<td>27.8</td>
<td>13.9</td>
<td>17.9</td>
<td>9.2</td>
<td>-1.0</td>
</tr>
<tr>
<td>1.1.2. cooperative</td>
<td>26.4</td>
<td>24.2</td>
<td>21.2</td>
<td>12.4</td>
<td>17.5</td>
<td>18.8</td>
<td>8.8</td>
</tr>
<tr>
<td>1.2. - Credit unions</td>
<td>100.0</td>
<td>100.0</td>
<td>50.0</td>
<td>50.0</td>
<td>33.3</td>
<td>50.0</td>
<td>38.9</td>
</tr>
<tr>
<td>2. Insurance companies, of which:</td>
<td>52.8</td>
<td>63.0</td>
<td>56.8</td>
<td>39.6</td>
<td>31.1</td>
<td>26.6</td>
<td>19.8</td>
</tr>
<tr>
<td>2.1. - Life insurance</td>
<td>62.5</td>
<td>64.1</td>
<td>59.4</td>
<td>44.1</td>
<td>38.8</td>
<td>32.4</td>
<td>22.6</td>
</tr>
<tr>
<td>2.2. - Non-life insurance</td>
<td>44.8</td>
<td>61.9</td>
<td>55.9</td>
<td>34.0</td>
<td>23.2</td>
<td>20.6</td>
<td>15.6</td>
</tr>
<tr>
<td>3. Investment fund companies/investment funds</td>
<td>100.0</td>
<td>35.7</td>
<td>-5.3</td>
<td>72.2</td>
<td>206.5</td>
<td>27.4</td>
<td>88.4</td>
</tr>
<tr>
<td>4. Brokerage houses</td>
<td>12.5</td>
<td>66.7</td>
<td>6.7</td>
<td>12.5</td>
<td>8.3</td>
<td>-25.6</td>
<td>-3.4</td>
</tr>
<tr>
<td>5. Open-ended pension funds</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>330.4</td>
<td>96.0</td>
<td>62.9</td>
<td></td>
</tr>
</tbody>
</table>

The dynamic growth of non-bank financial institutions from the mid-1990s onwards was rooted in several factors. Growth in real personal incomes and a decline in inflation led to an increase in the propensity to save and extended the number of households with surplus funds that were seeking profitable investment vehicles, including more sophisticated financial products. An important event was the pension reform performed in 1999, which meant that the majority of the public were for the first time faced with the necessity of choosing an institution to manage their long-term savings. The financial institutions that opted for the establishment of universal pension companies (pension fund management companies) took the opportunity to acquaint their customers with a range of other financial products, most frequently on offer from undertakings belonging to the same group of companies. The marketing effect thereby achieved could also have contributed to growing interest in savings vehicles other than bank deposits.

Another development that played a part in inducing change within the structure of the financial system was the introduction towards the end of 2001 of a tax on capital incomes (particularly interest income). This tax reduced the effective yield on time deposits and encouraged many people to look for more profitable ways of investing their savings. This prompted an influx of savings to investment funds, which were attaining high rates of return and offering high investment liquidity. The upshot was that investment funds became major challengers to the banks in competing for household savings.

Structure of the domestic financial system in comparison with other Central European countries and selected EU countries

The direction of change visible within the structure of the Polish financial system resembles that observed in other countries of Central Europe. As in Poland, the financial systems of these countries are dominated by commercial banks. However, these countries have also been seeing the growing role of non-bank financial institutions.

To maintain comparability, the data presented in the following charts refer solely to the four largest categories of financial institution, namely, banks, insurance companies, investment funds and pension funds.

Taking into account the four countries of Central Europe that are generally considered to be the regional leaders in economic transition and are about to become members of the European Union, i.e., Poland, the Czech Republic, Hungary and Slovenia, the largest similarities in the evolution of financial systems can be found in Poland and Hungary. Both of these countries are marked by the rising importance of pension funds as a result of the reforms introduced.
It is noteworthy that in the Czech Republic and Slovenia investment funds account for a significant proportion of financial system assets. In 1996, the assets of Czech investment funds were equivalent to 12.7% of GDP, although this ratio has decreased considerably since then, dropping to 6% in 2002. This high ratio was largely due to the “voucher privatisation scheme” applied in the Czech Republic. The investment funds set up in the first half of the 1990s to manage the companies being privatised are now gradually winding up their activity, with the value of their assets consequently declining.

The substantial level of investment fund assets in Slovenia is the result of the relatively large volume of securities issued and outstanding in that country. In December 2001, the market value of the equities and bonds registered at the Securities Clearing House (KDD) represented over 77.5%
of GDP, with equities corresponding to 64.8% of GDP and bonds to 12.7%. Investment funds held around 16% of those equities and 4% of bonds, giving them a comparatively large share in the total assets of the Slovenian financial system, which in 2002 were equivalent to 114% of GDP.

In the Czech Republic and Slovenia, pension funds are of lesser importance than in Poland and Hungary, where pension system reform was instituted earlier than in the other accession countries.

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The share of banks in the financial system assets of Central European countries is larger than in the EU countries. In the EU countries, non-bank financial institutions, especially investment funds, play a large role in the allocation of savings. This is particularly true of countries where the capital markets are widely utilised to fund corporate investment.

The structure of the financial systems of Central European countries, including Poland, is similar to that seen in the least wealthy countries of the EU, i.e., in Greece, Spain and Portugal. A comparison with these countries is interesting, since their financial systems underwent substantial change in the 1980s and 1990s, one reason being that these countries joined the EU. At the beginning of the 1980s, the financial systems of Greece, Spain and Portugal were dominated by state banks. The freedom of operation accorded to financial institutions was strongly constrained by detailed regulations that ensured a large degree of government influence over the business of financial intermediaries. The deregulation of the markets for financial services performed in the 1980s (inspired by a desire to achieve closer economic integration within the EU) allowed a rapid increase in the weight of non-bank financial intermediaries. As in Poland, an additional factor reinforcing this process was the decline in inflation and in interest rates, which bolstered the appeal of putting savings into investment funds. The broader freedom of operation now granted to financial intermediaries led to growth in these institutions’ assets, as it enabled them to offer customers more sophisticated financial products that satisfied their requirements more fully5.

The greatest changes occurred in the financial systems of those countries that carried out profound transformations in ownership structure, i.e., in Spain and Portugal. The Greek financial system continues to be dominated by the banks, while the state controls a hefty 53% of those banks (figures for year end 2001)6.

Other factors eliciting change in the financial systems of the countries under discussion included deregulation and the opening up of those systems to international competition. These processes have been under way in Poland since the beginning of the 1990s, and Poland’s entry to the EU will serve to consolidate them. It can thus be presumed that the development of the

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domestic financial system will continue to pursue a similar path to that observed in Spain and Portugal (taking account of technological change as well). The banks will remain the key category of financial intermediary, yet other institutions will gradually increase their role within the financial system.

1.2. Principal sectors of financial system

The information presented below is intended to outline the general situation and development tendencies within the four largest sectors of the financial system, i.e., banking, insurance, investment funds and pension funds. The analysis set out in this section centres on issues of concentration and competition in particular sectors, and their ownership structure. As regards the discussion of development tendencies, this chiefly focuses on the challenges for domestic financial institutions that will be posed by Poland joining the EU. It should be stressed that Poland’s entry to the EU will not involve any revolutionary changes to the domestic financial system. However, entry will reinforce the deregulation of the domestic market for financial services and its opening up to international competition, processes that have been taking place since the beginning of the 1990s. An analysis of questions relating to the stability of the principal institutions making up the domestic financial system will be presented in Chapters 3 and 4.

Table 1.5
Herfindahl-Hirschman index (HHI) of industry concentration for principal categories of financial intermediary

<table>
<thead>
<tr>
<th>Index based on:</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial banks Assets</td>
<td>790</td>
<td>761</td>
<td>894</td>
<td>876</td>
</tr>
<tr>
<td>Open-ended pension funds Assets, net</td>
<td>1,740</td>
<td>1,656</td>
<td>1,653</td>
<td>1,650</td>
</tr>
<tr>
<td>Life insurance companies Assets</td>
<td>4,250</td>
<td>3,824</td>
<td>3,535</td>
<td>3,317</td>
</tr>
<tr>
<td>Non-life insurance companies Gross premiums written</td>
<td>3,755</td>
<td>3,373</td>
<td>3,196</td>
<td>2,957</td>
</tr>
<tr>
<td>Investment fund companies Assets of managed funds</td>
<td>2,872</td>
<td>2,173</td>
<td>1,262</td>
<td>1,423</td>
</tr>
</tbody>
</table>

NB: The Herfindahl-Hirschman index (HHI) is defined as the sum of the squares of the market shares (multiplied by 100) of all financial institutions operating on a given market. The greater the level of industry concentration, the higher the HHI.

1.2.1. Banks

The banking sector remains the largest segment of financial intermediaries in Poland. The structure of this sector has altered as a result of privatisations and consolidations, among both commercial and cooperative banks. The importance of banks controlled by foreign investors has also been increasing.

Given their asset size and diversity of business, commercial banks represent the core of the banking sector. Cooperative banks, despite their large numbers, are primarily of significance on local markets. In December 2002, these banks accounted for 5% of total banking sector assets, a ratio that has held steady since 1996.

Concentration and competition among the commercial banks

As measured by the Herfindahl-Hirschman index (HHI) and the concentration ratio for the assets of the five largest banks (CR5), the degree of concentration among the commercial banks has been trending upwards, which can be traced to the mergers and acquisitions that have
occurred in recent years. These processes have led to a strengthening of both the largest banks and of medium-sized ones.

In 2002, the concentration ratio declined, despite a fall in the number of banks in operation to 62 at year end from 71 at the end of 2001. This means that small and medium-sized banks are increasing their share of the market for banking services. They constitute competition for the largest banks, particularly on selected niche markets.

Banking industry concentration is relatively high in the countries of Central Europe. This stems from the previously large importance of such savings banks as Poland’s PKO BP SA and Hungary’s OTP. However, the banking sector is less concentrated in Poland than in the smaller countries of the region. The situation is similar in the EU, with concentration highest in Belgium, Holland and Finland, yet lower in large countries such as France and Italy. The absolute size of the banking market is much greater in the latter, making profitable operations possible for a larger number of undertakings.

Competition within the banking industry may be considered in terms of both the asset and liability sides of the balance sheet (with banks competing for borrowers and depositors, respectively). The deterioration in loan portfolio quality (discussed in Chapter 3), and ensuing tendency for the banks to scale back their credit risk exposure, has led to mounting competition for established corporate names. These customers appeal to the banks due to their low default risk, and also because they can be offered a broad range of banking products. This fosters sharp rivalry

Table 1.6
Measures of banking industry concentration in selected countries, 1999–2002

<table>
<thead>
<tr>
<th>Country</th>
<th>Herfindahl-Hirschman Index (by asset size)</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poland</td>
<td></td>
<td>791</td>
<td>761</td>
<td>894</td>
<td>877</td>
</tr>
<tr>
<td>Spain</td>
<td></td>
<td>716</td>
<td>874</td>
<td>844</td>
<td>800</td>
</tr>
<tr>
<td>France</td>
<td></td>
<td>509</td>
<td>589</td>
<td>n.a.</td>
<td>600</td>
</tr>
<tr>
<td>Italy</td>
<td></td>
<td>220</td>
<td>190</td>
<td>260</td>
<td>300</td>
</tr>
<tr>
<td>Slovenia</td>
<td></td>
<td>1,236</td>
<td>1,246</td>
<td>1,2191</td>
<td>n.a.</td>
</tr>
<tr>
<td>Hungary</td>
<td></td>
<td>990</td>
<td>945</td>
<td>1,020</td>
<td>1,0302</td>
</tr>
<tr>
<td>Greece</td>
<td></td>
<td>986</td>
<td>1,122</td>
<td>1,113</td>
<td>1,200</td>
</tr>
<tr>
<td>Portugal</td>
<td></td>
<td>600</td>
<td>1,000</td>
<td>1,000</td>
<td>1,000</td>
</tr>
<tr>
<td>Belgium</td>
<td></td>
<td>1,518</td>
<td>1,505</td>
<td>1,587</td>
<td>1,900</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Country</th>
<th>Shares of 5 largest banks in total banking sector assets, CR5 (%)</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poland</td>
<td></td>
<td>49.6</td>
<td>48.3</td>
<td>57.1</td>
<td>56.2</td>
</tr>
<tr>
<td>Spain</td>
<td></td>
<td>52.0</td>
<td>54.0</td>
<td>53.0</td>
<td>53.0</td>
</tr>
<tr>
<td>France</td>
<td></td>
<td>43.0</td>
<td>47.0</td>
<td>47.0</td>
<td>45.0</td>
</tr>
<tr>
<td>Italy</td>
<td></td>
<td>26.0</td>
<td>23.0</td>
<td>29.0</td>
<td>31.0</td>
</tr>
<tr>
<td>Slovenia</td>
<td></td>
<td>63.2</td>
<td>62.5</td>
<td>68.9</td>
<td>n.a.</td>
</tr>
<tr>
<td>Hungary</td>
<td></td>
<td>53.8</td>
<td>53.3</td>
<td>57.5</td>
<td>55.1</td>
</tr>
<tr>
<td>Greece</td>
<td></td>
<td>67.0</td>
<td>65.0</td>
<td>66.0</td>
<td>67.0</td>
</tr>
<tr>
<td>Portugal</td>
<td></td>
<td>44.0</td>
<td>59.0</td>
<td>60.0</td>
<td>60.0</td>
</tr>
<tr>
<td>Belgium</td>
<td></td>
<td>76.0</td>
<td>75.0</td>
<td>78.0</td>
<td>82.0</td>
</tr>
</tbody>
</table>

2 Figures for June 2002.


Examples include the mergers of Bank Zachodni SA with Wielkopolski Bank Kredytowy SA, and of Powszechny Bank Kredytowy SA with Bank Przemysłowo-Handlowy SA.
among the largest banks to win the business of the best corporates. An alternative to bank loans as a source of funding may also be the issue of debt securities. However, the non-Treasury debt market is poorly developed.

Competition for deposits is different in nature, since banks are competing for customer savings not only against other banks, but also against other financial intermediaries. The rapid drop in deposit rates, combined with the imposition of a tax on capital incomes towards the end of 2001, has increased the attractions of savings vehicles other than bank deposits. The banks have responded to the competitive challenge presented by investment funds by launching new products, i.e., “tax-free” time deposits and bonds (cf. Table 1.7). The scope of internet services on offer from the banks has also increased.

Table 1.7
Bank issuance of debt securities (million zloty)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Debt securities issued by banks</td>
<td>2,165.2</td>
<td>2,737.1</td>
<td>2,583.0</td>
<td>3,873.3</td>
<td>5,825.9</td>
</tr>
<tr>
<td>of which: sold to customers other than banks</td>
<td>296.1</td>
<td>350.9</td>
<td>312.4</td>
<td>1,912.1</td>
<td>3,175.3</td>
</tr>
</tbody>
</table>

Source: NBP.

Ownership structure

As a result of privatisations, the proportion of banking sector assets held by banks controlled by the Treasury fell from 66.5% in 1996 to 25.3% at the end of 2002 (cf. Table 1.8). Of the top ten banks in Poland (by asset size), two are still state-owned, namely, PKO BP SA and BGZ SA. However, the banking sector is dominated by institutions controlled by foreign investors, which have represented some 70% of total assets since 2000.

The strong position occupied by banks controlled by foreign investors is a feature common to the banking sectors of various Central European countries (cf. Table 1.9). Two reasons for this can be identified. Firstly, in the initial period of systemic transition, these countries lacked private-sector agents with sufficient capital to participate in bank privatisations. Secondly, the privatisation strategies adopted focused on a search for strategic sectoral investors. It is only in Slovenia that the part played by foreign investors is small, yet this is set to change after the scheduled privatisation of the two largest banks, which are state-controlled and together represent 46% of banking sector assets.

The ownership structure of the banking sector is an important consideration in terms of financial system stability, as it impacts the quality of corporate governance and the operating efficiency of the banks themselves. It additionally affects the banks’ capacity for development. A bank that is owned by a renowned financial institution will face less difficulty in obtaining the capital needed to fund growth. From the perspective of financial system stability, the involvement of foreign investors yields positive consequences through capital infusions to domestic banks and the introduction of modern management methods.

The presence of a strategic investor is not, however, in itself a guarantee of success. Where the parent bank runs into financial difficulty, or where the subsidiary bank is operating in a country that experiences a serious economic crisis, the investors may decide to pull out. The latter risk factor may be considerably reduced by Poland’s entry to the EU.

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8 In December 2002, the value of commercial paper issued and outstanding amounted to 10.7bn zloty (NBP estimate based on data from Fitch Polska), of which 2bn was held by banks. By comparison, at year end 2002 outstanding bank loans to corporates stood at 121bn zloty (of which 51.9bn had an original maturity of less than one year).

9 A substantial stake in BGZ SA belongs to the cooperative banks. In December 2002, these banks (together with the banks they are affiliated to) held 30.9% of the share capital of BGZ SA.
The domestic financial system: structure and dynamics

1.
The impact on the banking sector of Poland joining the EU

The preparations for Poland joining the European Union and the associated adjustment of legal regulations to bring them into line with EU directives was one of the key factors altering the

---

Table 1.8
Ownership structure of banking sector, 1996–2002

<table>
<thead>
<tr>
<th>Category of banks</th>
<th>Number of banks (excluding those declared bankrupt or under liquidation)</th>
<th>1996</th>
<th>1997</th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Commercial banks, of which:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1. - with majority public-sector interest</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1.1. under Polish control</td>
<td>32</td>
<td>39</td>
<td>39</td>
<td>31</td>
<td>20</td>
<td>16</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>1.1.2. under foreign control</td>
<td>25</td>
<td>29</td>
<td>31</td>
<td>39</td>
<td>47</td>
<td>48</td>
<td>47</td>
<td></td>
</tr>
<tr>
<td>1.2. - with majority private-sector interest of which:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2.1. under Polish control</td>
<td>57</td>
<td>68</td>
<td>70</td>
<td>70</td>
<td>67</td>
<td>64</td>
<td>54</td>
<td></td>
</tr>
<tr>
<td>1.2.2. under foreign control</td>
<td>25</td>
<td>29</td>
<td>31</td>
<td>39</td>
<td>47</td>
<td>48</td>
<td>47</td>
<td></td>
</tr>
<tr>
<td>2. Cooperative banks</td>
<td>1,394</td>
<td>1,295</td>
<td>1,189</td>
<td>781</td>
<td>680</td>
<td>642</td>
<td>605</td>
<td></td>
</tr>
<tr>
<td>3. Total banking sector</td>
<td>1,475</td>
<td>1,378</td>
<td>1,272</td>
<td>858</td>
<td>754</td>
<td>713</td>
<td>667</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>1. Commercial banks, of which:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1. - with majority public-sector interest</td>
<td>66.5</td>
<td>49.3</td>
<td>45.9</td>
<td>23.9</td>
<td>22.9</td>
<td>23.5</td>
<td>25.3</td>
<td></td>
</tr>
<tr>
<td>1.2. - with majority private-sector interest of which:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2.1. under Polish control</td>
<td>15.1</td>
<td>30.9</td>
<td>33.2</td>
<td>24.6</td>
<td>3.4</td>
<td>3.2</td>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>1.2.2. under foreign control</td>
<td>13.7</td>
<td>15.3</td>
<td>16.6</td>
<td>47.2</td>
<td>69.5</td>
<td>68.7</td>
<td>67.2</td>
<td></td>
</tr>
<tr>
<td>2. Cooperative banks</td>
<td>4.6</td>
<td>4.5</td>
<td>4.3</td>
<td>4.2</td>
<td>4.2</td>
<td>4.6</td>
<td>5.0</td>
<td></td>
</tr>
<tr>
<td>3. Total banking sector</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Treasury</td>
<td>28.9</td>
<td>20.9</td>
<td>17.9</td>
<td>13.5</td>
<td>11.5</td>
<td>12.4</td>
<td>15.2</td>
<td></td>
</tr>
<tr>
<td>2. National Bank of Poland</td>
<td>7.4</td>
<td>2.8</td>
<td>0.1</td>
<td>0.1</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td>3. Other state institutions</td>
<td>10.3</td>
<td>5.3</td>
<td>4.2</td>
<td>3.2</td>
<td>2.6</td>
<td>2.2</td>
<td>1.3</td>
<td></td>
</tr>
<tr>
<td>4. Other domestic investors</td>
<td>8.3</td>
<td>9.5</td>
<td>9.2</td>
<td>11.3</td>
<td>16.5</td>
<td>9.9</td>
<td>9.1</td>
<td></td>
</tr>
<tr>
<td>5. Small investors</td>
<td>11.3</td>
<td>17.2</td>
<td>16.5</td>
<td>13.7</td>
<td>10.5</td>
<td>12.5</td>
<td>9.6</td>
<td></td>
</tr>
<tr>
<td>6. Members of cooperative banks</td>
<td>5.7</td>
<td>4.7</td>
<td>4.7</td>
<td>5.1</td>
<td>5.0</td>
<td>4.5</td>
<td>4.3</td>
<td></td>
</tr>
<tr>
<td>7. Foreign investors</td>
<td>28.1</td>
<td>39.6</td>
<td>47.3</td>
<td>53.1</td>
<td>53.8</td>
<td>58.5</td>
<td>60.5</td>
<td></td>
</tr>
</tbody>
</table>

Source: NBP.

Table 1.9
Share of banks under foreign control in total banking sector assets, Central Europe

<table>
<thead>
<tr>
<th>Year</th>
<th>Share (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poland</td>
<td>2002</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>2001</td>
</tr>
<tr>
<td>Hungary</td>
<td>2001</td>
</tr>
<tr>
<td>Slovenia</td>
<td>2001</td>
</tr>
<tr>
<td>Slovakia</td>
<td>2001</td>
</tr>
</tbody>
</table>

The domestic financial system: structure and dynamics

operating conditions of the banks over the last two years. The most important changes involved
prudential regulations. However, EU accession also poses additional challenges for Poland’s
banking industry.

The crucial changes to the business environment of the banks stemming from Poland’s entry
to the EU include the taking effect of provisions concerning the “single banking licence”. Banks that
are authorised in any EU country have the right to open branches and conduct operations in any
other Member State without submitting to authorisation procedures. The end result of this is that
Polish banks will be subject to stiffer competitive pressure. Since domestic banks have higher levels
of general expense than banks in EU countries (see section 3.4), they may face price competition
from their foreign counterparts.

Heightened competition in the banking industry following Poland’s entry to the EU will
primarily be related to the above-mentioned process of foreign banks opening up new branches in
Poland. These new branches of foreign banks may enjoy a competitive edge due to lower costs. This
may be the result of lower operating expense (thanks to use of their parent bank’s IT systems, for
example). Cost savings may additionally come from regulatory and tax arbitrage (e.g., if the system
of asset classification and specific provisioning against irregular assets is less strict in the parent
bank’s home country than in Poland, or if the tax regime for banks is more favourable). Other trump
cards might be the capacity to utilise economies of scale (taking advantage of their parent’s capital
base) and a lower cost of funds (where the parent bank has a higher credit rating than Polish
banks). Competition from banks domiciled in other EU countries may therefore be particularly fierce
in relation to large corporate customers. Banks from Western Europe will be able to exploit their
stronger capital base, allowing them to finance the investment projects of the largest companies
without breaching large exposure limits and needing to set up loan syndicates.

1.2.2. Insurance companies

The Polish insurance market has undergone major changes over the last dozen years or so.
In life insurance, unit-linked policies have become very popular. These have largely replaced group
life cover.

In non-life business, increasingly widespread forms of cover include loan insurance, cover
against loss of employment, loss of profits, and loss of a permanent source of income, and also
legal insurance. The development of new forms of insurance stems from the growth of public
knowledge concerning insurance, and also from the opportunities opened up by the liberalisation
of the domestic insurance system.

A measure of the growth of the insurance market is the ratio of gross premiums written to
GDP, which still diverges significantly from the average within the EU countries (cf. Table 1.10).
This testifies to the potential that exists for the further expansion of the insurance market in Poland,
particularly as regards life cover.

A comparison of the insurance market in Poland with that in other countries of Central
Europe (the Czech Republic, Hungary and Slovakia) indicates that this market is most developed in
the Czech Republic. The development of the Polish market is slightly less than in Slovakia, and
virtually the same as in Hungary.

10 The changes to the regulatory environment of the banks are detailed in a subsequent chapter of the present Report,
etitled “The impact of the new legal framework on bank risk management”.
11 The share of these policies in the total gross premiums written of life insurers rose from 13% in 1996 to 32% in 2002
(source: Commission for the Supervision of Insurance and Pension Funds).
12 In life insurance, and in non-life insurance where the term of liability is not fixed, gross premiums written represent
the amount of insurance premiums due in the reporting period, regardless of whether this amount has been paid. In
non-life insurance where the term of liability is fixed, the corresponding item constitutes the amount of premiums due
for the entire term of liability under insurance contracts written during the reporting period, regardless of whether this
amount has been paid. In the remaining part of this section, the term “premiums” shall be taken to mean gross
premiums written.
Concentration and competition among insurance companies

The insurance industry exhibits the highest degree of concentration of all the particular sectors of Poland’s financial system (cf. Table 1.5). This is principally the result of the predominant market share held by the PZU group. The five largest insurance companies account for over 80% of assets and gross premiums written (cf. Table 1.11).

Ownership structure

The predominant shareholders in most domestic insurance undertakings are foreign insurers or foreign financial groups. The proportion of the share capital of Polish insurers attributable to foreign investors has been rising steadily, and at year end 2002 stood at 72.7% in life insurance, and 71% in non-life. Some insurers continue to be controlled by the Treasury or have registered Polish companies as shareholders. Most changes in the ownership structure of domestic insurance undertakings (via mergers or acquisitions) are the result of realignments among foreign shareholders.
The impact on the insurance sector of Poland joining the EU

Due to Polish insurance legislation being brought into line with the requirements of Community law, the provisions of the second- and third-generation EU directives will take effect as of the day Poland joins the EU. In particular, as in the case of banks, the principle of a “single licence” will apply. Poland’s membership in the EU will therefore mean that foreign insurance undertakings so far absent from the Polish market will be able to offer their products in Poland without the need for additional authorisation, thereby increasing the level of competition. Nonetheless, it would appear that the impact of this may prove limited, since most prominent foreign insurers have already carried out the requisite investment to create new insurance undertakings in Poland or recapitalise existing ones. Adopting the principle of a “single licence” will also allow Polish insurers to carry on insurance activity within other EU Member States without any additional authorisation requirements in those States, e.g., through the provision of cross-border services. However, in view of the large part played by foreign capital in the Polish insurance sector, it can be expected that few undertakings operating on the domestic market will avail themselves of this opportunity to extend their business beyond Poland (those likely to do so are primarily ones with a majority Polish equity interest).

As of the day of Poland’s accession to the European Union, the limits on investing assets covering technical provisions in EU Member States will be rescinded. The broadening of eligible investments to include financial instruments issued in the Member States will permit greater diversification of insurers’ asset portfolios. However, it should not be expected that insurance undertakings will begin buying up foreign securities en masse. The amount of foreign securities purchased will be constrained by the requirement that insurers hold assets covering technical provisions in the currency in which their commitments under the relevant insurance contracts are expressed.

1.2.3. Investment funds

Concentration and competition among investment funds

The makeup of the investment fund market in Poland has largely been conditioned by the order in which particular investment companies (fund management companies) were established. Two companies currently dominate the market, managing almost half of the industry’s total assets. Their competitive advantage is illustrated not only by the absolute size of their assets, but also by the relative speed of their annual asset growth. In 2002, these two companies accounted for some 56% of asset growth within the sector as a whole. Growing industry concentration is evidenced by the level of the Herfindahl-Hirschman index (HHI) (cf. Table 1.5).

The systematic increase in the popularity of investment fund units as a savings vehicle indicates that the growth in these funds’ assets is a tendency that is set to last. The factors contributing to this could include the steadying of inflation and the low rates available on bank deposits. To boost customer investment in the funds which they operate, the management companies will constantly be attempting to offer new products. At present, in seeking fresh ways of reaching out to customers, the companies are entering into collaboration with those banks that are not part of groups involving a management company.

Competition within the investment fund industry is chiefly expressed in the management companies adjusting their product range in response to the services offered by their rivals. The companies thereby attempt to gain new customers, knowing that existing ones seldom change companies due to the additional costs that this entails (handling charges and the tax on capital incomes13) and the fact that they have no guarantee of a higher rate of return.

Ownership structure

The majority of fund management companies operating in Poland are controlled by banks, either directly, or via the banks’ asset management companies. In addition, significant interests in fund management companies are also held by insurers.

The impact on the investment fund sector of Poland joining the EU

As of the day Poland joins the EU, investment funds registered in EU countries will be able to market their products directly to Polish investors. As in the case of other sectors, this will intensify competition, and thus increase cost and quality pressure on the services provided, while also leading to a broader range of products being offered by investment funds. Shrinking income from traditional business lines means that the banks will be trying to secure other streams of revenue, with one option here being to distribute units in investment funds registered outside Poland.

The greatest chances of rapid growth will be open to those fund management companies that already have a large customer base and well-developed distribution channels. The fact that a company has a strong domestic or foreign shareholder from the investment industry will be an additional advantage. We can expect to see greater consolidations among management companies in the years ahead, allowing investment funds registered in Poland to compete effectively with undertakings registered in the EU countries.

Given that units in investment funds represent a fairly standardised product, swift growth can also be anticipated in cross-border services offered over the Internet, which will be another factor sharpening competition.

1.2.4. Pension funds

Concentration and competition among pension funds

The degree of concentration in the pension fund industry, as measured by the HHI, has been trending downwards (cf. Table 1.5), despite the mergers that reduced the number of open-ended pension funds from 21 at year end 1999 to 16 in December 2002. This signifies an increase in the role of small and medium funds in relation to the three largest ones.

Opinions differ as to the level of competition on the pensions market. The market behaviour of universal pension companies indicates that competition is relatively strong. This is attested to by the series of reductions in distribution fees in 1999, and also by the efficient introduction of high customer service standards in all the pension funds. However, high barriers to entry mean that the existing pension companies face little threat of competition from newcomers. Particularly important here is the need for a pension company to win a large number of customers to put itself on a profitable footing.

Ownership structure

The ownership structure of universal pension companies reveals the clear preponderance of insurance companies, mainly domestic insurers rather than foreign ones. In terms of their shareholdings in the pension companies, banks are the next largest category of financial institution.

The figures presented in Table 1.12 testify to the better financial condition of those pension companies with foreign shareholders. This is plainly seen from their share of pension company losses (27%) being smaller than their share in those companies’ capital (45%).

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14 The earnings generated by fund management companies are mainly contingent on the size of the assets they manage, which determines growth in management fees. If asset portfolios are too small, they will not ensure an appropriate level of profit. The earnings of fund management companies are discussed in more detail in section 4.4.
The losses incurred by pension companies at the beginning of their operations were unavoidable, connected with the high costs of market entry. So far, equity investments in pension companies have proved more rewarding for those banks that have a minority stake in companies where the dominant shareholder is an insurer or a foreign group of companies.

The impact on the pension fund sector of Poland joining the EU

The specifics of a given country are of major importance in the design of any pension system. For this reason, it is unlikely that the European Union will adopt uniform solutions in this field. Nevertheless, work is currently under way to develop recommendations and conditions that should be met by the particular pension systems of EU Member States, so that these systems do no constitute an obstacle to the free movement of labour within the EU and do not pose a threat to financial stability (mainly as regards the burden on public finances). The Polish pension system fulfils the requirements proposed\textsuperscript{15}, so any necessary adjustments in Poland will have no significant effect on the present arrangements. The most probable area of adjustment concerns tax solutions. It would seem that the taxation of retirement savings in the European Union will move towards a “TEE” system\textsuperscript{16}, as this would best correspond to the existence of diverse pension systems within a group of countries that allow full freedom of movement and employment.

A central question related to membership in the European Union, one that could have a significant impact on the pension fund market in Poland, is the future decision as to whether the open-ended pension funds are to be considered part of the general government sector (which is the current position of the Polish Government). Were these funds to be denied inclusion in this sector by the EU, this would have a serious impact on the regulations governing the pension industry, and thereby also on the asset mix of open-ended pension funds. In line with the principles concerning the free movement of capital within the EU, the limit placed on foreign investments as a proportion of the funds’ assets would have to be raised from the present 5% to 20%.

\textsuperscript{15} The Polish pension system will remain in financial equilibrium over the long term, and will therefore not engender fiscal stress, while the defined contribution scheme in place will ensure ease of funds transfers to and from the system. In a system based on defined contributions, each participant has a certain sum on their account, comprising their own cumulative contributions plus the return on investment from the pension fund. Thus, there can be no doubt as to the funds that should be made available to the participant in the event, for example, of their changing their country of residence and the need to transfer funds to another pension scheme.

\textsuperscript{16} The “TEE” system stands for “Taxed, Excluded, Excluded”. This signifies the taxation of pension contributions while exempting benefits disbursed from capital gains and income tax.
1.3. Involvement of financial institutions in financing the real economy

The banking sector is far and away the dominant source of financing for the real economy (the corporate sector). It is also the sole source of external finance for households. As regards other financial institutions, a noteworthy factor is the large share of Treasury debt in their portfolios. In analysing the relative differentiation between the particular sectors of the financial system in their funding of government borrowing requirements as against financing to corporates, the significance becomes apparent of the regulatory environment, and also of factors issuing from the strategies adopted by the institutions concerned.

Figure 1.9
Funding from financial institutions to particular sectors of the economy
As at December 2002

NB: For banks, the funding involved is equal to claims on a given sector plus debt securities and also equities (in the case of corporates), while for other financial institutions this funding represents the value of debt and equity securities held.
Source: NBP, National Securities Depositary, Commission for the Supervision of Insurance and Pension Funds.

Figure 1.10
Ratio of corporate funding to government funding
year end, 2000–2002

Source: NBP, National Securities Depositary, Commission for the Supervision of Insurance and Pension Funds.
The requirements implying a need for certain financial institutions to hold a major part of their portfolios in the form of Treasury securities serve, on the one hand, to contain the risk exposure of those institutions, while on the other hand they ensure constant demand for Treasury paper, and thus facilitate the financing of the government deficit. Particularly important in this regard are the limits on investment exposures set for financial institutions (especially insurance companies and open-ended pension funds), which were designed to curb the investment risk assumed by those institutions. Where financial markets are insufficiently developed, and the supply of financial instruments is therefore constrained, this compels these institutions to hold a major part of their funds in Treasuries due to the lack of eligible alternatives.
government deficits, this approach is attractive to the fiscal authorities, yet it can have a negative impact on the capacity of agents in the real economy to obtain funding from financial institutions, and can thus undermine long-run economic growth.

An analysis of the dynamics within the banking sector (cf. Chapter 3) indicates that there are grounds to believe that this is indeed the current situation in Poland. As a result, the proportion of Treasury securities within the asset portfolios of financial institutions may exceed the level observable where the development of financial markets is more robust, or where existing regulations are less conducive to investment in Treasuries.

Another factor of note is that, whereas the funding of government borrowing requirements by financial undertakings is relatively well diversified, the provision of finance to corporates is decidedly dominated by the banks (cf. Figs. 1.11 & 1.12). The inference is that the savings gathered by the remaining sectors of the financial system are used for the financing of the real economy to a relatively smaller extent. This situation is highly unfavourable as regards long-term prospects for economic growth. It should further be noted that the growth in finance provided to the government is also faster than that in finance to the real economy (see also Fig. 1.10).
The financial system and the economy

2.1. Cyclical fluctuations and financial system stability

The stability of the financial system is integrally linked to the general condition of the economy. An effective financial system facilitates optimal resource allocation within the economy, thereby improving the prospects for economic growth. It can therefore be posited that the financial system smooths the operations of the real economy. On the other hand, a slackening of the economy spells a deterioration in the material condition of the customers of financial institutions. The conclusion is that, to obtain a full picture of the issues involved in financial system stability, these have to be situated in the context of the overall macroeconomic environment.

The pace of business expansion is one of the key factors impacting the demand for financial services within the real economy. Rising incomes swell the volume of savings, thereby bolstering demand for financial sector services among savers. The fact that rapid economic growth poses the perspective of a further increase in incomes can also encourage increased investment and consumption. The corollary is rising loan demand.

On the other hand, periods of economic slowdown and reduced investment activity are accompanied by a relative decrease in demand for the services provided by financial institutions. As the number of companies in default rises, so financial institutions incur greater losses, as they are incapable of recovering the funds they have lent.

The problems that emerge at times of an economic downturn may be rooted in the earlier practice of financial institutions when growth was rapid. The overoptimism then prevalent among economic agents could have prompted an underestimation of the risk involved in particular business ventures. This risk may then crystallise when growth declines and economic difficulties arise. It is then that financial institutions are hit by the problems of their customers. These linkages mean that, in analysing financial system stability, the long-term development of the macroeconomic situation has to be taken into account, in order to factor in all phases of the business cycle.

2.2. Economic growth and financial sector activity

The state of the Polish economy gradually improved during the course of 2002. From the first quarter onwards, GDP growth progressively picked up, although still remaining relatively low (cf. Fig. 2.1). A striking factor was the steeply negative growth recorded in gross fixed investment (which began in Q2 2001). Investment demand contracted, pulling down in its wake loan demand throughout the economy. Similar conclusions flow from an analysis of movements in domestic demand, which fell in 2001 and in the first quarter of 2002. In the latter half of 2002, growth in domestic demand lagged behind GDP.

The response of consumers to the slowdown in the economy and the associated change in growth in disposable incomes differed according to the financial situation and earnings capacity of particular categories of household. It is very likely that two tendencies came into play. On the one hand, in the face of rising unemployment and dwindling current incomes, some households maintained their previous level of consumption growth by reducing the funds assigned to the repayment of obligations they had assumed previously. On the other hand, other households were able to sustain their consumption growth by reducing their propensity to save.
There are several reasons why it is important to monitor the real growth in the deposit balances of non-financial customers (shown in Fig. 2.3). Firstly, deposits constitute the core source of funding for the banks’ lending activity. Secondly, any abrupt reversal of trends in deposit growth could pose problems for the banks’ liquidity. Thirdly, changes in the term structure of deposits, and in particular a shift in balances towards demand accounts, may be linked to an expansion of consumption demand.

An analysis of deposit growth, broken down by demand and time deposits, gives an insight into certain interesting developments that have taken place over the last two years. The year 2001 was marked by a stabilisation in the volume of demand deposits (in real terms), whereas positive real growth was maintained in time deposits. By contrast, the year 2002 (particularly the first half)
saw a substantial quickening of demand deposit growth. At the same time, growth in time deposits trended downwards throughout 2002, with the result that the real value of these deposits fell in the second half of the year. This is traceable to the introduction of a tax on interest income and to falling nominal interest rates. In consequence, the potential return from holding time deposits dropped to such an extent that some bank customers shifted their funds into current accounts (which are more convenient for transaction purposes and make ongoing liquidity management easier), or into other types of financial asset. In the latter half of 2001 and in 2002, there was a constant tendency for time deposits to decline as a proportion of total household financial assets, with savings primarily being moved into units in investment funds (which more than trebled in relative terms), and to a lesser degree into life insurance policies and Treasury bonds. Due to the increase in the value of household financial assets other than bank deposits, the real value of total personal savings did not decrease.

An analysis of movements in net earnings at non-financial corporations indicates that the financial condition of this group of bank customers has also deteriorated. A situation

### Table 2.1
Structure of household financial assets (%)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank deposits, zloty</td>
<td>59.2</td>
<td>57.3</td>
<td>54.0</td>
</tr>
<tr>
<td>Bank deposits, foreign currency</td>
<td>12.4</td>
<td>12.2</td>
<td>11.3</td>
</tr>
<tr>
<td>Total assets of investment funds</td>
<td>3.3</td>
<td>4.0</td>
<td>6.2</td>
</tr>
<tr>
<td>Assets of life insurance undertakings</td>
<td>6.8</td>
<td>7.2</td>
<td>7.9</td>
</tr>
<tr>
<td>Deposits at credit unions</td>
<td>0.5</td>
<td>0.6</td>
<td>0.7</td>
</tr>
<tr>
<td>Treasury bonds</td>
<td>4.2</td>
<td>4.5</td>
<td>5.4</td>
</tr>
<tr>
<td>Treasury bills</td>
<td>1.1</td>
<td>1.1</td>
<td>0.8</td>
</tr>
<tr>
<td>Notes &amp; coin in circulation (excluding vault cash)</td>
<td>12.5</td>
<td>12.9</td>
<td>12.9</td>
</tr>
<tr>
<td>Bank bonds</td>
<td>0.0</td>
<td>0.0</td>
<td>0.7</td>
</tr>
</tbody>
</table>

Source: NBP estimates.

18 More information on corporate finances can be found in the quarterly publication *Wstępna informacja o kondycji sektora przedsiębiorstw* (Preliminary report on the condition of the corporate sector), issued by the NBP Department of Statistics.
where an increasingly large proportion of corporates incur losses has a negative impact on the banks, for several reasons. Above all, this reduces the corporate capacity to repay obligations taken on previously, which translates into smaller earnings at the banks. This effect can also make itself felt indirectly, since banks are required to respond to a deterioration in the financial condition of their obligors by establishing specific provisions against their claims on these customers, even if the latter are meeting their repayments on schedule. Further, due to the growing number of corporates experiencing financial distress – and therefore not considered creditworthy – the number of prospective loan customers diminishes. Thus, with the market shrinking, the banks’ potential for generating profits is eroded.

It was these conditions that determined the extent of operations conducted by financial institutions. Figure 2.5 indicates that there is a strong relationship between the scale of banking sector activity and the pace of economic growth. It can easily be seen that the acceleration of GDP growth in 1999 and the first half of 2000 coincided with a faster expansion in bank lending. Loans to households rose particularly quickly in this period. This demonstrates that consumers, in observing the rapid growth of the economy, expected that the increase in their incomes would be a lasting process, and extrapolated this trend out into the future. In these circumstances, consumption grew significantly, while the prospect of incomes continuing to rise encouraged borrowing to finance that consumption. Battling for market share, the banks were only too keen to meet this burgeoning demand. The end result was that the banks’ loan portfolios grew much more swiftly than GDP.

Figure 2.4
Corporate net earnings

![Graph showing corporate net earnings from 1998 to 2002](image)

NB: The above chart presents the cumulative earnings of all corporates surveyed by GUS reporting either a profit or a loss, as applicable, together with the aggregate net earnings of those corporates. For any particular period, the figures shown represent the total for earnings in that quarter and the three quarters preceding it.

Source: GUS.

19 The loan classification criteria and specific provisioning procedures applied in Poland are analysed in a later part of the present Report, entitled “Principles for loan classification and specific provisioning”.

20 In this section, the terms “lending” and “loans” are taken to be equivalent to “claims on non-financial customers”, a slightly broader category reported by the banks in their returns; however, this category predominantly comprises customer loans in the strict sense of the term.
Faster growth in lending than in GDP can to some extent be considered a normal phenomenon in the Polish environment. Compared to other countries, the ratio of outstanding loans to GDP is relatively low in Poland, and can be expected to rise.

Nevertheless, it should be emphasised that the difference indicated above cannot be viewed in abstraction from the future rate of economic growth. An excessively rapid increase in capital or consumption expenditure could lead to problems in the repayment of borrowings performed earlier. A hypothesis that seems relevant here is that the growth seen in problem loans has in large measure been related to the precipitate expansion of lending that occurred previously, particularly as regards loans to households originated in the years 1999 and 2000. After 2000, the slackening of GDP growth was accompanied by a steep fall in real loan demand, especially among households. Indeed, the year 2002 even witnessed a decline in the real value of bank loan portfolios. At the same time, the quality of those portfolios has been deteriorating steadily. A more detailed analysis of loan portfolio quality is given in Chapter 3.

2.3. Inflation, inflation expectations and interest rates

Another factor behind the rise in loans classified irregular may have been the substantial discrepancy between inflation expectations and the actual rate of inflation. In these circumstances, the real interest rate expected during the life of a financial transaction by the parties involved may differ markedly from the interest rate that is subsequently observed.

21 Several reasons for this situation may be cited as examples. The operations of Polish corporates are still funded from internal sources to a very large degree. As the role of external funding increases, so bank loans should also play a greater part in financing business activity. Next, the relatively low level of household incomes and the persistence of high unemployment, creating uncertainty as to future incomes, act to constrain loan demand and the credit capacity of consumers. It can also be expected that the development of the property market will strengthen the importance of mortgage lending, which in the future could constitute a major segment of the loan market. Finally, the development of the banking sector itself, with the attendant expansion of the range of services on offer, will allow these services to be better tailored to customer needs, thereby broadening the scope of operations of financial institutions.
Consumer inflation expectations are strongly backward-looking, which means that they are principally conditioned by the current rate of inflation (cf. Fig. 2.6). The inflation expectations of bank analysts have exhibited a stable downward trend. These expectations are much less sensitive to changes in the current rate of inflation. Since mid-2001, the inflation expectations of the banks have been higher than those of consumers. In this setting, at any given rate of inflation, the real interest rates projected by the banks were lower than those anticipated by consumers (cf. Fig. 2.7). As a result, the banks set nominal rates at a higher level, factoring in their own inflation expectations. However, households perceive real interest rates to be higher than those taken into consideration by the banks. This produces a situation where loan demand is less than it would be, were banks and their customers to have similar inflation expectations.

Throughout virtually the entire period under analysis, the expectations of both groups diverged sharply from the level of inflation actually recorded. This means that both the banks and their customers were taken by surprise by the inflation rate (at variance with their projections), which also translated into real interest rates differing from those expected. This state of affairs should be taken as a significant factor aggravating the risk posed to both the banks and their customers; the scale of this risk can be assessed by reference to Figure 2.7. There is a clearly noticeable discrepancy between the level of real interest rates as calculated using consumer expectations and those based on the expectations of bank analysts. Furthermore, for a considerable part of the period under examination, actual interest rates (taking account of actual inflation) deviated from the real rates expected both by consumers and bank analysts.

To pursue this analysis, it is important to compare movements in the gap between the real interest rates expected and actually recorded with movements in bank claims on non-financial customers (particularly households). With bank claims growing more quickly in 1999, it turned out

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22 It should be underlined that, due to the method applied in quantifying consumer inflation expectations (on the basis of qualitative surveys), the results obtained primarily indicate the magnitude and direction of changes in expectations, rather than a specific level of inflation that is being predicted.
over time that real interest rates were actually lower than those expected. On the one hand, this might have made borrowers more optimistic as to their own repayment capacity, while on the other hand it means that in real terms the banks’ net interest income could have been lower than projected. Both these factors may well have sustained the strong growth in loans to households, in real terms, observed at the beginning of 2000, since borrowers may have believed that they could now safely assume a higher level of debt, while the banks may have been seeking to offset their loss of income by increasing the absolute volume of loans outstanding.

In hindsight, it can be seen that the situation had now changed, and that optimism was prolonged unjustifiably. In 2000, the differential between the real interest rates actually recorded and those expected by consumers rose to five percentage points. This could have additionally contributed to the rapid growth in bank lending at that time and to the deterioration in loan portfolio quality towards the end of 2001 and in 2002. Households had been counting on a relatively low real burden of debt service on their previous borrowings. When reality proved different, they had pronounced difficulty in meeting their obligations in 2002.

It should be stressed that the end of the process of disinflation and the stabilisation of price growth at a low level should reduce the extent of the errors made by economic agents in assessing real interest rates\(^\text{23}\). With inflation holding steady, even backward-looking expectations will be on target. Given stable price growth and a lack of major factors that could potentially fuel inflation, it can be presumed that the inflation expectations of consumers, corporates and banks will fall into line with each other, and also with actual inflation. Economic agents will then no longer be surprised when real interest rates prove to be different from those that they had assumed when

\[\text{1M WIBOR, deflated by current inflation}\]
\[\text{1M WIBOR, deflated by bank expectations}\]
\[\text{1M WIBOR, deflated by consumer expectations}\]
\[\text{1M WIBOR, deflated by CPI + 12 months}\]

\(^{1}\text{Warsaw Interbank Offered Rate.}\)
\(^{2}\text{Source: NBP, GUS.}\)

\[\text{It is also worth noting that, should consumer inflation expectations remain highly backward-looking and inflation rebound mildly from its current very low level (as anticipated), the situation may resemble that seen in 1999, particularly in the case of households, i.e., real interest rates ex ante will be higher than those calculated ex post. This could lead to consumption and investment demand running lower than in a scenario of rational inflation expectations. On the other hand, this could also mean that the propensity to save is greater than suggested by rational expectations.}\]
taking their respective decisions. At the same time, financial institutions and their customers will no longer take an asymmetric view of real interest rates. In this respect, the process of inflation stabilising has a positive impact on financial system stability.

2.4. External equilibrium and the financial system

The slowdown in economic growth has not only depressed loan demand, but has also reduced the need for external financing. The size of the current account deficit can be interpreted as the level of foreign financing required by the economy. The current deficit narrowed from the second quarter of 2000 onwards as GDP growth waned and, as has already been mentioned, the borrowing requirements of the Polish economy declined.

The current account deficit is related to the question of external equilibrium. The current deficit observed in 1999 and the first quarter of 2000, well above 6% of GDP, implied the risk of a sudden collapse of foreign investor confidence in the stability of the Polish economy (and especially in its capacity to sustain the safe financing of a deficit that persisted at such a high level). This could have triggered a hasty pullout of foreign capital and a plunge in the value of the zloty. Numerous currency crises in the second half of the 1990s indicate that this course of events could have a negative impact on the economy and jeopardise banking sector stability.

The sound export performance registered from 2000 to mid-2001, despite the periodic strengthening of the zloty, demonstrates that the real exchange rate was not a key factor determining the development of foreign trade. This fact should be viewed positively, since it means that Polish exporters are no longer competing on foreign markets on price alone. On the other hand, the dwindling number of exporting firms, coupled with the rising profitability of some of them, indicates that zloty appreciation has cut margins on sales abroad to the extent that some of the weaker firms have been compelled to withdraw from the export business. Thus, those companies that continue to export are almost exclusively the most efficient.

Figure 2.8
Current account deficit vs. GDP

![Figure 2.8: Current account deficit vs. GDP](source: GUS, NBP)

24 The small sensitivity of exports to real exchange rate appreciation is partly due to the substantial share of Poland’s exports attributable to companies with foreign equity, which stands at some 52% (figures given by the Institute of Foreign Trade Cycles and Prices); part of this involves multinational corporations. Research indicates that these companies are far less susceptible to exchange rate movements, particularly when the transactions carried out are between affiliates of the same global organisation.
To summarise these reflections on the potential impact of the external position on the stability of the domestic financial system, it can be said that the significant reduction in the current deficit since 2000, together with the maintenance of a floating exchange rate regime, has markedly alleviated the risk to the financial system associated with an abrupt and critical slump in zloty exchange rates. The growth in export volumes seen since the second quarter of 2002 may attest to the strengthening position of those companies that have managed to maintain their presence on foreign markets. Nonetheless, the absence of any immediate prospects for faster growth among Poland’s largest trading partners could still present these companies with a serious challenge.
Banking sector stability

Poland’s banking sector constitutes the largest segment of the domestic financial system. Thus, it is disruptions to the operations of the banks that could have the greatest impact on the economy. The particular significance of the banks is also related to the role they play within the payment system (reviewed in Chapter 5). Banks act as intermediaries in financial transfers between economic agents, thereby facilitating the mutual settlement of obligations and the smooth operation of the whole economy. Banks are also the mainstay of most financial groups active in Poland, and therefore influence the decisions and actions of the remaining sectors of the financial system. At the same time, the very nature of banking, which requires the use of financial leverage, means that banks are exposed to greater risk of failure than other financial institutions. All of these factors make the situation within the banking sector of decisive importance to the stability of the entire financial system.

The present Chapter sets out an analysis of the key factors affecting banking sector stability. The following areas are reviewed, in succession:

- the exposure of the banking sector to its principal risks, i.e., credit risk and market risk (FX risk, interest rate risk, and price risk on the equity and property markets);
- banking sector liquidity;
- bank earnings;
- bank capital and the capacity to absorb losses.

3.1. Credit risk

Polish supervisory regulations require banks to classify loans in line with strictly specified procedures, and to establish specific provisions against them that correspond to set ratios. Loans are classified to one of five risk categories, as satisfactory, special mention, substandard, doubtful, or loss. Loans in the last three categories are considered irregular, i.e., adversely classified (impaired), and are subject to specific provisioning requirements (as are, to a lesser degree, consumer loans classified satisfactory or special mention).

This section of the Report limits itself to an analysis of the credit risk arising from bank claims on non-financial customers.

The principles applicable to loan classification and coverage by specific provisions are detailed in the Ordinance of the Minister of Finance on procedures for establishing specific provisions against the risk of banking operations, December 10, 2001 (as published in Dziennik Ustaw no. 149/2001, item 1672). These issues are examined further in a subsequent section of the present Report, entitled “Principles for loan classification and specific provisioning”.

The procedures adopted in many countries around the world (including the G-10 group of the most industrialised countries) generally class loans as irregular when there is a delinquency of at least 90 days in payment of either principal or interest (cf. Cortavaria, L., Dziobek, C., Kanaya, A., Song, I., Loan Review, Provisioning, and Macroeconomic Linkages, IMF, WP/00/195, p. 11, and Bloem, A.M., Gorter, C.N., The Treatment of Nonperforming Loans in Macroeconomic Statistics, IMF, WP/01/209, p. 7). Polish supervisory regulations are more stringent in this regard, with loans being classified as substandard where payment of principal or interest is past due over one month, yet no longer than three months, or where the financial condition of the obligor may jeopardise timely repayment; as doubtful where payment of principal or interest is past due over three months, yet no longer than six months, or where the financial condition of the obligor has been subject to substantial deterioration; and as loss where payment of principal or interest is past due over six months, or where the financial condition of the obligor has been subject to irretrievable deterioration, precluding the repayment of their obligations.
The slowdown in economic growth in the years 2000–2001 was reflected in a worsening of loan portfolio quality at the banks. In December 2002, the proportion of loans classified irregular stood at 20.7\% (cf. Fig. 3.1).

**Irregular loans by type of borrower**

Loan quality varied between different groups of borrowers (cf. Table 3.1). Average quality was relatively soundest in loans to *households* (14.4\% of these loans were classified irregular in December 2002).

<table>
<thead>
<tr>
<th>Loan Type</th>
<th>12.2000</th>
<th>12.2001</th>
<th>12.2002$^1$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total non-financial customers:</td>
<td>14.9</td>
<td>17.8</td>
<td>20.7</td>
</tr>
<tr>
<td>Corporates</td>
<td>17.1</td>
<td>20.4</td>
<td>25.2</td>
</tr>
<tr>
<td>Households/persons$^2$</td>
<td>8.5</td>
<td>10.6</td>
<td>14.4 (12.2)</td>
</tr>
</tbody>
</table>

$^1$ Figures for 2002 do not bear comparison with those for previous years due to a change in the definition of institutional sectors.

$^2$ Figures for the years 2000-2001 refer to persons, while the figure for 2002 refers to households, with the corresponding number for persons (Polish residents) given in parentheses.

Source: NBP.

Particular types of loans to persons displayed substantial differences in terms of repayment performance (cf. Fig. 3.2). The highest quality was seen in *housing loans* (7.8\% of which were irregular in December 2002)$^3$. By contrast, the quality of instalment loans and authorised

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$^3$ Figures on the quality of housing loans, authorised overdrafts and instalment loans refer to facilities in zloty, extended to residents.
overdrafts was much worse (17.7% and 12.2% irregular, respectively). These differences found expression in the interest rate policies pursued by the banks (e.g., in the application of lower risk premiums on housing loans), and in the restricted availability of consumer loans.

The relatively good performance reported for housing loans may be ascribed to the preferences of borrowers, who in the face of financial difficulty firstly pay down debt that is collateralised by their own home, and only then settle on other loans, where the penalties meted out by the banks for non-payment are less painful. In addition, long-term housing loans are generally made to customers that fulfil stricter credit requirements, which lays the basis for better collectibility.

In view of the disparity in credit quality between portfolios of housing loans and consumer loans, the large demand seen for the former, accompanied by flagging growth in the latter, may have a positive effect on overall loan portfolio quality at the banks.

As regards loans to corporates29, credit quality was weakest in those extended to undertakings in the sections of fishing, health, and hotels and restaurants (cf. Table 3.2). However, the outstanding debt of undertakings in these sections was small (less than 2% of all large exposures) and as such did not constitute a major source of credit risk exposure. By contrast, credit quality was exceptionally strong in loans to electricity, gas and water supply companies, which accounted for almost 10% of all corporate lending. The fact that these loans were performing well is related to the monopoly position occupied by these companies in relation to their customers in a given region, and in the case of power plants is also connected with the long-term contracts they have, which stipulate the wholesale price of electricity. The Government is considering the scrapping of these contracts, which could alter the situation of some of the companies benefiting from them, and thereby lead to greater differentiation in the financial condition of particular suppliers30.

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29 The sectoral analysis of loan portfolio quality performed herein refers to “large exposures”, defined as those above 500,000 zloty or equivalent to more than 2.5% of a bank’s capital funds. Altogether, large exposures represented some 64% of all exposures to non-financial customers in 2002.

30 Long-term contracts concluded by the Polish Power Grid with power stations and combined heat-and-power stations in the years 1994-2000 commit the Grid to the purchase of electricity at prices specified in advance. These prices are calculated in a way that allows the power stations to cover their operating and financing costs, which also include the cost of servicing term development loans (to fund capital expenditure). Cancelling the contracts would give the Grid the freedom to pick and choose between power stations and would spell the deregulation of electricity prices, thus endangering the revenue streams which the power stations have written into their capital expenditure plans. The Government is considering the issue of bonds to cover the costs associated with this capital expenditure. (Source: “Jakie rekompensaty dla elektrowni” [What compensation for power stations?], Rzeczpospolita no. 174(6554), July 28, 2003.)
### Table 3.2
Quality of large exposures by section of activity (NACE), %

<table>
<thead>
<tr>
<th>Section</th>
<th>Breakdown of total loans by section</th>
<th>Irregular loans by section of portfolio for which:</th>
<th>Share of irregular loans to given section in total irregular loans</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>A – Agriculture</td>
<td>1.5</td>
<td>27.6</td>
<td>18.3</td>
</tr>
<tr>
<td>B – Fishing</td>
<td>0.0</td>
<td>74.3</td>
<td>56.1</td>
</tr>
<tr>
<td>C – Mining &amp; quarrying</td>
<td>1.9</td>
<td>15.8</td>
<td>5.3</td>
</tr>
<tr>
<td>D – Manufacturing</td>
<td>35.6</td>
<td>28.2</td>
<td>13.3</td>
</tr>
<tr>
<td>E – Electricity, gas &amp; water supply</td>
<td>9.5</td>
<td>1.2</td>
<td>0.1</td>
</tr>
<tr>
<td>F – Construction</td>
<td>7.3</td>
<td>30.2</td>
<td>12.4</td>
</tr>
<tr>
<td>G – Distribution &amp; repairs</td>
<td>22.3</td>
<td>27.6</td>
<td>9.8</td>
</tr>
<tr>
<td>H – Hotels &amp; restaurants</td>
<td>1.0</td>
<td>33.1</td>
<td>15.7</td>
</tr>
<tr>
<td>I – Transport &amp; communication</td>
<td>6.1</td>
<td>15.9</td>
<td>6.0</td>
</tr>
<tr>
<td>J – Financial intermediation</td>
<td>10.1</td>
<td>14.9</td>
<td>6.5</td>
</tr>
<tr>
<td>K – Real estate, renting, research &amp;</td>
<td>12.1</td>
<td>22.6</td>
<td>8.4</td>
</tr>
<tr>
<td>business activities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L – Public administration</td>
<td>8.9</td>
<td>0.5</td>
<td>0.3</td>
</tr>
<tr>
<td>M – Education</td>
<td>0.3</td>
<td>17.6</td>
<td>5.0</td>
</tr>
<tr>
<td>N – Health</td>
<td>0.4</td>
<td>35.4</td>
<td>9.8</td>
</tr>
<tr>
<td>Other</td>
<td>1.9</td>
<td>15.8</td>
<td>5.3</td>
</tr>
<tr>
<td>Total (excluding sections J &amp; L)</td>
<td>100.0</td>
<td>23.8</td>
<td>9.9</td>
</tr>
<tr>
<td>Total amount (excluding sections J &amp; L), billion zloty</td>
<td>156.1</td>
<td>37.1</td>
<td>15.5</td>
</tr>
</tbody>
</table>

Source: NBP.

### Figure 3.3
Loans to corporates, by section of activity, year end 2002

A. Loans by section to total loans

- Section D: 36%
- Section K: 12%
- Section I: 6%
- Section G: 22%
- Section F: 7%
- Other: 17%

B. Irregular loans by section to total irregular loans

- Section D: 42%
- Section K: 12%
- Section I: 4%
- Section G: 26%
- Section F: 9%
- Other: 7%

NB:
(i) NACE sections excluding financial intermediation and public administration.
(ii) Section D = Manufacturing; Section F = Construction; Section G = Distribution & repairs; Section I = Transport & communication; Section K = Real estate, renting, research & business activities.
Source: NBP.
The greatest impact on bank earnings in the period under review was exerted by loans to those sections that made up a substantial portion of total portfolios, i.e., manufacturing, distribution and repairs, and real estate, renting, research and business activities. These three sections together represented 70% of the overall portfolio by value, and were responsible for nearly 80% of irregular classifications.

The credit risk exposure of the banks can also be affected by movements in exchange rates. Borrowers assume FX risk in taking on foreign currency loans that are unprotected against exchange rate fluctuations. Should exchange rates move against them, the borrowers’ repayment burden will rise, which could cause debt service problems and impair loan portfolio quality at the banks. In this context, a noteworthy fact is the large proportion of total portfolios represented by loans either made in foreign currency or indexed to exchange rates (cf. Table 3.3).

<table>
<thead>
<tr>
<th>Table 3.3</th>
<th>Share of foreign currency and exchange-rate indexed loans in total bank portfolios (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign currency loans of which:</td>
<td></td>
</tr>
<tr>
<td>to persons</td>
<td>21.5</td>
</tr>
<tr>
<td>to corporates</td>
<td>2.5 (10.1)</td>
</tr>
<tr>
<td>Exchange-rate indexed loans**</td>
<td>19.9 (25.3)</td>
</tr>
<tr>
<td>Total</td>
<td>23.8</td>
</tr>
</tbody>
</table>

** Estimates.

Bank customers face essentially the same FX risk on foreign currency loans and exchange-rate indexed ones. The difference consists in the currency actually used to make payments of principal and interest. In both cases, the loan amount is expressed in a given foreign currency and the interest rate corresponds to the rate applicable to that currency. Indexed loans are repaid in zloty, whereas foreign currency loans are repaid in the currency concerned. Where the borrower has no income in the relevant currency, their repayment capacity could be fatally damaged by an adverse move in exchange rates. The currency element of indexed loans, like foreign currency facilities unprotected against FX risk, presents an indirect credit risk to the lender.

Figure 3.4
Share of foreign currency loans in total lending, by borrower, vs. annual increase in foreign currency debt

Source: NBP.
The growth seen in foreign currency and exchange-rate indexed loans is related to the lower lending rate on foreign currency facilities and the favourable movement of the euro and the Swiss franc against the zloty in 2001 and the first quarter of 2002. Foreign currency loans were taken out more frequently by persons. In the space of eighteen months following June 2001, the share of foreign currency lending to persons in total bank portfolios doubled (to stand at 8.1%), while the share of the corresponding corporate outstandings stayed flat (19% in December 2002). The faster rise in the foreign currency debt of personal borrowers may heighten credit risk, since these borrowers are unprotected against FX risk.

Part of the loans made to corporates are “naturally” hedged against FX risk thanks to export receipts. Nevertheless, a large part of foreign currency lending to corporates and persons is not secured against adverse movements in zloty exchange rates. However, most banks offer foreign currency and exchange-rate indexed loans that have an embedded option to convert the loan currency, while the grant of these loans is contingent on the borrower displaying stronger credit capacity than required for zloty loans.

The zloty depreciation observed from May 2002 onwards, coupled with a series of rate cuts by the central bank, contributed to slower growth in foreign currency lending (cf. Fig. 3.4). Nonetheless, foreign currency loans continue to make up a substantial part of the banks’ portfolios. At the end of 2002, 27.5% of loans to persons and 26.9% of those to corporates were denominated in foreign currencies. Especially notable in this respect were loans related to the housing sector, 58% of which were denominated in foreign currencies, largely in euros. When the zloty is replaced by the euro, the FX risk borne by customers on these loans will disappear naturally.

Table 3.4
Proportion of loans classified irregular, by currency

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Zloty loans of which:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>to business1</td>
<td>15.5</td>
<td>19.4</td>
<td>21.8</td>
<td>2.3</td>
</tr>
<tr>
<td>to persons</td>
<td>9.2</td>
<td>12.3</td>
<td>14.5</td>
<td>2.1</td>
</tr>
<tr>
<td>Foreign currency loans of which:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>to business1</td>
<td>13.1</td>
<td>13.4</td>
<td>16.3</td>
<td>2.9</td>
</tr>
<tr>
<td>to persons</td>
<td>14.6</td>
<td>16.1</td>
<td>20.9</td>
<td>4.8</td>
</tr>
<tr>
<td></td>
<td>2.7</td>
<td>3.0</td>
<td>5.7</td>
<td>2.7</td>
</tr>
</tbody>
</table>

1 State enterprises, private firms, registered companies, sole proprietors and individual farmers.
NB: All figures refer to Polish residents.
Source: NBP.

The quality of foreign currency loan portfolios, although better than that of zloty portfolios, has also deteriorated (cf. Table 3.4). The relevant figures for 2002 indicate that the percentage of foreign currency loans classified irregular rose more rapidly than that of loans denominated in zloty. This deterioration affected all types of loan, including housing loans.

Differentiation in loan portfolio quality among the commercial banks

An analysis of bank loan portfolios (cf. Fig. 3.5) indicates that, as well as the percentage of impaired loans climbing since 2000, there has also been an increasing differentiation in loan portfolio quality among particular banks (as evidenced by the greater difference between the first and third quartiles of the distribution32).

32 The first quartile is the variable that divides the sample population by a proportion of 0.25 to 0.75, i.e., one quarter of observations are smaller than the first quartile, while three quarters are larger. The third quartile, on the other hand, divides the population by a proportion of 0.75 to 0.25, meaning that three quarters of observations are below the third quartile, whereas one quarter are above it. The median value represents the middle point of the data set, i.e., half of the observations are larger than the median and half are smaller.
The conclusion that can be drawn from the above is that the tendency for loan quality to deteriorate is the result both of factors that are common to all banks (a slacker economic environment) and of ones that are specific to individual banks (such as credit risk management skills, the strategy being implemented, or the appropriate adjustment of that strategy in response to changing business conditions).

In order to estimate the relative influence of factors common to all banks as against those specific to individual institutions, a benchmark group was identified. The group is made up of three banks, which in each of the years 1999–2002 reported a lower than average ratio of irregular loans. Inferring from this that the quality of credit risk management was high at these banks, it can be assumed that the increase in the irregular loan ratio at the benchmark group represents an

---

**Table 3.5**

<table>
<thead>
<tr>
<th>Banks</th>
<th>Irregular loan ratio</th>
<th>Relative increase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12.2001</td>
<td>12.2002</td>
</tr>
<tr>
<td>All commercial banks</td>
<td>17.8</td>
<td>20.7</td>
</tr>
<tr>
<td>Benchmark group¹</td>
<td>14</td>
<td>16</td>
</tr>
</tbody>
</table>

¹ The benchmark group comprises three banks where the proportion of loans classified irregular was lower than the industry average in the years 1999–2002 (see footnote 33).

The conclusion that can be drawn from the above is that the tendency for loan quality to deteriorate is the result both of factors that are common to all banks (a slacker economic environment) and of ones that are specific to individual banks (such as credit risk management skills, the strategy being implemented, or the appropriate adjustment of that strategy in response to changing business conditions).

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approximation of the increase attributable to the factors common to all banks. At the same time, a swifter increase in the irregular loan ratio within the industry as a whole can be taken to reflect weaknesses in credit risk management at particular banks. The calculations presented in Table 3.5 allow us to estimate that some 70% of the relative increase in the irregular loan ratio within the entire industry can be traced to factors common to all banks.

**Causes of loan quality deterioration**

The rise in the proportion of bank loan portfolios classified irregular may be interpreted as the delayed effect of relatively strong lending growth in the years 1998–1999. In assessing customer repayment capacity, the banks do not seem to have given sufficient consideration to the possibility of a substantial slackening of economic activity that would reduce their borrowers’ ability to service their debt. Neither did these customers take into account a major downturn. However, the rapid economic growth recorded in the years 1999–2000 was unsustainable in the longer term due to the mounting macroeconomic imbalance, which included the escalating current account deficit. The tendency for the deficit to increase was arrested in 2000. Any further rise in external disequilibrium could have provoked a violent adjustment response, or even a currency crisis. The example of those countries that have been through this experience demonstrates that, had this scenario come to pass, the negative consequences for both the banking sector and the real economy would have been much more acute than those in fact observed in 2001–2002.

The slowdown in economic growth, tightening finances at borrowers and diminishing their capacity to service obligations assumed previously, acted to lay bare the credit risk that had built up in bank balance sheets in the years 1998–1999 and was an important factor behind the rise in irregular loan ratios. In the period under review, businesses generated lower sales revenue and weaker profits, one reason being more subdued domestic demand. More muted economic growth and high unemployment also contributed to curbing growth in household incomes.

A proper appraisal of customer credit capacity, particularly in the case of households, was also hampered by limited information on those customers, hindering the banks in establishing suitable credit scoring systems. The design and validation of these systems requires long time series and an appropriate subdivision by category of customer, supported by extensive experience in doing business with those customers.

The increase in irregular loan ratios was to some extent related to the measures taken by banking supervision with a view to harmonising the asset classifications applied by different banks to the same borrower. The recommendations of the supervisors concerning a review of customers subject to diverse classification by various banks resulted in a “levelling down” of classifications.

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34 More information on this subject is provided in a subsequent section of the present Report entitled “Credit risk (an analysis using data on the banks’ large exposures)”.


36 Particularly in the first half of the period under analysis.

37 In surveys conducted by the NBP, low domestic demand is most frequently cited by corporates as the key source of financial problems. This is considered the most important factor by 40% of companies polled. Cf. Assessment of the financial condition of companies in 2002, with particular focus on monetary and credit issues – Summary report, National Bank of Poland Department of Statistics, July 2003, p. 20.

38 Discrepancies in classification were most common where a claim had to be classed irregular due to the financial situation of the obligor.
The high ratio of impaired loans does not reflect the real scale of the credit risk exposure within the banking industry. It is more an indication of the risk posed by the banks’ business environment. Further, legal conditions and the specific framework of prudential regulations mean that irregular loans are in a way “exaggerated” within the banks’ portfolios.\(^{39}\)

\(^{39}\) A detailed overview of these issues is given in a later section of the present Report, entitled “Principles for loan classification and specific provisioning”. 

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**Figure 3.6**
Proportion of particular irregular loan classifications within total portfolio

**Figure 3.7**
Structure of irregular loan portfolios
Those loans that are of lowest quality, i.e., classified loss, are carried on the banks’ books for many years, thereby overstating the ratio of irregular loans, despite the fact that these claims are fully covered by the security taken and provisions established. Were these loans to be charged off against specific provisions, and posted as memo items, this would not affect the banks’ earnings. However, the banks hold back from writing off loans due to doubts in the interpretation of legal compliance (this mainly refers to future recovery efforts)40.

Both the volume of loss loans and their weight within bank loan portfolios has been rising steadily since 2000. This testifies to a permanent deterioration in the financial condition of certain obligors. At year end 2002, loss loans constituted around 11% of all loans, and also over half of all those classified irregular (cf. Figs. 3.6 & 3.7).

The fact that Polish banks put off loan loss writeoffs hinders a comparison of loan portfolio quality in Poland and in other countries where banks charge off loans as soon as they are classified loss, or within one or two years. For this reason, it would seem valid to look at irregular loans excluding loss classifications.

Carving out loss loans originated before 2002, the irregular loan ratio stands at 12.6%, and is thus still relatively high in terms of a judgment on financial stability. An important consideration, however, is that most irregular loans are supported by eligible security, conforming to the detailed standards set by the Minister of Finance41, while the unsecured portion is covered by the required level of specific provisions (cf. Fig. 3.8).

In terms of the security taken, loans can be divided into three categories, namely (1) exposures with secured risk, (2) exposures with limited risk, and (3) unsecured exposures. The greatest source of credit risk are unsecured loans, since a deterioration in credit quality may confront the bank with additional provisioning expense, which must in turn find reflection in the bank’s profit and loss. At year end 2002, 51.5% of irregular assets had no eligible security.

40 The Ministry of Finance and the Commission for Banking Supervision are currently seeking to reach an understanding on these questions. Cf. the Ordinance of the Minister of Finance on detailed bank accounting principles, December 10, 2001, §24 para. 8 (as published in Dziennik Ustaw no. 149/2001, item 1673).
41 See footnote 26.
In determining risk exposure, a crucial question is the quality of the loan security taken. The quality of this security depends on the nature of the guarantor, or of the physical collateral where a lien has been taken or title transferred. Certain forms of security have a constant value (e.g., Treasury guarantees), whereas the value of others is changeable, contingent on market conditions (e.g., mortgages, or transfer of title to movable assets). The largest single item in the security taken by banks are mortgages (36% of all security). Other forms of security include third-party guarantees (17.1%), transfers of title to movable assets (10.6%) and liens on movables (7.7%). The maximum value of security that Polish banks can deduct from their provisioning base has been set conservatively, to minimise the loss to the bank were collateral values to fall. The cautious approach required by banking supervision in security valuations is dictated, among other things, by the poor effectiveness of the judicial system and the lengthiness of debt collection procedures.

It has to be acknowledged that Polish prudential regulations in the area of loan classification are stringent. Many countries classify loans as irregular when they are over 90 days past due. In line with this practice, loans classed as substandard under Polish regulations (where there is a delinquency in principal or interest payments of one to three months) would be passed as satisfactory. If the irregular loan ratio were to be calculated to include only those loans classified as doubtful and those loss loans originated in 2002, this ratio would have come to 7.6% at year end 2002 (cf. Fig. 3.9).

For example, banks are allowed to deduct a maximum 50% of a mortgage on real property used to collateralise a loan. In the early 1990s, when Poland’s banking supervision was being set up and supervisory regulations began to be developed, the National Bank of Poland was provided with expert advice by the International Monetary Fund. On the basis of recommendations drawn up by the IMF for transition economies, relatively strict solutions were adopted, commensurate to the level of risk that then existed. In the course of the last eight years, the regulations concerned have gradually been relaxed and increasingly brought into line with those in force in other countries (e.g., on the question of specific provisioning). As regards asset classification, meanwhile, the greater caution exercised is a function of the legal and economic environment. The changes that have occurred in the banking sector in recent years, together with the experience gained by the banks and the prospect of Poland joining the EU (establishing level playing fields), encourage an easing of the regulations, thereby adjusting them to correspond to the standards in place in the EU. On this subject, see the subsequent section of the present Report entitled “Principles for loan classification and specific provisioning”.

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44 See footnote 27.
Response of the banks to declining loan portfolio quality

The fall in loan portfolio quality at the banks has had negative consequences via lower interest income and higher provisioning expense against irregular classifications. The quest to maintain earnings levels has prompted banks to apply an asymmetric approach in adjusting their interest rates to movements in interbank rates, and also led them to tighten their lending procedures, which in turn has restricted access to credit, especially high-risk lending (see section 3.4)\(^4\).

\(^4\) Banks in the EU have also tightened their lending standards in response to the greater default risk connected with the slower economy. Cf. EU Banking Sector Stability, ECB, February 2003, p. 14.
Successive cuts in NBP interest rates have led to deposit rates being lowered faster than lending rates. In addition, to a greater extent than in the period of rapid economic expansion, banks have varied the changes in their lending rates depending on the borrower and type of loan involved, and also on the borrower’s default risk and the possibility of loss recovery. The smallest reductions have been on consumer loans (cf. Table 3.6). By contrast, rates on housing loans, often secured by mortgages on real property, have come down substantially. Corporate lending rates have also been lowered relatively quickly. The lower risk premium included in corporate lending rates (compared to rates for households) should be ascribed to the lesser information asymmetry in lending to businesses. This is because banks are much more capable of assessing the financial condition and repayment strength of a business (through access to quarterly financial statements) than of a household. Further factors involved here include sharper competition for corporate customers and a desire to preserve commercial relationships with potentially promising borrowers.

The relatively high level of lending rates, particularly rates on consumer loans, has resulted in slower growth in consumer outstandings. Growth in lending to the corporate sector has also waned. An analysis of the reasons for the declining expansion of bank lending indicates that an important factor behind this was also the banks themselves deciding to limit the supply of credit. This conclusion is in line with information obtained during on-site examinations at the banks, showing that worsening economic conditions and higher default risk have led banks to apply stricter lending criteria, thereby rationing the volume of credit available. This is also borne out by the findings of corporate surveys conducted by the NBP, which point to an increase in the frequency of loan applications being refused by the banks. Credit rationing is a symptom of pro-cyclical behaviour on the part of the banks. Pro-cyclicality, whether at a time of expansion or stagnation, reinforces the current phase of the business cycle, often contrary to the intentions of the monetary authorities.

The fact of the banks responding in this fashion has twofold consequences for the financial stability of the banking sector. On the one hand, the scaling back of lending by the banks seen over the last two years can be considered positive in terms of the soundness of individual institutions. Credit rationing is a way of seeking to improve asset portfolio quality, which mitigates the banks’ credit risk exposure. On the other hand, however, this situation delays the process of the economy reverting to a path of growth. An example of this are the liquidity problems experienced by corporates. Greater bank financing could help these companies pull through difficult times. However, when it is impossible to access funds in order to refinance an increase in past due receivables (since the banks are reining in the supply of credit), interim liquidity problems may in time pose the risk of companies failing.

46 A situation of information asymmetry exists where the parties to a transaction do not have the same knowledge of its possible consequences. The loan market is a model example of this, since the party applying for a loan has much more extensive knowledge of their own financial situation and future repayment capacity than the lending bank, which in these circumstances will seek to compensate for the credit risk it assumes by putting a higher price on the loan.

47 This does not apply to housing loans, which were of higher quality than average lending in the period under review, with the result that rates on these, including the risk premiums, were lower.

48 Hurlin, Ch., Kierzenkowski, R., Credit Market Disequilibrium in Poland: Can We Find What We Expect? Non-Stationarity and the “Min” Condition, William Davidson Institute Working Paper no. 581, 2003 (see also Hurlin, Ch., Kierzenkowski, R., “A Theoretical and Empirical Assessment of the Bank Lending Channel and Loan Market Disequilibrium in Poland”, in Materialy i Studia no. 22, National Bank of Poland, Warsaw, 2002).

The methodology applied in the study cited above was based on the simultaneous modelling of both sides of the loan market, i.e., supply and demand. Where there are dislocations in the operation of a given market (in this case, a situation of credit rationing), the price set on that market does not balance supply and demand. In these circumstances, the volume of transactions observed is equivalent to the smaller of the two. The utilisation in this empirical study of the specific factors impacting both sides of the market made it possible to estimate a time series of the probability of supply exceeding demand (or vice versa) at any given point. If, at a given moment, demand is greater than supply (and thus also greater than the volume of transactions on the market), it can be said that credit rationing is taking place.

49 Cf. Assessment of the financial condition of companies in 2002, with particular focus on monetary and credit issues – Summary report, National Bank of Poland Department of Statistics, July 2003, p. 22.
The restriction of access to loans over the last two years has been accompanied by an increase in the share of Treasury securities in bank asset portfolios (cf. Table 3.7). Aside from the smaller risk involved, an additional incentive for banks to purchase Treasuries has been their slightly higher effective yield compared to corporate loans (cf. Fig. 3.11). The rising proportion of Treasuries in bank assets has played a dual role. Firstly, these securities were a source of relatively greater effective income (especially when account is taken of the increased value of fixed-coupon Treasury bonds). Secondly, they reduced the volume of risk-weighted assets in the banks’ balance sheets (thereby impacting the risk-based capital ratio).

**Corporate securities**

The significance of corporate securities in bank balance sheets in the period under consideration was much less than that of loans. In December 2002, outstanding loans to corporates amounted to 203.1bn zloty, representing 43.4% of total assets. By contrast, the corporate debt securities held by the banks had a value of 3.2bn zloty, which constituted 0.7% of

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**Table 3.7**

Changes in asset mix

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<tbody>
<tr>
<td>Claims outstanding as proportion of total assets</td>
<td>43.8</td>
<td>42.3</td>
<td>43.3</td>
</tr>
<tr>
<td>Securities as proportion of total assets</td>
<td>22.1</td>
<td>20.4</td>
<td>22.5</td>
</tr>
<tr>
<td>of which: T-bonds</td>
<td>6.4</td>
<td>6.4</td>
<td>9.3</td>
</tr>
<tr>
<td>T-bills</td>
<td>2.5</td>
<td>3.8</td>
<td>4.9</td>
</tr>
<tr>
<td>NBP money market bills</td>
<td>4.7</td>
<td>3.0</td>
<td>1.5</td>
</tr>
</tbody>
</table>

NB: Assets net of specific provisions and valuation allowances.
Source: NBP.

**Figure 3.11**

Comparison of effective yield on loans and Treasuries, 2002

NB:
(i) The following definitions of income were employed to calculate the effective yield: (a) in the case of loans, income constitutes interest income and fee income on loans and advances, adjusted by net charges to specific provisions; (b) in the case of Treasuries, income constitutes interest income and net trading gains.
(ii) Loans represent those extended to non-financial customers and general government.
Source: NBP.

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50 Effective yield is taken to mean the ratio of income realised on loans or securities to the value of loans extended or securities held.
3.2. Market risk

Market risk involves the potential for loss ensuing from adverse movements in the price of financial instruments held by the bank. The principal types of market risk are FX risk, interest rate risk, equity price risk, and property price risk.

*FX operations and FX risk*

The FX risk assumed by banks, i.e., the potential for losses being incurred as a result of exchange rate movements, is related to any mismatch, in particular currencies, between a bank’s assets and commitments to buy on the one hand, and its liabilities and commitments to sell on the other (this mismatch generates an “open FX position”).

A bank’s FX exposure, representing the amount that could generate losses, can be measured in various ways. Figure 3.12 shows the components of the FX positions of the banking sector as a whole. The chart indicates that banks have been long in their balance sheet and exchange-rate indexed positions (i.e., have had an excess of foreign currency assets over foreign currency liabilities), while offsetting this by holding short off balance sheet positions (i.e., an excess of foreign currency deliverable over foreign currency receivable). The banks’ open balance sheet and

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51 Changes in the value of held-to-maturity debt securities are taken to the banks’ expense through charges to valuation allowances, held against “a permanent diminution in value”.

52 There is no definite sequence of cause and effect here. A bank may have a surplus of foreign currency assets over foreign currency liabilities (e.g., due to a large volume of loans originated in, or indexed against, foreign currencies), and then close out this position using off balance sheet instruments. Alternatively, a bank may enter into derivatives transactions (e.g., FX swaps) that result in an inflow of foreign currency assets with an offsetting off balance sheet position.
off balance sheet positions have been rising steadily since 1999. It was only in the second half of 2002 that this tendency ebbed somewhat. This was linked to the weakening of the zloty and profit-taking by the banks via the shortening of their long positions, and also to reduced customer demand for foreign currency assets. The banks’ net positions, determining the scale of their FX exposure, have constantly remained low.

The large significance of foreign exchange positions within banking sector assets was maintained throughout the years 2001–2002, due, among other things, to foreign currency loans and exchange-rate indexed loans, and to placements at banks abroad (cf. Table 3.8). Almost one quarter of all bank assets were denominated in foreign currencies. The banks sought to counterbalance these foreign currency assets with an appropriate volume of foreign currency liabilities and off balance sheet hedge transactions. For this reason, open FX positions were small (less than 0.5% of total assets) and did not represent a more serious source of risk. This is confirmed by simulations of FX Value at Risk (VaR) for the banking sector, which depicts the loss that could be incurred on FX positions, where the probability of this value being overshot is no more than 1% (cf.

Table 3.8
Foreign currency assets & liabilities, and the overall net FX position, as a proportion of total assets (%)

<table>
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<tr>
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<tbody>
<tr>
<td>Foreign currency assets¹, of which:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– due from non-financial customers (loans)</td>
<td>9.4 (3.6)</td>
<td>10.1 (2.1)</td>
<td>11.4 (1.8)</td>
</tr>
<tr>
<td>– due from financial institutions (placements)</td>
<td>10.2 (79.8)</td>
<td>11.7 (79.9)</td>
<td>9.1 (78)</td>
</tr>
<tr>
<td>Foreign currency liabilities, of which:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– due to non-financial customers (deposits)</td>
<td>10.4 (6.1)</td>
<td>11.3 (4.9)</td>
<td>10.7 (5.1)</td>
</tr>
<tr>
<td>– Overall net position²</td>
<td>0.45</td>
<td>0.36</td>
<td>0.29</td>
</tr>
</tbody>
</table>

¹ Gross.
² The higher in absolute terms of either the sum of all net long or the sum of all net short positions in particular currencies.

NB: Figures in parentheses represent the share of loans to non-residents in total foreign currency loans, the share of placements at non-resident institutions in total foreign currency placements, and the share of deposits taken from non-residents in total foreign currency deposits.

Source: NBP

Figure 3.13
Movements in zloty exchange rates

Source: NBP.
The total FX VaR for all banks at year end 2002 stood at 70m zloty, equivalent to 0.2% of the regulatory capital of the banking sector and 2.4% of the net earnings generated that year.

The significance of potential unexpected losses arising from FX risk varied for particular banks, one reason being the differences in the size of their exposures. The FX exposures (overall net

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53 The VaR number, calculated on the basis of a bank’s open positions in particular currencies, represents a measure of that bank’s FX risk exposure which factors in the correlations in exchange rates between individual foreign currencies.
positions) of most banks were minor, equivalent to no more than 2% of capital. Only in the case of two small banks did this exposure correspond to over 20% of capital. In any case, all the banks holding open FX positions had VaR numbers that represented a very small percentage of their regulatory capital (cf. Fig. 3.15). The differences between banks in terms of the relative importance of their FX VaR declined in the second half of 2002. At year end, the median value of VaR in the banking sector did not exceed 0.05% of regulatory capital.

Value at Risk is calculated for the direct FX risk stemming from the banks holding open positions in particular currencies. However, it is difficult to estimate the entire risk to a bank posed by movements in exchange rates. This is because exchange rate movements can also affect the quality of loans granted in foreign currencies or those indexed to foreign currencies. Thus, losses may be generated due to a deterioration in borrowers’ capacity to repay the bank in a situation of zloty depreciation. Meanwhile, the FX risk arising directly from bank positions did not constitute a serious threat either to the earnings and capital of the whole banking sector, or to those of individual banks.

**Interest rate risk**

Interest rate risk is a function of the very nature of core banking business. Banks generally take deposits for relatively short maturities, while extending loans for longer maturities. In addition, the rate structure of a bank’s assets and liabilities may well differ in terms of items that are fixed or floating.

It should be underlined that banks are capable of protecting themselves against interest rate risk. In practice, however, banks do not eradicate this risk entirely. Completely hedging interest rate risk could prove too expensive. At the same time, risk-taking opens the way to profits, should interest rates move in the direction anticipated by the bank. Thus, the speculative motive can underlie the assumption of risk. In recent years, there have been two trends particularly

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54 In 2002, claims with a maturity of up to one year totalled 192.9bn zloty, or 45.7% of total bank claims, while liabilities maturing within one year amounted to 263.9bn zloty, representing 95.1% of total bank liabilities (these figures refer to operations with non-financial customers).
conditioning interest rate movements. Firstly, the trend for rates to fall along the entire length of the yield curve. Secondly, the tendency for the differential between short- and long-term rates to narrow over time (cf. Figs. 3.16 & 3.17). The resultant lowering and flattening of the yield curve pointed to expectations of rate cuts by the Monetary Policy Council, one reason for this being declining inflation expectations (cf. Fig. 2.6). The fall in interest rates was mirrored in rising prices for fixed-rate securities. Foreseeing this course of events, the banks took on interest rate risk. In these circumstances, this constituted rational behaviour, since the likelihood of rates coming down was much greater than that of them going up.

In the 1990s, there were two factors concurrently impacting the composition of bank balance sheets in terms of fixed- and floating-rate products. On the one hand, there was no customer demand for fixed-rate products, while on the other hand, the banks sought to avoid the risk associated with the inflexibility of fixed-rate instruments in an environment where nominal rates were subject to considerable volatility. The upshot was that, at the time, the banks offered products at floating rates. As inflation progressively stabilised, yielding a relative stabilisation of interest rates, an increasing array of fixed-rate instruments began to appear in bank balance sheets. The relative weight of Treasury securities rose within total assets, which was also connected with the growing borrowing requirements of general government and the larger supply of these instruments. Growing demand from personal customers has meant that an increasingly important part in the product range on offer from the banks is played by fixed-rate deposits and more sophisticated instruments that include a fixed-rate component, such as time deposits with a guaranteed minimum rate of return.

From mid-2001 to the end of 2002, there were considerable changes in the position and shape of the yield curve (cf. Fig. 3.17). The fall in market interest rates and downward shift along the whole curve was something the markets expected. Where banks held long positions in fixed-income securities, the movements in the yield curve seen in 2002 acted to their advantage, since the paper they were holding rose in price. However, for banks with a different maturity structure of assets and liabilities, the possibility of a change in the shape of the yield curve could have been a major source of risk. The conclusion from the above is that movements in the yield curve have in recent times been a significant element of interest rate risk and could have substantially affected the operating conditions of Polish banks, despite the decline in interest rates that was in this respect

Figure 3.17
Changes in yield curve, 2001–2002

![Figure 3.17](image-url)

Source: NBP.
generally favourable. On the other hand, the steep drop in rates, particularly at the short end of the curve, furnished the banks with an opportunity to carry out asymmetric adjustments in their pricing of deposits and loans. This was expressed in a swifter decrease in rates on deposits than on loans.\(^5\)

\(^{5}\) This issue is discussed in more detail in *Inflation Report, 2002*, NBP, Warsaw, 2003.
One method of analysing the risk exposure of banks arising from open FX positions and repricing gaps is scenario analysis. This involves making assumptions as to the direction and scope of changes in particular market parameters. A drawback in this method is that it fails to factor in linkages (correlations) between variables. For example, if a decline in nominal interest rates results in a softening of nominal exchange rates, these two events cannot be considered independent of each other.

In the research presented, a similar approach has been employed to analyse the banks’ exposure to interest rate risk. However, the method applied takes account of the relationships between market variables, and is thus analogous to the Value at Risk approach. In the most general terms, the method involves estimating the size of the loss that might be taken against capital as a result of interest rate risk, where the probability of such a loss being exceeded is no greater than a certain level (in our case, 1%). This loss is then applied as a deduction from the capital base and risk-based capital ratio. Were risk-based capital, as adjusted by such a loss, to fall below 8% at a given bank, this would mean that there was a probability of over 1% that losses issuing from interest rate risk could necessitate the institution of rehabilitation measures, and were these to prove successful, might cause the failure of that bank.

Due to the symmetrical impact of market parameters on a bank’s assets and liabilities, a key factor in the analysis is the level of net interest-earning assets (or net earning assets, NEA) in particular maturity bands. Net earning assets, in złoty and in foreign currency, respectively, are defined as the difference between those assets (less provisions) and liabilities which have a fair value contingent on the level of interest rates. The assumption made here is that both interest-earning assets and interest-bearing liabilities are all fixed-rate instruments. In this case, the procedure presented below allows a determination of the losses against capital taken on the bank’s portfolio. Where some interest-earning assets and interest-bearing liabilities are fixed and others are floating, the result obtained is equivalent to the total loss incurred, understood as the sum of losses against capital taken on a fixed-rate securities portfolio and the discounted decrease in interest receivable on a floating-rate securities portfolio.

For a given movement in interest rates, the change in the market value of the bank’s portfolio is calculated as follows:

Box 3.1. Interest rate Value at Risk

Figure 3.20
Distribution of risk-based capital ratios following loss on interest rate risk

The lower bound of the shaded area represents the first quartile of the distribution, while the upper bound represents the third quartile.
Source: NBP.
Banking sector stability

The question that therefore arises is how large the banks’ exposure is to interest rate risk, and whether the scale of this exposure might not constitute a threat to the banking sector in the event of exceptional developments on financial markets. The analyses conducted at the NBP (outlined in Box 3.1) indicate that the relevant operations of the banks do not give rise to substantial risk. Even were extreme events to occur in parallel on both the money market and the FX market, the great majority of banks would have sufficient capital to absorb any losses incurred. On the one hand, this demonstrates that the banks are pursuing relatively conservative policies and are not assuming excessive risk, while on the other it shows that they are well capitalised, allowing them to sustain possible losses. Figures 3.18 and 3.19 portray the range of loss arising from interest rate risk in terms of bank capital and changes in risk-based capital ratios, where the probability of such loss being exceeded is no greater than 1%. This value was then deducted from the capital base, and a new risk-based capital ratio calculated.

Compared to the corresponding periods of 2001, the year 2002 saw a decrease both in the size of the banks’ potential losses arising from interest rate risk and in the dispersion of the distribution within the banking sector. This signifies that most banks have been assuming a similar, relatively small level of risk in relation to their capital base.

Another factor reducing the banks’ exposure to interest rate risk has also been the development of derivative instruments used to hedge against the risk of volatility in short-term rates (i.e., forward rate agreements) and long-term rates (interest rate swaps). Each year sees a growing number of banks actively trading on the markets for both instruments.

**Equity price risk**

Banks are exposed to the risk of adverse movements in securities prices either where these securities represent a substantial portion of assets, or where the market suffers a collapse in prices. An example of the latter situation is provided by the repercussions of the slump in US share prices in 2001. The year 2002 brought a further slide in share prices on global markets. The Dow Jones fell 17.5% and the DAX plunged 44%. Warsaw’s WIG 20 index edged down only 2.7%. Nonetheless, this performance was worse than the market in Prague, where the PX 50 climbed 16.8%, or in Hungary, where prices rose 8.5%.

\[ \Delta PV = NEA_{uco} \cdot Duration \cdot \delta z_{uco} + NEA_{uz} \cdot Duration \cdot \delta z_{uz} \]

where \( \delta z_{uco} \) and \( \delta z_{uz} \) represent the vectors of movements in zloty interest rates and in foreign currency interest rates, respectively. The calculations employ a simplified breakdown of foreign currency items into dollars and euros.

The duration factors for particular maturity bands were adopted in line with the recommendations of the Basle Committee concerning the design of market risk models, with modifications to incorporate the specific nature of the Polish banking sector. The breakdown of foreign currency assets and liabilities into those expressed in dollars and in euros corresponds to the average proportions for the whole banking sector.

The analysis was performed by the Monte Carlo method. The values of \( \delta z_{uco} \) and \( \delta z_{uz} \) were sampled randomly 10,000 times using a multidimensional normal distribution with a variance-covariance matrix derived from market data (monthly movements) taken from the year preceding the balance date used to capture the data on net earning assets. Next, the first percentile of changes in net earning assets was determined. This was taken to be the size of the loss on interest rate risk which had a probability of being overshot during a one-month holding period of no greater than 1%. This value was then deducted from the capital base, and a new risk-based capital ratio calculated.

\[ \text{The repricing gap for any given time period represents the difference between the assets and liabilities repricing in that period.} \]
At year end 2002, the equities (issued by Polish residents) admitted or not admitted to public trading represented 0.68% and 0.66% of bank securities portfolios, respectively\(^56\). This altogether corresponded to some 0.3% of the total assets of the banking sector. Equities issued by non-residents, denominated in foreign currencies and not admitted to public trading, constituted just 0.1% of total assets.

Given that equities account for an insubstantial part of total banking sector assets, the overall risk associated with equity holdings is not significant. Nevertheless, individual banks did incur serious losses in 2002 as a result of high-risk equity investments.

Movements in equity prices can potentially also impact the financial condition of banks via another channel, namely, the credit risk that arises due to badly-judged investments and the deterioration in the finances of bank customers that have taken out loans to finance share purchases. At year end 2002, the loans extended by Polish banks to fund purchases of equity securities amounted to 336.4m zloty, equivalent to a mere 0.07% of total banking sector assets. Again, the risk to the banks on this was small.

**Property price risk**

An analysis of international experience indicates that a significant threat to banking sector stability can be posed by banks assuming excessive exposures under loans to finance purchases of real property and by the injudicious valuation of properties taken as collateral. The banking crises that hit Norway and Sweden (peaking in 1990–93) and in Japan (1990–2002) were largely triggered by plummeting prices on property markets.

Adverse movements in property prices can affect the financial condition of banks in two ways. A loss of repayment capacity by borrowers in the construction industry may directly impact the level of irregular loans, which will be reflected in a fall in bank earnings due to the need to establish the requisite specific provisions. The worsening financial situation of construction firms (symptomised by the difficulties being experienced even by large and well-known companies, and by the persisting downtrend in construction output\(^57\)) has played a significant part in increasing the credit risk of the banks (cf. Table 3.2, showing the quality of large exposures by section of activity)\(^58\).

The second channel through which falling property prices can weaken the condition of banks is via the value of security taken. A very substantial part of the loan security taken by banks currently consists in mortgage collateral. Easier access to property lending may strengthen demand, and

<table>
<thead>
<tr>
<th>Table 3.9</th>
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<tbody>
<tr>
<td>Property lending, growth and share in total loans to non-financial customers (%)</td>
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<tbody>
<tr>
<td>Share of property loans in total claims on non-financial customers</td>
<td>7.4</td>
<td>6.7</td>
<td>7.1</td>
<td>8.3</td>
<td>10.3</td>
<td>14.2</td>
</tr>
<tr>
<td>Annual nominal growth in property loans</td>
<td>12.2</td>
<td>15.1</td>
<td>32.3</td>
<td>37.0</td>
<td>33.1</td>
<td>41.9</td>
</tr>
</tbody>
</table>

\(^{56}\) The equities referred to in this section of the Report substantially represent shares in public limited companies.

\(^{57}\) At the end of 2002, construction output stood at 91.4% of the previous year’s level (Biuletyn statystyczny GUS [GUS Statistical Bulletin]).

\(^{58}\) GUS figures for 2002 indicate that, of over 1,900 construction firms surveyed, a huge 36% were trading at a loss. Further, the net profits of those that closed the year 2002 with positive earnings were on average 20% lower than in 2001.
thereby push up property prices. Rising property prices result in collateral values going up, thereby fueling an even larger increase in property loans. Should property prices then drop, collateral values may prove insufficient to support the obligations of the borrowers in full. In addition, the property market is characterised by low liquidity, meaning that the liquidation of collateral in the event of non-payment may be a lengthy and costly process.

The hazards involved in accepting property as loan collateral stem from difficulties in valuation. There is no centralised data base in Poland containing information on property prices and qualitative attributes that would allow precise collateral appraisals. As a result, banks are compelled to make use of their own fragmentary data bases. In order to facilitate bank collateral valuations, the Polish Banking Association has decided to establish an integrated national Registration System for Properties and Transaction Prices\(^59\).

The volume of property lending conducted by banks operating in Poland has been expanding steadily, as evidenced by the high growth rate and the increasing share of housing loans in total claims on non-financial customers (cf. Table 3.9).

Most developers report an increase in the number of property transactions where the buyers avail themselves of bank finance. On the secondary market, one in every two customers takes out a loan, borrowing on average around 50% of the purchase price. There are also a growing number of buyers purchasing newly-built homes, putting up just 20% equity\(^60\).

An analysis of the Polish property market indicates that the risks described above have little likelihood of materialising.

At year end 2002, the loans extended to persons for the purchase of residential property represented some 70% of total property lending. At the end of 2001, property loans to persons had amounted to 14bn zloty, whereas by year end 2002 this figure had risen to 20.3bn.

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\(^{59}\) At the end of May 2002, standards for the scope of information to be contained in a future property data base were developed by a Working Group that included representatives of those banks with the greatest experience and involvement in housing finance. In September 2002, the Executive Board of the Polish Banking Association approved the target concept of the Registration System for Properties and Transaction Prices.

\(^{60}\) See the information provided on the PolandProperty portal site (www.polandproperty.pl).
larger involvement of the banks in this segment of the market makes it apparent that the factor most affecting their financial condition will be movements in residential property prices. House prices are currently 25%–30% lower than at the end of the 1990s, which is largely attributable to a fall in demand\textsuperscript{61}. This decline in house prices may depress the value of mortgage collateral. However, banks are allowed to deduct from their provisioning base a maximum of 50% of the value of mortgages on real property (see section 3.5). In any case, housing market analysts believe that house prices will have risen 10%–15% by the end of 2003, and price increases may be even faster in 2004 due to the projected rise in VAT on building materials\textsuperscript{62}.

In the longer time frame, the reduction in interest rates ensuing from the stabilisation of inflation, coupled with an improvement in household finances, may have a major effect in raising house prices, especially if the large volume of unsatisfied demand persists.

The exposure of Polish banks under property lending to corporates stood at 7.1bn zloty at the end of 2001, and in 2002 rose to 9.8bn. As in the case of house prices, office rentals have been trending downwards. In June 2002, prices for the cheapest class A premises, in the best locations, stood at €26 per sq. metre\textsuperscript{63}. By December, the same premises could be rented for just €24, a decrease of 8%. Rentals came down even more for class B premises in Warsaw than for class A\textsuperscript{64}. Prices for the least attractive class B office space, in city-centre locations, dropped 25% from €20 to €15 per sq. metre\textsuperscript{65}. Despite this decline, rental prices for offices in Warsaw remain 50% higher than for comparable premises in Prague or Budapest.

In view of the substantial increase in the office space being offered for let in 2003, a further decrease in rentals is to be expected\textsuperscript{66}.

### 3.3. Liquidity

The liquidity of the banks, i.e., their capacity to meet their current obligations, constitutes an important factor conditioning their financial stability. Temporary problems in satisfying creditors can lead to forced sales of assets at below-market prices, generating losses to the bank concerned. In extreme situations, rumours of payment distress at a given bank can even spark a run on deposits.

To maintain liquidity, a bank needs to match the maturities of its assets and liabilities. The stability of funding is also essential. Household and corporate deposits are considered to represent core sources of funding, while deposits taken from financial institutions, including other banks, are regarded as more volatile. Using deposits from financial institutions to support a large part of a bank’s operations is a dangerous practice due to the high unit value of these deposits and their short maturities. The withdrawal of a large deposit can pose payment difficulties to the bank and necessitate forced asset sales. Deposits taken from non-financial customers, particularly from

\textsuperscript{61} Ibid.

\textsuperscript{62} A 7% rate of VAT on newly-built homes was introduced in 2003, and this is to remain in force until 2007. Should VAT on building materials go up from 7% to 22% in 2004, as is being suggested, this will increase prices not only for those materials, but for properties as well.

\textsuperscript{63} Class A office space is in buildings of a high standard, in the most prestigious locations. These are new or relatively new premises marked by modern architecture, using glass, aluminium and marble. These buildings have the highest rentals. Occupants usually comprise banks, insurance companies, law firms and international corporations.

\textsuperscript{64} A 7% rate of VAT on newly-built homes was introduced in 2003, and this is to remain in force until 2007. Should VAT on building materials go up from 7% to 22% in 2004, as is being suggested, this will increase prices not only for those materials, but for properties as well.

\textsuperscript{65} Class B office space is generally defined by being in buildings that lack at least one of the features characterising class A premises. This may be the lack of a prestigious central location, or of a good standard of fittings and fixtures. New class B buildings are situated in districts adjoining the city centre, and along the principal transport arteries, exit routes from the city or roads to the airport.

\textsuperscript{66} Taken from Eastern Europe Real Estate Market Report, Ober-haus real estate agency, January 2003 (www.ober-haus.com).

\textsuperscript{67} CB Richard Ellis, Rynek nieruchomosci w Polsce [The Polish property market], December 2002 (www.cbrichardellis.com.pl).
households and from small and medium enterprises, do not present the same dangers, one reason being the small amounts involved. A large part of these are “sticky”, remaining at the banks for longer than their contractual maturities.

The share of deposits from financial institutions in bank balance sheets steadied from the second half of 2001 onwards. Foreign currency deposits placed by non-resident financial institutions constituted around 4% of total liabilities and capital, while those taken in zloty and in
foreign currency from domestic financial institutions represented 8% and 2%, respectively. Total deposits from financial institutions accounted for some 14% of liabilities and capital. The relative decrease in these deposits within total bank funding compared to the preceding period can be traced to slower lending growth relative to the latter half of the 1990s, when the rapid increase in loan outstandings prompted banks to go to the interbank market for funding (cf. Fig. 3.22). This decline in amounts due to financial institutions should be considered positive. It makes for greater stability at the banks and means that their sources of financing are more predictable.

In 2002, the banks maintained a high stock of liquid assets, i.e., those that can immediately be applied to satisfy the claims of creditors. The liquid stock stood at some 33%–37% of total assets. Thus, liquid assets exceeded liabilities to institutional depositors. At the same time, these assets were equivalent to around 35% of borrowed funds (cf. Fig. 3.23).

Another ratio that provides information on the liquidity position of the banks is loans to deposits. This ratio has been trending upwards since the beginning of the 1990s (cf. Fig. 3.24). From the end of 2001 onwards, lower interest rates and announcements that income from interest on bank deposits was to be subject to tax were accompanied by slower deposit growth, with nominal deposit balances in fact shrinking towards the end of 2002. At the same time, growth in bank loans stabilised at a low level (3.2%). The decline in deposits and sluggish growth in lending resulted in a gradual increase in loans to deposits, reaching 71% in December 2002. This ratio is still within the limits considered safe. A deterioration in bank liquidity would be signalled by the ratio of loans to deposits moving significantly closer to 100%, or where loans exceeded deposits. The danger thus posed, as loans become increasingly funded by deposits, is that the latter have relatively shorter maturities. This would necessitate greater reliance on other sources of funding, generally with even shorter maturities.

The year 2002 saw a gradual increase in the current liquidity gap, i.e., the asset/liability mismatch in the shortest maturity band, out to one month67. Contributing factors here were a

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67 What is referred to here is not a classic liquidity gap, since the excess of liabilities over assets has been calculated without breaking down assets and liabilities by currency. In practice, a long position in a given currency can be offset by a short position in zloty (or vice versa). A constraint here may be the liquidity of the interbank FX market. Another weakness of the calculation presented is that all assets have been taken, regardless of credit quality, which lowers the actual shortfall in assets. In reality, assets classified irregular cannot be used to counterbalance liabilities.
contraction in holdings of the shortest-dated securities (up to one month), a decrease in cash and balances at the NBP, and an increase in demand deposits\(^68\). At the same time, there was also a reduction in holdings of longer-dated Treasuries, which can be pledged against lombard facilities (cf. Table 3.10)\(^69\). This means that liquidity management was presenting a greater challenge to the banks.

The satisfactory liquidity reported by the largest banks (accounting for 71% of banking sector assets) is confirmed by the assessments of the Moody’s rating agency (cf. Table 3.11). The agency’s short-term deposit ratings, which evaluate the banks’ capacity to repay their deposit obligations on schedule, are positive. The capacity of seven banks to meet their short-term obligations is considered very strong, while that of three banks is deemed strong. All of the ratings concerned are investment grade.

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Table 3.10
Assets & liabilities maturing in up to one month, and eligible securities (billion zloty)

<table>
<thead>
<tr>
<th></th>
<th>03.2002</th>
<th>06.2002</th>
<th>09.2002</th>
<th>12.2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excess of liabilities over assets (gap)</td>
<td>55.5</td>
<td>64.7</td>
<td>70.4</td>
<td>81.2</td>
</tr>
<tr>
<td>Eligible securities (available to close liquidity gap)(^1)</td>
<td>66.9</td>
<td>72.5</td>
<td>70.8</td>
<td>70.3</td>
</tr>
</tbody>
</table>

\(^1\) Treasury securities with maturities longer than one month.
NB: Figures also include securities assigned to cover obligations under the deposit guarantee scheme of the Bank Guarantee Fund. These cannot be used for purposes of liquidity management.
Source: NBP.

Table 3.11
Moody’s short-term deposit ratings for ten largest Polish banks

<table>
<thead>
<tr>
<th>Bank</th>
<th>Short-term rating</th>
<th>Date rating assigned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank Handlowy w Warszawie SA</td>
<td>P—1</td>
<td>14.01.2003</td>
</tr>
<tr>
<td>Bank Pekao SA</td>
<td>P—1</td>
<td>14.01.2003</td>
</tr>
<tr>
<td>BZ WBK SA</td>
<td>P—1</td>
<td>14.01.2003</td>
</tr>
<tr>
<td>ING Bank Slaski SA</td>
<td>P—1</td>
<td>14.01.2003</td>
</tr>
<tr>
<td>Kredyt Bank SA</td>
<td>P—1</td>
<td>14.01.2003</td>
</tr>
<tr>
<td>PKO BP SA</td>
<td>P—1</td>
<td>14.01.2003</td>
</tr>
<tr>
<td>Bank Millennium SA</td>
<td>P—1</td>
<td>14.01.2003</td>
</tr>
<tr>
<td>BGŻ SA</td>
<td>P—2</td>
<td>14.01.2003</td>
</tr>
<tr>
<td>BPH PBK SA</td>
<td>P—2</td>
<td>06.2003</td>
</tr>
<tr>
<td>BRE Bank SA</td>
<td>P—2</td>
<td>06.2003</td>
</tr>
</tbody>
</table>

NB: Banks rated P-1 (Prime-1) offer "a very strong capacity for timely payment" of short-term deposit obligations, while those rated P-2 (Prime-2) show "a strong capacity".
Source: www.moodys.eu.

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\(^{68}\) Bank liquidity is conditioned not only by balance sheet items, but also by transactions booked off the balance sheet, such as contingent liabilities (e.g., undrawn lines of credit or guarantees extended) and derivatives transactions (e.g., FX swaps). However, off balance sheet items are not included in the liquidity gap. Doing so would require making too many assumptions as to the amounts of off balance sheet instruments, which could significantly alter the picture of the banking industry’s liquidity position.

\(^{69}\) Lombard loans cannot exceed a factor of 0.8 of the nominal value of the Treasury securities pledged (cf. Resolution no. 12/2000 of the NBP Management Board adopting “Regulations for bank refinancing by the National Bank of Poland under lombard facilities”, March 17, 2000, para. 3.1 (as published in Dziennik Urzędowy NBP [the Official Gazette of the NBP] no. 5/2000, item 8).
3.4. Earnings

The generation of positive earnings by the banking sector is of major importance to the sector’s stability. A bank’s profits can be used to strengthen its capital. In turn, stronger capital gives a bank greater potential for expansion and a greater capacity for loss absorption.

The slackening of economic growth and financial difficulties faced by bank customers contributed to a deterioration in the earnings recorded by the banking industry in 2002 (cf. Chapter 2). During the year, most banks were compelled to revise their original profit forecasts. In all, 52 commercial banks projected positive pre-tax earnings in 2002, while 7 envisaged a loss. As it turned out, at year end 43 banks posted a profit, whereas 16 incurred a loss. The total pre-tax earnings reported by the commercial banks were equivalent to no more than half their original profit targets.

A comparison of banking sector earnings in the years 2000–2001 with initial projections shows that in previous years there was also a poor record of performance against plan. The overall pre-tax earnings of the banks in those years represented 66% and 89% of their forecasts, respectively. However, the scale of the discrepancy between performance and plan in 2002 testifies to the banks failing to make provision for the relatively adverse conditions in which they had to operate. Many banks were caught by surprise by the development of the business environment in 2002. Their earnings plans for the year were based on overoptimistic assumptions concerning certain macro variables, including an acceleration of economic growth that would allow an expansion of operations. Growth proved lower, which played its part in the substantial fall in bank profits.

The weaker earnings of the banking sector in 2002 were also to some extent related to factors internal to the banks themselves. A comparison of the earnings performance of particular banks with their financial plans for the year indicates that some of these institutions managed to achieve their earnings targets, while 16 banks surpassed them. This demonstrates that the difficulties encountered by the remaining banks not only stemmed from the harsher economic climate, but were also rooted in their own operating activity. Sound earnings were generally achieved by retail banks (especially those that collaborated closely with loan brokers), and by car finance banks.

Table 3.12
Selected performance indicators (%)

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Net interest income¹/total assets (NIM)</td>
<td>4.26</td>
<td>3.38</td>
<td>3.30</td>
</tr>
<tr>
<td>2. Net non-interest income²/total assets</td>
<td>2.73</td>
<td>3.05</td>
<td>2.86</td>
</tr>
<tr>
<td>3. Net operating income/total assets (1+2)</td>
<td>6.99</td>
<td>6.43</td>
<td>6.15</td>
</tr>
<tr>
<td>4. General expense³/total assets</td>
<td>4.36</td>
<td>3.94</td>
<td>3.90</td>
</tr>
<tr>
<td>5. Net charges to provisions/total assets</td>
<td>1.11</td>
<td>1.12</td>
<td>1.29</td>
</tr>
<tr>
<td>6. Pre-tax earnings/total assets (3-4-5)</td>
<td>1.51</td>
<td>1.36</td>
<td>0.96</td>
</tr>
<tr>
<td>7. Taxes/total assets</td>
<td>0.45</td>
<td>0.38</td>
<td>0.35</td>
</tr>
<tr>
<td>8. Net earnings/total assets (ROA)</td>
<td>1.07</td>
<td>0.99</td>
<td>0.60</td>
</tr>
<tr>
<td>9. Net earnings/ core capital⁴ (ROE)</td>
<td>15.3</td>
<td>13.4</td>
<td>7.30</td>
</tr>
</tbody>
</table>

¹ Interest income less interest expense.
² Includes net fee income, income on equities and other variable-income financial instruments, net trading gains on financial operations, and net FX gains.
³ The term “general expense” in this section of the Report includes depreciation and amortisation charges.
⁴ Core capital taken to comprise authorised share capital (minus non-paid-up allotted capital), the capital surplus, reserve capital, the general risk reserve, and prior period earnings.
Source: NBP.

N a t i o n a l B a n k o f P o l a n d
The net earnings of the banks in 2002 amounted to 2.9bn zloty, a decrease of 36.3% on 2001. Profitability ratios (return on assets and on equity) have also been trending downwards in recent years. Return on assets (ROA) fell from 0.99% in December 2001 to 0.6% in December 2002. Return on equity (ROE) slid from 13.4% to 7.3% (cf. Table 3.12).

The tendency for profitability ratios to decline is not the sole preserve of the Polish banking industry. It is also seen in the countries of the European Union, where ROE dipped 1.5 points between year end 2001 and mid-2002, to stand at 12.3%. Meanwhile, ROA slipped 0.1 points from year end 2000 to 2001, coming to 0.44%. According to a report on EU banking sector stability\(^70\), the key causes of reduced bank profitability in the EU include – as in Poland – the weakening of economic growth and the deterioration in the financial condition of bank customers. An additional factor has been the slump in stock market indices in Europe and elsewhere. These developments have led to an increase in loan loss provisioning and a decrease in bank earnings.

### Financial efficiency

An analysis of positional measures of the distribution of ROA (the median, and first and third quartiles) indicates a systematic decrease in banking sector profits as of 1997 (cf. Fig. 3.25). The central reason for this have been the changes in the operating environment of the banks over the last few years. Falling interest rates and waning loan growth have resulted in a decline in the banks’ net interest income.

In the period under analysis, the median value of ROA has exhibited a downward trend, with the exception of 2002, when the median showed a small increase. The decline in the median has also been accompanied by a lowering of the third and first quartiles. A gradual widening of the differential between these quartiles has been observable since the end of 2000, attesting to a greater variation in bank profitability. This supports the hypothesis that the earnings of particular banks have been impacted not only by external factors, but also by internal ones, i.e., by shortcomings in the implementation of the strategies adopted and in risk management\(^71\).

### Footnotes

\(^70\) EU Banking Sector Stability, ECB, February 2003, p. 7.

\(^71\) See the subsection of the present Report entitled "Differentiation in loan portfolio quality among the commercial banks", which discusses the influence of risk management on loan portfolio quality.
The differentiation in the earnings achieved by particular banks in 2002 is illustrated by the charts presenting the distributions of commercial banks and of their assets in terms of ROA and ROE (cf. Figs. 3.26–3.29). At year end 2002, 17% of total commercial bank assets were held by 16 banks showing a negative ROA, while 35.8% belonged to 22 banks with an ROA that was positive, yet less than 1%. Only 23 banks, accounting for 47.2% of total assets, could report good or very good performance, as evidenced by an ROA of over 1%.

An analysis of the distributions of banks and of their assets by ROA allows the conclusion to be drawn that small banks attained a higher return on assets than large ones. This is mainly related to the specific nature of the operations conducted by some of these banks. Thus, the banks recording the highest return on assets included ones that were highly specialised, such as car finance banks, and also retail banks that enjoyed capital support from foreign shareholders. Car
finance banks market their products via dealerships, which markedly reduces the expense of maintaining branch offices. Similarly, certain retail banks (e.g., GE Capital Bank) operate through a very limited office network, offering their services through the outlets of agents in supermarkets.

Another measure, ROE, also points to large differences in the capacity of banks to generate profits. At the end of 2002, ROE was negative at 17 banks. In the period under consideration, 36.6% of commercial bank assets were held by 28 institutions that had an ROE ranging from 0%-10%, while 39% belonged to 13 banks with an ROE of over 15%.

72 The fact that the number of banks reporting negative ROE is greater than that showing negative ROA, and reporting a loss, is due to Bank Czestochowa. This bank generated a profit, yet had negative capital.
An analysis of the distributions of banks and of their assets by ROA and ROE supports the proposition that large banks have relatively little capital relative to their scale of operations, meaning that they are more highly leveraged. Thanks to this, they are able to achieve higher than average levels of ROE.

The basic source of capital growth for the banks were appropriations from earnings. In the longer term, a deterioration in these earnings may have a negative impact on the banks’ capital position. In the period under review, their capacity to generate profits was satisfactory, yet there is a need for further capital accumulation if the banks wish to continue expanding their operations.

**Net interest margins**

An important measure of bank profitability is the net interest margin (NIM)\textsuperscript{73}. As is the case in the European Union, the banks in Poland have been observing a tendency for the NIM to fall, although it is still twice as high in Poland as in the EU (cf. Table 3.12)\textsuperscript{74}. The decline in the NIM is chiefly linked to the lowering of nominal interest rates as inflation has come down.

The reduction in nominal interest rates in 2002 can be estimated to have cut net interest income by 0.7bn zloty, which represents the combined effect of a loss of interest income on loans amounting to around 3bn and the potential benefit of lower interest expense on deposits, a saving of some 2.3bn\textsuperscript{75}.

Net interest income also fell due to the deterioration in the quality of corporate and household loans. The effect of this can be put at some 1.28bn zloty, with 1.14bn representing the notional loss on zloty-denominated loans and some 0.14bn being the loss on foreign currency lending.

The banks have attempted to respond to the gradual increase in irregular loans, which reduces the effective yield on their loan portfolios, with one measure taken being to make asymmetric adjustments to lending and deposit rates as market rates come down. This pricing policy allowed the banks to curb the decline in net interest income in 2002. The estimated benefits accruing from the smaller decrease in lending rates (mainly on consumer loans) came to some 0.4bn zloty, while sharper cuts in deposit rates than those occurring on the interbank market allowed the banks to save somewhere around 3.5bn. The total gain thus amounted to some 3.9bn zloty\textsuperscript{76}.

**Table 3.13**

<table>
<thead>
<tr>
<th>Structure of banking sector income (%)</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net interest income</td>
<td>60.9</td>
<td>52.5</td>
<td>53.6</td>
</tr>
<tr>
<td>Net non-interest income</td>
<td>39.1</td>
<td>47.5</td>
<td>46.4</td>
</tr>
</tbody>
</table>

Source: NBP.

\textsuperscript{73} The net interest margin is defined as the ratio of net interest income to annual average total assets.

\textsuperscript{74} In 2001, the average net interest margin in the EU countries stood at 1.51%. Cf. *EU Banking Sector Stability*, ECB, February 2003.

\textsuperscript{75} This estimate was performed with respect to the banks’ claims on non-financial customers classified satisfactory and special mention. The loss of interest income was calculated as the difference between interest receivable at the rates obtaining in December 2001 and the actual performance reported in the banks’ profit and loss accounts. Similarly, the potential gain resulting from lower deposit rates was taken to be the difference between the actual level of interest expense and the expense the banks would have incurred had interest rates not declined. Income and expense on foreign currency instruments was calculated by reference to the actual interest rates applied in 2002 (using the twelve-month average).

\textsuperscript{76} The amounts obtained by the commercial banks thanks to the pricing policies they adopted (with regard to both loans and deposits) were estimated by calculating the difference between movements in NBP interest rates and those in average lending and deposit rates at the banks, and multiplying the results by the volume of bank claims and liabilities. The calculations were carried out separately for corporates and households. In the case of liabilities, demand and time deposits were also treated separately.
The downward trend in the NIM in 2002 was not altered by the NBP redeeming from the banks its own bonds, indexed to inflation\textsuperscript{77}. In March, the National Bank retired bonds to a value of 7.8bn zloty, while the banks were issued with new 10-year bonds at higher yields, based on those earned on 52-week T-bills. This operation boosted the banks’ interest income by some 400m zloty. It is estimated that the redemption of the remaining 40% of NBP bonds in 2003 will increase the banks’ interest income by around 200m zloty. The greatest benefits will be derived by the big deposit banks, which hold the largest amounts of this paper.

\textsuperscript{77} Inflation-indexed NBP bonds were taken up by the commercial banks in connection with a significant reduction in reserve requirements in 1999. The banks acquired 13bn zloty of these bonds.
The increase seen in net non-interest income as a proportion of net operating income demonstrates that the banks have been attempting to use this source of earnings to make up for the slide in net interest income, doing so primarily by raising the level of fees and commission (cf. Table 3.13). However, the ratio of net non-interest income to assets began to flag from mid-2002 (cf. Fig. 3.30). The contraction of net interest and non-interest income, coupled with the persistence of high general expense, will compel the banks to seek new sources of earnings. In order to obtain these earnings and diversify their product range, it can be expected that banks will increasingly be extending their trust activity and the distribution of insurance products, in

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A decrease in net interest income, offset by net non-interest income, has also been visible in the European Union countries. This is evidenced by the growing share of net non-interest income in total income. In 1995, this stood at 32%, yet by 2001 it had risen to 42.3%. Cf. EU Banks’ Income Structure, April 2000, p. 5, and EU Banking Sector Stability, ECB, February 2003, Table 1 (p. 7).
collaboration with the relevant specialised institutions. In an effort to diversify their earnings streams, some banks are currently entering into alliances with investment fund management companies or insurers (where these institutions are not already part of the same group).

**Specific provisioning**

The principal reasons for the decrease in banking sector earnings in 2002 compared to the previous year was worsening loan portfolio quality, which resulted in an increasing share of net operating income being absorbed by net charges to provisions (the net movement resulting from charges to provisions and the release of provisions)\(^9\). In 2002, net provisioning charges came to 6.1bn zloty, with the net volume of specific provisioning against irregular loans amounting to 5.5bn of this. Charges to specific provisions against irregular loans totalled 15.6bn zloty, up 22% on 2001.

The deterioration in asset quality at the banks is also apparent in looking at net charges to specific provisions as a proportion of total assets (less provisions). In 2002, this ratio stood at 1.29%, whereas in 2001 it had been 1.12%\(^{10}\).

An analysis of the distribution of banks in terms of the volume of net charges to provisions and the size of their assets points to an improvement in loan portfolio quality at the smallest banks. At medium-sized banks, net provisioning charges are higher than the industry average as a proportion of total assets, reflecting lower asset quality (cf. Figs. 3.32 & 3.33).

**General expense**

General expense (including depreciation and amortisation charges) is relatively high at commercial banks in Poland. Judged in terms of total banking sector assets, general expense is more than double the average in the European Union\(^{11}\). The greater weight of general expense at banks in Poland compared to those in other countries is traceable, among other things, to large personnel expense resulting from high staffing levels\(^{12}\). Another significant cause of higher general expense at Polish banks is greater deposit fragmentation, which hoists the cost of customer service.

At the end of 2002, the ratio of general expense to total assets in Poland came to 3.9%, whereas in 2001 it had been 3.94% (cf. Table 3.12). The downtrend in this ratio comes as the effect of the banks taking measures to trim this expense item. Cost cutting has been aided by the computerisation of the banks, by investment in the development of more cost-efficient services and modern methods of product marketing, by outsourcing, and by staff downsizing. Banking sector employment dropped 7% from year end 2000 to year end 2002, to stand at 158.8 thousand. This tendency for the banks to reduce staffing, observable since 1999, did not initially involve a decrease in the number of branch offices. It was not until 2002 that the number of offices came down.

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The tendencies presented above show that banks in Poland are facing similar challenges to banks in more developed market economies. These challenges include a decline in net interest margins and in net interest income, traditionally the core earnings stream. The weaker earnings

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\(^9\) The provisions referred to here include specific provisions against irregular assets and against consumer loans classified satisfactory and special mention, valuation provisions (allowances) against securities, fixed assets, assets in course of construction and intangibles, and provisions against off balance sheet commitments.

\(^{10}\) In the EU, net charges to specific loan loss provisions and general provisions were equivalent to 0.3% of total assets in 2001. The corresponding ratio stood at 1.9% in the Czech Republic that year, and 1% in Hungary. Cf. EU Banking Sector Stability, ECB, February 2003, p. 9, and Stability and Structure of Financial Systems in CECS, NBP, May 2002, Statistical Annex.

\(^{11}\) At year end 2001, the ratio of general expense to average assets stood at 1.71% in the EU, 2.13% in the Czech Republic, 2.45% in Slovakia, and 3.7% in Hungary. Cf. EU Banking Sector Stability, ECB, February 2003, Table 1 (p. 7), and Stability and Structure of Financial Systems in CECS, NBP, May 2002, Statistical Annex.

\(^{12}\) At year end 2001, personnel expense was equivalent to 0.88% of average assets in the EU (op. cit.), while in Poland it stood at 3.5%.
Table 3.14
Banking sector capital and average risk-based capital ratio

<table>
<thead>
<tr>
<th></th>
<th>12.2001(^3)</th>
<th>06.2002</th>
<th>12.2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulatory capital(^1) (million zloty)</td>
<td>33,982</td>
<td>36,220</td>
<td>36,537</td>
</tr>
<tr>
<td>of which: core capital(^2)</td>
<td>34,503</td>
<td>33,871</td>
<td>33,482</td>
</tr>
<tr>
<td>Risk-based capital ratio (%)</td>
<td>14.2</td>
<td>13.0</td>
<td>13.7</td>
</tr>
<tr>
<td>Tier 1 capital ratio (%)</td>
<td>13.2</td>
<td>12.1</td>
<td>12.6</td>
</tr>
</tbody>
</table>

\(^1\) Regulatory capital consists in core and supplementary capital, less any shortfall in specific provisions and other regulatory deductions, plus trading book ancillary capital.
\(^2\) Core capital less regulatory deductions from core capital (2001), and less deductions from core and supplementary capital (2002).
\(^3\) Prior to March 2002, the risk-based capital calculation was limited solely to credit risk.

Source: NBP.

Box 3.2. Quantitative Impact Study 3 (QIS3) in Poland

Under the procedures adopted by the Basle Committee for the introduction of a new capital adequacy framework, the process of implementing the New Capital Accord involves a wide range of consultation with the banking community. So far, two full versions of the proposed changes to the capital adequacy regime have been published (the consultative papers “CP1”, 1999, and “CP2”, 2001), which have been the subject of discussions within the banking sector. In addition, the effect on the banking industry of the proposed changes has been investigated (through Quantitative Impact Studies, QIS). The Commission for Banking Supervision, having conducted a wide-ranging discussion with the banking and auditing communities, forwarded its comments to the Basle Committee. However, Poland did not participate in the previous impact studies (QIS1, QIS2 and QIS2a).

An initial simulation carried out independently by the General Inspectorate of Banking Supervision (GINB) in 2001 indicated the possibility of the average risk-based capital ratio in the Polish banking industry falling by somewhere between 2.2 and 5.4 points (depending on the variant adopted), which would signify a material deterioration in the image presented of the capitalisation of the Polish banking sector (which in recent years has reported risk-based capital of around 12% – 13%).

Prior to the publication of the third consultative document on the New Capital Accord, the Basle Committee conducted a survey to estimate the effect on the banks of the changes being envisaged. This survey, entitled “Quantitative Impact Study 3” (QIS3), encompassed a total of some 500 banks in the G-10 countries, the EU member states outside the G-10, certain EU candidate countries (the Czech Republic, Hungary, Malta, Poland, Slovakia, Slovenia and Turkey), and also other countries.

Findings of Quantitative Impact Study 3 (QIS3) in Poland\(^1\)

1. The Study was performed at the turn of 2002 and 2003, using data for 2002\(^2\).
2. The Study involved twelve banks, together accounting for 80% of banking sector assets.
3. Eight banks chose to apply the standardised approach\(^1\), while four chose the standardised and internal ratings-based approaches\(^3\).
4. It should be noted that the Study findings may be subject to a certain degree of error and that the picture of the banking sector portrayed only constitutes an approximation.
5. Findings:
   • Applying the new risk assessment measures, the average risk-based capital ratio under the standardised approach comes down some 1.2 points.
   • No bank included in the survey was at threat of its risk-based capital falling below 8%.
   • The decline in risk-based capital stemmed from an increase in capital requirements of around 9.7%, which was the end result of an increase of some 12% due to the newly-introduced operational risk requirement, less a decrease of around 2.3% on the credit risk requirement.
   • The change in capital requirements against key portfolios under the standardised approach, together with an outline of the principal factors at play, is given in the table below.
The standardised approach produced much better results than the internal ratings-based (IRB) approach. Under the first, the risk-based capital ratio came down some 1.2 points, whereas under the second it dropped around 4 points. The relationship between the results obtained applying the standardised and IRB approaches is the opposite of that seen in most highly-developed countries. This situation can be explained by the influence of three factors, namely: (1) the higher level of credit risk in Poland than on highly-developed markets; (2) the shortcomings in the models applied by the banks, compelling them to adopt very conservative methodological assumptions; (3) the fact that model parameters were based on data from the “trough” of the business cycle, rather than on average values for the cycle as a whole (the data used by the banks mainly referred to the years 1999–2001).

The relatively good findings of QIS3 (compared to earlier estimates) can be ascribed to the following:

- the decrease in risk weights for retail exposures (down to 75%) and those secured by mortgages (to 35%),
- a definition of retail exposures that favours Polish banks (exposures below €1m, with a weight in the portfolio of less than 0.02%),
- the adoption by GINB (on a working basis) of preferential weights for claims on the Treasury and the selection of “Option 2” for claims on banks (whereby the basic risk weight for an unrated bank is 50%, regardless of the weight assigned to the sovereign of incorporation),
- the decrease in risk weights for past due claims (to 50% and 100%) which are covered by high specific provisions (above 20% and 50% of the gross value of the exposure),
- the introduction of a measurement of operational risk for traditional lines of banking business that is based on asset size rather than gross income.

The aggregated data indicate that the results for the Polish banking sector place it in the middle of the group of EU candidate countries and are close to those obtained for South Korea, Brazil or South Africa.

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1 The proposed changes in the regulatory capital regime allow for a certain degree of national discretion by supervisors in establishing the detailed treatment of some issues, to take account of the specifics of the local banking system. To carry out the QIS3 survey properly, in adopting the relevant procedures GINB attempted to ensure that they were as favourable as possible for the domestic banking sector, and at the same time in accordance with present regulations.

2 Most banks used data as at June 30 or March 31, 2002, two banks used October 31, 2002, and one bank used November 30, 2002.

3 Exposures are risk weighted in line with external ratings or by reference to the particular portfolio which they represent.

4 Exposures are risk weighted in line with the probability of default derived from an internal credit risk model (an internal rating).
recorded since 1996 are currently inducing the Polish banking industry to take steps to cut costs and raise efficiency.

3.5. Capital positions and loss-absorbing capacity

Banks are required to maintain their capital base at a level that ensures the safety of deposits taken and enables the absorption of unforeseen losses. The prudential regulations issued by the Commission for Banking Supervision detail the minimum capital requirements applicable to banks\(^8^3\). In the first and second year of operations, a bank’s capital base (regulatory capital) must be no less than 15% or 12%, respectively, of the sum total of its capital requirements against particular risks\(^8^4\), while in subsequent years it must be no less than 8%.

Capital requirements are calculated separately for market risk (including interest rate risk and FX risk), credit risk, and other risks. The market risk capital requirement at Polish banks is relatively minor. In December 2002, this represented 7.1% of the overall capital requirement. This stems from the limited exposure to interest rate risk in the trading book and the small size of open FX positions\(^8^5\). The key factor in determining the regulatory minimum level of capital is the requirement against a bank’s credit risk exposure. In December 2002, this constituted 89.4% of the overall capital requirement.

The regulatory capital that serves as the basis for calculating a bank’s risk-based capital ratio essentially consists in core capital and supplementary capital (the latter includes subordinated debt and the revaluation reserve). However, supplementary capital is only available for loss absorption to a limited degree\(^8^6\). For this reason, central importance in practical terms should be attached to the risk-based capital ratio as derived solely from core capital (the Tier 1 ratio).

In December 2002, risk-based capital within the whole banking sector averaged 13.7%. The Tier 1 ratio, which takes account of core capital alone, i.e., the capital wholly attributable to the banks themselves, is just slightly lower (cf. Table 3.14). This signifies that the capital position of the Polish banking industry is sound. This conclusion is also borne out by the findings of “Quantitative Impact Study 3” (QIS3), designed to assess the consequences of the introduction of the New Basle Capital Accord for the risk-based capital of the banks (cf. Box 3.2).

At year end 2002, there were five commercial banks and ten cooperative ones reporting risk-based capital ratios under the minimum requirement of 8%. These included institutions that had been acquired by strongly capitalised banks, together with ones that were in the process of replenishing their capital, which had been depleted by losses incurred previously. Banking supervision has been taking a particular interest in these banks. The banks have been developing and implementing rehabilitation programmes approved by the Commission for Banking Supervision, or are involved in mergers with other banks. Within the banking sector as a whole, those banks failing to comply with the minimum risk-based capital requirement are of minor importance. In December 2002, the assets of the commercial banks with less than 8% risk-based capital constituted 1.4% of total banking

\(^8^3\) Resolution no. 5/2001 of the Commission for Banking Supervision on the scope and detailed procedures for determining capital requirements, December 12, 2001 (as published in Dziennik Uradowy NBP no. 22/2001, December 24, 2001).

\(^8^4\) Multiplied by 12.5.

\(^8^5\) The trading book comprises, among other things, proprietary operations performed for trading purposes, operations performed in acting as a financial intermediary on a wholesale financial market, repos and reverse repos, and other items, including those past due. The trading book does not include loans and advances, nor deposits. A detailed listing of the instruments taken to the trading book is set out in Resolution no. 5/2001 of the Commission for Banking Supervision.

\(^8^6\) Subordinated debt is repayable on expiry of the relevant agreement with the creditor concerned, and thus provides funding to the bank solely for the tenor of that agreement, while not granting the creditor any equity interest. In addition, in calculating capital adequacy, these liabilities are scaled down by 20% over each of the last five years of the agreement.
sector assets less provisions (cf. Figs. 3.34 & 3.35), while the corresponding ratio for the cooperative banks was 0.2%.

The level of the average risk-based capital ratio suggests that in 2002 the banks in Poland were capable of absorbing unforeseen losses and continuing to operate safely. The loss-absorbing capacity of the banking sector can be verified by applying simulation analyses based on various scenarios of a deterioration in loan portfolio quality.
To this end, two simulation analyses were performed, as follows:

- an estimation of the proportion of loans classified *satisfactory* in December 2002 that would have to migrate to *doubtful* for the risk-based capital of the banks to fall to 8%\(^7\);
• an estimation of the risk-based capital ratio in the event of all loans classified *substandard* and *doubtful* in December 2002 migrating to loss.

The results of the first analysis are presented in Figure 3.36. The commercial banks are grouped here in terms of the percentage of the highest-quality loans (*satisfactory* classifications) that would have to migrate to *doubtful* for risk-based capital to drop to 8%. At the most weakly capitalised bank (relative to loan portfolio quality), it would be sufficient for some 5% of *satisfactory* loans to become downgraded to *doubtful*. Similarly, again interpreting the data presented in this chart, it can be concluded that were 30% of portfolios judged *satisfactory* in December 2002 to migrate to *doubtful*, then half of the 51 banks under analysis would have a risk-based capital ratio bordering on the regulatory minimum or below. It is worth noting that only 7 banks would approach the 8% mark were 7-10% of their portfolios to shift to *doubtful*. These banks together account for around 6.9% of banking sector assets. The simulation results thus confirm that the capital position of the commercial banks is adequate and ensures the safety of their operations.

This simulation of the banks’ capacity to absorb losses can be supplemented by information on the relative significance of particular banks within the industry as a whole. Figure 3.37 sets out the aggregate assets of the banks, as previously grouped in Figure 3.36. A comparison of the shapes obtained in the two charts shows that the best loss-absorbing capacity is exhibited by small banks, which can to some extent be traced to their shorter period of operation, and also by niche banks. Banks commencing operating activity generally take time to develop their customer portfolios, and in the initial phase of their operations the value of loans originated is small in comparison to capital. Further, these banks are required to maintain their risk-based capital at a higher level than 8% in the first years of activity, which is an additional constraint on the size of their lending.

The dominance of small banks in the group displaying the highest loss-absorbing capacity is demonstrated by the small increases in aggregate assets on the right-hand side of the chart. This is also indicated by the fact that the assets of half of the 51 banks analysed, situated at under 30% on the horizontal axis, constitute 58% of total banking sector assets. Most medium-sized and large banks (excepting two, accounting for 16% of banking sector assets) are to be found on the horizontal axis between 10% and 35%. This implies that they are capable of operating safely without additional capital infusions from their shareholders, even if they were to be required to withstand the losses ensuing from 10% of their *satisfactory* classifications being downgraded to *doubtful* and the attendant specific provisioning required by prudential regulations.

The second simulation analysis (cf. Fig. 3.38) was intended to establish the movement in the banks’ risk-based capital ratios in the event of an abrupt increase in the severity of irregular classifications. The calculations were based on the assumption that all claims on non-financial customers classified *substandard* and *doubtful* migrated to loss, entailing a need to provision against the entire amount unsecured. This scenario was designed to determine the maximum shortfall in specific provisions that could be engendered by the present level of irregular classifications. The sole limitation on the specific provisioning required in these circumstances would be the amount of eligible security (Scenario 1).

To reflect the possible difficulties and expense associated with liquidating the security taken, Scenarios 2 and 3 additionally factored in situations where the banks would be compelled to establish higher provisions due to a decline in the value of the security eligible for deduction from the provisioning base (a decrease of 25% and 50%, respectively). These scenarios correspond to crisis situations in which a deterioration in loan portfolio quality at the banks is accompanied by a slump in market prices for the collateral that the banks would be attempting to dispose of, allied with serious problems at guarantor undertakings.

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88 This is equivalent to incurring losses corresponding to 5% of the portfolio classified *satisfactory*. 
However, prudential regulations contain provisions that restrict the vulnerability of the banks to a fall in collateral values when attempts are made to collect on an irregular loan. In the case of mortgage collateral, banks are allowed to deduct from the provisioning base only 50% of the value of the property as set by a professional appraiser, or 60% of the mortgage lending value. This implies that, where a borrower defaults and the bank forecloses on the property, yet specific provisions have previously been established against the whole unsecured portion of the loan, the bank will incur a loss not covered by specific provisions solely in the event of the selling price being below 50% of the value set by the appraiser. With respect to the scenarios projected in the analysis, the loss of 50% of collateral values would mean the sale of the properties concerned at a price equivalent to 25% of the valuations accepted in establishing the original provisions. However, this would signify a collapse of the property market comparable to the crises suffered in South-East Asia, which in the current environment is hardly likely (see the earlier section on "Property price risk").

Banks are additionally required to conduct regular collateral reviews. Should collateral values have declined, they are required to provision using a higher base. This is intended to give earlier
consideration to potential loan losses. The regulatory safeguards cited above mean that the analyses performed should be treated as extreme-case scenarios, with a very low probability of occurrence.

Figure 3.38 presents the results of a simulation of average risk-based capital at the ten largest commercial banks, which hold 71% of banking sector assets.

These results indicate that the capitalisation of the largest banks is sufficiently high for them to be able to absorb serious losses and continue operating safely. In addition, risk-based capital was trending upwards throughout the period analysed, pointing to an improvement in bank safety. Despite the high average ratio in the group, one bank, representing less than 5% of banking sector assets, would report a risk-based capital ratio below the regulatory minimum even under Scenarios 1 and 2. One point of interest is the widening difference between Scenario 1, which does not factor in a fall in collateral values and Scenarios 2 and 3; this illustrates the increasing tendency for the use of collateral as a vehicle for risk mitigation.

As in the case of short-term ratings, the Moody’s agency has assigned favourable long-term ratings in assessing the banks’ capacity to repay their deposit obligations on schedule. Long-term repayment capacity is considered good for seven banks, and adequate for three (cf. Table 3.15).

Table 3.15
Moody’s long-term deposit ratings for ten largest Polish banks

<table>
<thead>
<tr>
<th>Bank</th>
<th>Long-term rating</th>
<th>Date rating assigned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank Handlowy w Warszawie SA</td>
<td>A2</td>
<td>14.01.2003</td>
</tr>
<tr>
<td>Bank Pekao SA</td>
<td>A2</td>
<td>14.01.2003</td>
</tr>
<tr>
<td>BZ WBK SA</td>
<td>A2</td>
<td>14.01.2003</td>
</tr>
<tr>
<td>ING Bank Slaski SA</td>
<td>A2</td>
<td>14.01.2003</td>
</tr>
<tr>
<td>Kredyt Bank SA</td>
<td>A2</td>
<td>14.01.2003</td>
</tr>
<tr>
<td>PKO BP SA</td>
<td>A2</td>
<td>14.01.2003</td>
</tr>
<tr>
<td>Bank Millennium SA</td>
<td>A3</td>
<td>14.01.2003</td>
</tr>
<tr>
<td>BGŻ SA</td>
<td>Baa1</td>
<td>14.01.2003</td>
</tr>
<tr>
<td>BPH PBK SA</td>
<td>Baa1</td>
<td>06.2003</td>
</tr>
<tr>
<td>BRE Bank SA</td>
<td>Baa1</td>
<td>06.2003</td>
</tr>
</tbody>
</table>

NB: A bank rated A is considered to offer “good credit quality”; however, elements may be present that suggest a susceptibility to impairment over the long term. A bank rated Baa is considered to offer “adequate credit quality”; however, certain protective elements may be lacking or may be characteristically unreliable over any great length of time. The numerical modifiers indicate a bank’s position within its letter-rated category; thus, a “1” indicates that the bank is in the higher end of its category, a “2” indicates a mid-range ranking, and a “3” indicates that the bank is in the lower end of its category.

Source: www.moodys.eu.
4.1. Impact of non-bank financial institutions on banking sector stability

The stability of the banks is of fundamental significance for the stability of the whole financial system. At the same time, banking sector stability is substantially affected by non-bank financial institutions (NBFIs). Thus, it becomes important to analyse the risks present at those institutions and the channels by which they impact the financial condition of the banks.

The institutions included in the sector of NBFIs are involved in a variety of activity. As a result, the role they play within the financial system also differs. Some of them are subject to diverse regulatory and organisational controls that limit the risks they assume, one purpose of this being to safeguard the interests of their customers, including banks.

In assessing the influence of NBFIs on banks, four basic channels can be distinguished, namely:

- the risk of changes in the valuation of the equity interests held by banks in NBFIs (through membership in the same groups of companies or trade investments),
- the price risk associated with financial assets,
- “direct” and “indirect” credit risk,
- liquidity risk.

Given the diversity of the NBFI sector, the level of influence exerted via the above channels varies greatly and depends on the specific nature of particular types of institution.

Affiliations via financial groups/other corporate groups

Groups of companies where the parent undertaking is a bank usually include such NBFIs as investment funds, pension funds, brokerage houses, lease finance companies, insurers and loan brokers. The establishment of these groups helps expand distribution networks, allowing an extension of the range of products on offer and an increase in sources of income. However, it also creates a parallel danger of loss. The generation of losses by subsidiary undertakings impacts the financial condition of the parent bank, thereby affecting its stability. In extreme cases, this could lead to the failure of the entire group and undermine financial system stability.

Price risk associated with financial assets (market risk)

Movements in securities prices affect the value of the financial assets carried on bank balance sheets. A slump in prices on financial markets and selloff of paper by NBFIs – under the pressure of liquidity problems, for example, or a sudden need to meet certain obligations – may result in losses at banks and a reduction in capital. This risk would be particularly dangerous were it to involve a large NBFI or were some precipitate event to affect the condition of all institutions in a given sector.

Direct credit risk

NBFIs may be the direct obligors of banks due to the loans they have taken out. The causes of the credit risk that thus arises include the possibility of the obligor’s creditworthiness having been assessed incorrectly or of inadequate monitoring of loan quality following origination. Should the
borrower be incapable of making their payments, the bank will have to downgrade the loan and possibly provision against it in order to cushion against potential losses.

**Indirect credit risk**

A deterioration in the financial situation of an NBFI, and especially its failure, has important consequences for that institution’s customers. If these customers have also borrowed at banks, then the worsening condition of the NBFI will indirectly worsen the condition of the banks in question. An example of the risks at issue is the aftermath of the terrorist attack on the USA on September 11, 2001. The insurance companies that suffered large losses as a result of the attack then carried out a drastic increase in aviation premiums, which not only affected the condition of the airline companies, but also of the banks financing them. Another example are lease finance companies. Lessees may find themselves in a difficult situation should their leasing company fail during the life of a lease agreement. The trustee in bankruptcy could seize the assets under lease to secure repayment of the company’s creditors. Those using the leased assets would then lose equipment needed to carry on their business, perhaps also losing their repayment capacity and being unable to service their bank loans. The banks would then need to perform additional provisioning and possibly undertake enforced collection measures (as in the case of direct lending distress).

**Liquidity risk**

NBFIs are also deposit customers at the banks, holding their spare funds there. There is a risk that, in critical situations, these institutions might be forced to pull their deposits. Early deposit withdrawals mean the bank has to repay the relevant funds immediately. Where the amounts involved are considerable, this could have a negative impact on the bank’s liquidity.

In addition to the above channels, the banks are faced with the risk that the activity of particular NBFIs will pose a competitive threat. In itself, competition is a positive thing, inducing higher efficiency. However, if the competitive playing field is not level (because of the legal environment, for example), dislocations can ensue. One example of non-uniform business conditions is the privileged position occupied in Germany by the savings banks (Sparkassen) and the

<table>
<thead>
<tr>
<th>Table 4.1</th>
<th>Potential channels of NBFI influence on banking sector</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Channels of influence</strong></td>
<td></td>
</tr>
<tr>
<td>Insurers</td>
<td>Pension funds</td>
</tr>
<tr>
<td>Affiliations via corporate groups</td>
<td>✓</td>
</tr>
<tr>
<td>Market risk</td>
<td>✓</td>
</tr>
<tr>
<td>Direct credit risk</td>
<td>✓</td>
</tr>
<tr>
<td>Indirect credit risk</td>
<td>✓</td>
</tr>
<tr>
<td>Liquidity risk</td>
<td>✓</td>
</tr>
<tr>
<td>Other</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Systemic safeguards</strong></td>
<td></td>
</tr>
<tr>
<td>Supervisory agency</td>
<td>✓</td>
</tr>
<tr>
<td>Other organisational arrangements</td>
<td>✓</td>
</tr>
</tbody>
</table>

* Supervision exercised differently than banking supervision, with a self-regulatory function being played by the National Association of Credit Unions, their directing body.
banks of the federal regions (Landesbanken). In Poland, an example of the unequal treatment accorded to undertakings operating in a similar field are the regulations governing the activity of the banks and of credit unions.

Not all of the mechanisms listed above apply to the impact on the banks of each individual subsector of NBFIs. Table 4.1 presents a sectoral analysis of the potential influence on the banks wielded by NBFIs via particular channels. It should be emphasised that this does not give a judgement on the likelihood of a particular risk crystallising in Polish conditions. The impact of particular risks on bank operations, their magnitude and the possibility of a situation emerging that could jeopardise banking sector stability are all discussed in the following sections of the Report.

4.2. Insurance undertakings

**Business characteristics**

Insurance undertakings are divided into those offering *life insurance* (division I) and those offering *non-life insurance*, i.e., “other personal and property insurance” (division II). This distinction stems from the divergent nature of these two forms of insurance business. Non-life insurance contracts have shorter time horizons than life contracts. In addition, the risk insured under life cover is of a different character, which impacts the way technical provisions are established and calculated. Because of these dissimilarities, the management of a life insurance undertaking differs from that of a non-life undertaking. For this reason, there is a statutory prohibition on the simultaneous conduct of life and non-life business by one undertaking.

The principal source of income to insurers are the premiums they collect. Following the deduction of expense items (such as acquisition expenses and the fixed expense of account administration), this premium income is invested in financial instruments specified by statute. On the liability side of the balance sheet, the insurer establishes technical provisions to cover potential liabilities. In the initial phase of development, before an insurance undertaking builds up a suitably large sales network, the basic source of earnings is investment income. In addition to funds obtained from policyholders (a portion of the premiums paid), investments are also financed by the insurer’s capital. In terms of expense, major items include settlement of claims, and also administrative expenses and acquisition expenses.

Due to the specific nature of their business, insurers are exposed to certain risks that are not present at other financial institutions, including insurance underwriting risk (actuarial risk) and catastrophic risk.

Underwriting risk is the risk of an incorrect estimation of premium rates relative to the potential size of claims incurred. Errors in calculating premiums may result in underpricing of the premiums charged to the insured or in underprovisioning by the insurer. Underwriting risk constitutes the primary threat to the financial stability of an insurance undertaking.

Catastrophic risk involves an unexpected increase in the incidence or scale of events triggering the payment of claims. In this event, the provisions established could prove too small in relation to the volume of claims. To avoid exposure to excessive catastrophic risk, insurance undertakings may cede this risk to reinsurers by concluding appropriate reinsurance contracts.

In addition to the risk categories mentioned above, specific to insurance companies, these undertakings are also exposed to the investment risk associated with investing the funds collected.
through premiums on financial markets. While it is true that insurers hold a substantial part of the securities they purchase in long-term investment portfolios, which safeguards them against the consequences of a temporary decline in securities prices, the need to settle claims entails a danger that losses in the carrying value of securities may have to be realised. Insurers could avoid losses of this kind if they were able to use derivatives. However, the regulations in force do not permit insurance companies to employ derivatives in order to hedge the value of assets covering provisions.

Impact of insurance activity on banking sector stability

The financial condition of insurers can affect the condition of banks via several channels.

A. Liquidity risk. Insurance undertakings hold deposits at the banks. The value of these deposits in Poland is estimated to be around 2bn zloty, which is equivalent to around 3%–4% of the total assets of the insurance industry, and some 0.4% of total bank liabilities. Since these amounts are not of major significance to either the insurers or the banks, the influence exerted by insurers on the banking sector through these relationships may be considered more of a potential issue for the future than a real concern today.

B. Contagion risk. This is related to common membership in financial groups. Should a large financial loss be sustained by an insurer belonging to a bancassurance group where a bank is the parent undertaking, this will lower the risk-based capital ratio of the parent bank. At the same time, any problems suffered by one of the affiliates in the group, e.g., an insurance company, may have an adverse effect on the perception of the bank, which could undermine confidence in the latter. A comparable contagion effect can also take place where the poor condition of a bank leads to a decline in confidence in an insurer.

C. Direct credit risk. This arises where a deterioration is witnessed in the condition of an insurer that has borrowed from a bank. In these circumstances, the reduced repayment capacity or creditworthiness of the insurer has a direct bearing on the condition of the bank providing finance. At year end 2002, the liabilities to the banks of the insurance industry represented less than 0.05% of total banking sector assets93. Given this, the risk of insurers having a negative impact on the banks via the credit channel can be considered insignificant.

D. Indirect credit risk. An example of this risk is furnished by the consequences of the terrorist attack on September 11, 2001. The heightened risk of insuring air travel resulted in insurers terminating existing contracts with carriers. The subsequent increase in the cost of aviation insurance worsened the financial condition of both the airlines and the banks financing them.

E. Market risk. In the event of the insurance industry suffering financial distress, insurers may be forced to sell off the financial assets they hold. If these are traded on markets where liquidity is thin, or if the contraction in portfolios is substantial, the attendant fall in asset prices could be considerable, which may have an indirect impact on the condition of the banks.

Systemic safeguards for the stability of insurance undertakings

Minimum guarantee fund and solvency margin

Insurance undertakings are institutions of public trust. Because of this, the legislators have made statutory provision for prudential standards that are designed to limit the risk assumed by insurers and to protect the interests of the insured. These standards require insurance undertakings to hold capital no less than the minimum guarantee fund or the solvency margin94.

93 The accounts published by insurance undertakings include an item titled “amounts due to credit institutions”. It may safely be assumed that these “credit institutions” constitute banks.
94 Capital represents the assets of the insurance undertaking net of those assigned to cover all foreseeable liabilities and of intangibles.
The *minimum guarantee fund* constitutes a predetermined amount (expressed in euros), which is contingent, among other factors, on:

- the legal status of the insurer (whether this is a public limited company, a mutual association, or a “small” mutual association),
- the type of risk underwritten, which in particular signifies that the level of the minimum guarantee fund differs depending on whether a given insurer conducts life or non-life business. As regards non-life insurance, the level of the minimum guarantee fund also depends on the group of business of the given insurer.\(^\text{95}\)

The *solvency margin* is determined on the basis of the level of premiums due, claims paid and provisions, and also of the risk underwritten. Figure 4.1 presents the distribution of insurers by capital coverage of solvency margins.

The figures shown indicate that, at year end 2002, three insurance undertakings had capital less than the solvency margin, with one non-life company reporting negative capital. To continue operations, these undertakings will be required to present, at the request of the supervisory authority, solvency restoration plans.

*Ammendments to Act on Insurance Activity*

In 2001, insurance undertakings were required to hold assets covering provisions less 50% of reinsurance cessions. As of the beginning of 2002, the Act on Insurance Activity was amended to include *stricter requirements*. As a result, insurers are now required to hold assets covering 100% of provisions irrespective of reinsurance cessions. This introduction of higher capital requirements (necessitating capital infusions in the case of some insurers) served to give greater protection to insurers’ liabilities towards policyholders.

**Figure 4.1**

*Capital coverage of solvency margin (%) (year end 2002)*

<table>
<thead>
<tr>
<th>Coverage Range</th>
<th>Life Insurers</th>
<th>Non-life Insurers</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤100%</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>101–200%</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>201–300%</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>301–400%</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>401–500%</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>≥501%</td>
<td>15</td>
<td>13</td>
</tr>
</tbody>
</table>

\(^\text{95}\) In life insurance, there are 5 groups of classes of business, namely: 1) life assurance; 2) marriage and birth assurance; 3) life assurance linked to investment funds; 4) permanent health insurance; and 5) accident and sickness insurance, where this is supplementary to the cover referred to in groups 1–4. In non-life insurance, there are 18 groups. These include, in particular, vehicle insurance, third-party liability insurance, insurance against natural forces, credit insurance, and insurance against miscellaneous financial loss.
Alongside the legal provisions designed to help ensure the solvency of insurance undertakings, another safeguard within the industry is the Insurance Guarantee Fund. One of the Fund’s responsibilities is to pay out indemnities and benefits in cases stipulated in the Act on Insurance Activity\(^{96}\). Where an insurance undertaking is declared bankrupt, the Fund is committed to settle 50% of the obligations arising on claims under third-party liability and life insurance cover, with the proviso that the amount payable is no greater than the zloty equivalent of 30,000, translated at the NBP mid-rate ruling on the day bankruptcy is declared.

Should the Fund’s resources fail to satisfy the claims made on it, the Minister of Finance, at the request of the supervisory authority, determines an additional percentage contribution to be made by the members of the guarantee scheme.

**Earnings of insurance undertakings**

A feature of the year 2002 was the surrender of unit-linked policies held at life insurance companies. Measured against gross premiums written, the funds thereby withdrawn from various companies ranged from the equivalent of 35% to almost 50%\(^{97}\).

The underlying causes of this were as follows:

- the insurance products in question were ill-suited to the needs and ongoing financial capacity of the customers concerned,
- policyholders were disenchanted with the return on their investments, which is attributable both to the decline in share prices, and also to a lack of understanding as to the nature of the insurance products they had bought.

The early redemption of unit-linked life policies did not represent a threat to systemic stability. This was because the insurance companies had previously established adequate provisions.

Following a surge in payments relative to premiums in the first months of 2002 (cf. Fig. 4.2), this ratio then improved as the redemption of unit-linked policies eased.

In non-life business, there was a pronounced reduction in growth in premiums. The prime reason for this was a decline in car sales. In the period under examination, car insurance premiums represented 65% of all premiums at non-life insurers.

The recession in the global economy affected the Polish insurance market only in an indirect way. However, it did have an adverse effect on the financial condition of foreign insurance companies (that are shareholders in Polish insurance undertakings) and reinsurers. This necessitated a scaling back of operating expenses, which induced greater cost discipline at Polish insurers as well. In addition, certain foreign shareholders in domestic insurance companies pulled out of Poland (the Swiss group Zurich, America’s Metropolitan Life, Germany’s Wüstenrot, and the Swedish group SEB).

The growth of the insurance market in the years 2001–2002 was less rapid than in previous years. This particularly applies to the non-life market, where the volume of premiums in the first and fourth quarters of 2002 was smaller than in the corresponding periods of 2001.

In view of the worsening situation on the insurance market in Poland and abroad, insurers were required to cut their operating expenses. Figure 4.4 clearly shows the decline in the ratio of operating expenses (taken as the sum of acquisition and administrative expenses) to premiums at life and non-life insurers.


\(^{97}\) In life insurance, and in non-life insurance where the term of liability is not fixed, gross premiums written represent the amount of insurance premiums due in the reporting period, regardless of whether this amount has been paid. In non-life insurance where the term of liability is fixed, the corresponding item constitutes the amount of premiums due for the entire term of liability under insurance contracts written during the reporting period, regardless of whether this amount has been paid. In the remaining part of this section, the term “premiums” shall be taken to mean gross premiums written.
Despite the slowdown in market growth, the non-life insurance sector reported a profit. The life insurance sector also showed a profit in the period under review, although a loss was incurred in the fourth quarter of 2001.

In 2002, the net earnings of insurance companies were higher than in 2001. In life business, positive earnings were mainly posted by five insurers, particularly by those that had the highest premium income and had been in operation the longest. Almost all the other life insurance undertakings recorded losses. In non-life insurance, some 89% of earnings were generated by the PZU SA company. Excluding the five largest companies by premiums written, the remaining non-life insurers either recorded a small profit or reported a loss, with the result that these firms together showed a loss of 13.1 m zloty (cf. Fig. 4.5).
Summary

The Polish insurance market expanded swiftly up until the year 2000. The years 2001–2002 then saw adverse developments caused by the overall slowdown in economic growth, i.e., the surrender of life policies and the decline in car sales. However, the Polish insurance industry began to adapt quickly to the tighter environment, cutting operating expenses and seeking new distribution channels.98 The financial difficulties encountered by the foreign shareholders of Polish insurers also affected the development of the Polish market. Several foreign institutions took the decision to withdraw from Poland.

98 Via collaboration with banks under bancassurance arrangements.
The global insurance industry has been going through a difficult period. This was sparked by a decline in stock market prices, in a situation where equities constituted a large part of insurance company investment portfolios. In addition, a large number of contracts concluded provided for guaranteed investment returns. Due to the downturn and losses on equity markets, insurance undertakings may in the future face problems in fulfilling the conditions stipulated in contracts of this type.

In an effort to increase their return on investment, insurers began to sell credit derivatives en masse. While these provide an opportunity for above-average rates of return, they also involve heightened risk.

The problems outlined above do not refer to Polish insurers, yet some foreign insurance companies are also shareholders in Polish ones, and their financial condition therefore has an indirect impact on the condition of the domestic insurance sector.

The problems affecting foreign insurance companies (losses on equity investments and increasing risk due to the sale of credit derivatives) bypassed their Polish counterparts. This was mainly because domestic insurers preferred to invest in instruments considered safe, with small utilisation of the investment limits on equities as a proportion of assets covering provisions.

The current problems on the Polish insurance market do not pose any systemic risk. The market continues to display large growth potential, and an improvement in the economy can therefore be expected to yield an improvement in the condition of insurance undertakings as well.

4.3. Open-ended pension funds

**Business characteristics**

Up to 1999, the pension system in Poland was organised on a redistributive pay-as-you-go (PAYG) basis. Those in employment passed over part of their earnings to the Social Insurance Board...
(ZUS)\(^9\), which used this ongoing revenue stream to finance pension benefits. In the event of a shortfall, ZUS was subsidised by central government. This system was very susceptible to the effects of demographic change. A growing number of pensioners, allied with an employed labour force that was becoming smaller and smaller, dictated a need for continual increases in contributions (in the space of twenty years, these contributions rose from 15.5% of earnings to 45% in 1998). These mounting contributions resulted in an increasing burden of non-wage payroll expense to employers. This, in turn, impacted the competitive position of Polish businesses, indirectly becoming one of the causes of high unemployment. The deterioration in the dependency ratio between the employed labour force and the number of pension beneficiaries threatened to trigger the insolvency of the pension system, with all the social, political and economic consequences this would entail.

Most OECD countries are grappling with similar problems. The scale of the fiscal burden generated by expenditure on pension benefits and the tendencies at work in this respect are illustrated by the figures given in Table 4.2.

Among the OECD countries, there are only three where the fiscal burden arising from pension liabilities may decrease over the next 33 years, i.e., Japan, Poland and Hungary. In the case of Poland and Hungary, this is the result of the pension system reforms that have been carried out.

### Table 4.2

#### Fiscal burden of pension expenditure (% GDP)

<table>
<thead>
<tr>
<th>Country</th>
<th>2000</th>
<th>2035</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>3.0</td>
<td>4.3</td>
</tr>
<tr>
<td>Austria</td>
<td>9.5</td>
<td>13.8</td>
</tr>
<tr>
<td>Belgium</td>
<td>8.8</td>
<td>12.4</td>
</tr>
<tr>
<td>Canada</td>
<td>5.1</td>
<td>10.1</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>7.8</td>
<td>12.4</td>
</tr>
<tr>
<td>Denmark</td>
<td>6.1</td>
<td>9.7</td>
</tr>
<tr>
<td>Finland</td>
<td>8.1</td>
<td>13.0</td>
</tr>
<tr>
<td>France</td>
<td>12.1</td>
<td>16.0</td>
</tr>
<tr>
<td>Germany</td>
<td>11.8</td>
<td>16.4</td>
</tr>
<tr>
<td>Holland</td>
<td>5.2</td>
<td>10.0</td>
</tr>
<tr>
<td>Hungary</td>
<td>6.0</td>
<td>5.3</td>
</tr>
<tr>
<td>Italy</td>
<td>14.2</td>
<td>15.9</td>
</tr>
<tr>
<td>Japan</td>
<td>7.9</td>
<td>7.5</td>
</tr>
<tr>
<td>Korea</td>
<td>2.1</td>
<td>9.4</td>
</tr>
<tr>
<td>New Zealand</td>
<td>4.8</td>
<td>10.0</td>
</tr>
<tr>
<td>Norway</td>
<td>4.9</td>
<td>11.8</td>
</tr>
<tr>
<td>Poland</td>
<td>10.8</td>
<td>7.5</td>
</tr>
<tr>
<td>Portugal</td>
<td>8.0</td>
<td>14.1</td>
</tr>
<tr>
<td>Spain</td>
<td>9.4</td>
<td>14.5</td>
</tr>
<tr>
<td>Sweden</td>
<td>9.2</td>
<td>11.4</td>
</tr>
<tr>
<td>UK</td>
<td>4.3</td>
<td>4.3</td>
</tr>
<tr>
<td>USA</td>
<td>4.4</td>
<td>6.4</td>
</tr>
<tr>
<td>OECD average(^1)</td>
<td>7.4</td>
<td>10.6</td>
</tr>
</tbody>
</table>

\(^1\) This average does not include countries for which information is unavailable, or Portugal, for which data comparability is poor.

Source: OECD.

\(^9\) This operation was performed by the employer, and the contributions thus transferred were considered a non-wage payroll expense rather than a component of earnings.
The new pension system is based on a different logic to the old one. Under the new system, pension contributions are placed on individual accounts. ZUS operates an account of this sort for every participant in the system, and the amount paid into this account is equivalent to 12.22% of earnings. Participants in the new system also have a second account, operated by an open-ended pension fund selected by each person themselves, and this is funded by the equivalent of 7.3% of earnings. The funds on account at ZUS represent no more than a book entry, since the money deposited there is applied to finance that institution’s ongoing liabilities. The balances on account at open-ended pension funds are managed by universal pension companies.

**Impact of pension fund activity on banking sector stability**

**Equity involvement of banks in pension companies**

The equity interests held by banks in pension companies allow them to diversify their earnings streams and achieve synergies by employing the same distribution channels for both their existing financial products and new ones (i.e., pension products).

At present, domestic banks hold stakes in 7 of the 16 universal pension companies in operation. At year end 2002, their combined shareholdings amounted to 194m zloty, which constituted 19% of the pension companies’ capital and 0.04% of total bank assets. Although this equity involvement in pension companies was not large from the banks’ perspective, their role in the new pension system is a substantial one.

The institutions holding equity in the pension companies (banks included) are legally obliged to top up their capital in a given company if the pension fund it manages records a rate of return that is lower than the “required minimum rate of return”.

As regards the risk of a pension company failing, a major impact on this in Polish conditions is exerted by external factors. At present, the pension fund industry is undergoing change primarily as a result of consolidations. Shifts from one fund to another by system participants do not have a significant effect on the structure of the market. Members of one pension fund seldom decide to change funds on their own initiative, and it is not commercially valid for the pension companies to market their products too aggressively because of the costs involved. In the longer time frame, more people will probably begin to “vote with their feet”, although this is not likely to involve sharp migrations, but will rather be a response to the differentiation in investment performance of various funds. The relatively stable institutional structure of the market and small likelihood of large top-up payments being necessary due to a failure to attain the required rate of return minimise the probability of pension companies going bankrupt.

Aside from the factors outlined above, the financial condition of the pension company sector is also affected by arrears in transfers from ZUS to the pension funds, which in 2002 amounted to almost 10bn zloty. The Government is working on a project to settle these obligations, together with the interest payable, by converting them into Treasury bonds. It would appear that this will not be a one-off payment but will be staggered over time, since the basic problem lies in identifying the people whose contributions are being paid and assigning these contributions to the appropriate funds. This situation is a source of significant risk to the pension companies, since there are no regulations that provide for these companies being compensated for the losses they incur due to their inability to collect fees for managing contributions that have not arrived at the pension funds, although they should have. Further, it is hard to estimate the size of the arrears and exactly when they will be paid.

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100 Half of the pension contribution is paid by the employer, while half is deducted from earnings.

101 The required minimum rate of return is determined by the Commission for the Supervision of Insurance and Pension Funds on the final working day of each quarter. This required minimum is specified in the Act on the Organisation and Operation of Pension Funds of August 28, 1997, as the lower of either (1) half the weighted average rate of return over the preceding two-year period (this is weighted by period-end assets), or (2) the weighted average rate of return less four percentage points. Should the investment performance of a pension fund be worse than the required minimum, the company managing the given fund must provide a top-up payment, from its own resources, that raises unit values to the level they would be at if the fund had achieved that required minimum.
Pension funds and the market risk of the banks

The rapid growth in pension fund assets has led to the investment decisions taken by the funds having a greater influence on the value of domestic securities. The influence exerted by pension funds on market prices is reinforced by the fact that the two largest pension companies manage over half the total assets held by all open-ended pension funds. In addition, the existence of the required minimum rate of return encourages the tendency for the smaller players to copy the investment strategies of the largest ones. This situation threatens to produce strong swings in market prices. Thus, the pension funds are capable of exercising a substantial influence, albeit indirect, on the value of the banks’ securities portfolios.

Pension funds and the credit risk of the banks

The Act on the Organisation and Operation of Pension Funds allows pension funds to take out loans and advances, to a level not exceeding 2.5% of a fund’s assets. However, the interest payable on loans and advances is not cited in the relevant legislation as one of the costs that can be financed by the pension funds themselves. As a result, the interest on any loan would have to be paid by the pension company concerned. The consequence of these regulatory provisions is zero utilisation of their borrowing limits by the pension funds, and this situation is not likely to change. The pension companies, on the other hand, are permitted to borrow to a ceiling of 20% of their capital. Given that the maximum borrowing limit for these companies is small in relation to the bank’s loan portfolios, and that these companies, which have the financial support of strong shareholders, enjoy high credit standings, the direct credit risk to the banks should be considered low.

There is no indirect credit risk in the case of an open-ended pension fund, since the system is founded on the assumption that a fund cannot fail. For their part, the pension companies provide services exclusively to these funds.

Pension funds and the liquidity risk of the banks

Pension funds are entitled to hold up to 20% of their assets in the form of bank deposits and bank securities. An additional limit on these investments is that a maximum 7.5% of assets can be placed at one bank chosen by the fund, and 5% at all others. At the end of 2002, these deposits represented 2.63% of the aggregate portfolio of all pension funds and amounted to 803m zloty. By contrast, there is no restriction on the percentage of capital which pension companies can invest at banks. However, the capital of the companies is small compared to the assets of the funds. Thus, in analysing liquidity risk, it is valid to focus attention on the pension funds. It is difficult to imagine bank deposits playing a major part in the long-term investment strategies of pension funds. These deposits tend to be used solely for liquidity management purposes. In time, as their asset holdings grow, fluctuations in the balances held by pension funds at the banks may become of increasing significance. Nonetheless, this should not pose a problem for liquidity management at the banks themselves.

Systemic safeguards for the stability of the pension system

In view of the role played by the pension system, it is strictly regulated. The supervisory agency for this segment of the financial system in Poland is the Commission for the Supervision of Insurance and Pension Funds.

The very design of the Polish pension system restricts the possibility of any greater threats of a systemic nature. The Polish system is a defined contribution scheme, where the level of benefits is chiefly contingent on the size of the contributions paid and the investment performance of the open-ended pension funds. Systemic risk is thus spread among all the participants in the system. This approach differs from that of a defined benefit scheme, under which the level of payouts is specified, while risk is concentrated at the institution guaranteeing the benefits. The current

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102 At year end 2002, the capital of all the pension companies totalled 1.04bn zloty. No tendency towards a marked increase in this capital should be expected.
difficulties faced by pension systems in countries with systems which have predominately been based on defined benefits demonstrate that Poland has made the right choice in this regard.  

A safety net for future system beneficiaries is provided by the principle that members of an open-ended pension fund do not bear the business risk of the pension company, meaning that any financial distress at the company cannot result in the loss of their savings. Should a pension company go bankrupt, the fund it manages cannot fail. The fund constitutes a separate juridical person that has no right to bankruptcy. In the event of a pension company failing, management of its fund is automatically assumed by the largest company on the market. An exception is where bankruptcy is the result of a lack of funds to replenish the individual accounts (which is essential if the required minimum rate of return has not been achieved). In that case, management is taken over by the pension company running the fund that reported the best investment performance in the period used to calculate the required minimum.  

To reduce the risk that the future pensions of system beneficiaries would prove too low, additional safety mechanisms have been introduced. One of these are investment limits, and another is the state guarantee of a minimum pension, while a third is the aforementioned required minimum rate of return.  

**Investment limits**  
The present regulations allow open-ended pension funds to acquire only strictly specified securities, with their maximum weight in a fund’s portfolio also being stipulated. Pension funds are permitted to invest without restriction solely in Treasury securities.  

Due to the constraints on other forms of investment and the underdevelopment of certain markets (e.g., the corporate bond market), the investment activity of pension funds has mainly focused on the Treasury market. This is borne out by the figures presented in Table 4.3.  

The second-largest target for pension fund investments is the equity market, although the involvement of the funds on this market has declined (in percentage terms). A positive tendency has been the gradual increase in the funds’ presence on other markets. In 2002, the investments of the pension funds outside the Treasury and domestic equity markets came to over 5% of assets, although growth here is slow.  

The investment limits placed on open-ended pension funds have significant implications for the future rate of return on the savings held at those funds. One of the key considerations in introducing these limits was the conviction that the pension funds should play a major role in financing Poland’s economic development. If it were to prove possible to create the conditions for the financial resources of the pension funds to finance private-sector investment, which is the driving force of economic growth, this would represent the best guarantee of the level of future pensions. After all, there is a positive correlation between overall growth and all the factors conditioning the level of benefits, namely, real wage growth (increasing the contributions base and impacting the indexation of contributions at ZUS) and the rate of return on investment.  

However, numerous conditions would have to be met for this scenario to materialise. Firstly, the capacity of the Polish economy to absorb pension savings would have to estimated, allowing a judgement on the appropriate limit on investment abroad (which is difficult). Secondly, it would be necessary to ensure a suitable supply of financial instruments that the pension funds could invest in. Thirdly, the requisite infrastructure of risk monitoring systems would have to be put in place for the funds to be able to identify the investment risk they assumed.  

A failure to satisfy these conditions could mean that the pension system was not only not financing domestic growth, but itself became more vulnerable to shocks, in a situation where...
Non-bank financial institutions

pension fund portfolios were neither sufficiently diversified, nor sufficiently liquid. Moreover, in a scenario of this kind, the pension system itself could become a potential source of such shocks.

The state of affairs where the scale of contributions to open-ended pension funds is constantly increasing, yet the supply of instruments on the stock exchange is not, has a series of negative repercussions, namely:

- the rising weight of the pension funds on the exchange reduces its liquidity, thereby deterring other investors,
- shares may not be properly priced, which could cause an incorrect appraisal of the cost of capital, and thus distort investment calculations,
- these circumstances could encourage a speculative attack on the Warsaw Exchange, as is always the case when current prices diverge from their fundamental value.

This situation may be described as a regulatory bubble. Were this bubble to burst, it could have significant adverse consequences for the economy and for financial system stability.

Another major problem may prove to be the fact that pension funds cannot purchase derivative instruments to hedge against the risk of bond prices falling. The lack of opportunities for hedging the value of fixed-rate T-bond portfolios, which are currently the principal component of pension fund assets, could have negative ramifications for both the pension funds themselves, and

<table>
<thead>
<tr>
<th>Table 4.3</th>
<th>Structure of pension fund investment portfolios (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instrument</td>
<td>2000</td>
</tr>
<tr>
<td>Foreign bonds</td>
<td>0.00</td>
</tr>
<tr>
<td>Foreign equities</td>
<td>0.00</td>
</tr>
<tr>
<td>Municipal bonds</td>
<td>0.03</td>
</tr>
<tr>
<td>Corporate bonds</td>
<td>0.26</td>
</tr>
<tr>
<td>Domestic bank deposits</td>
<td>1.96</td>
</tr>
<tr>
<td>Treasuries</td>
<td>62.87</td>
</tr>
<tr>
<td>Domestic plc equities &amp; subscription rights</td>
<td>34.89</td>
</tr>
</tbody>
</table>

Source: Commission for the Supervision of Insurance and Pension Funds.

<table>
<thead>
<tr>
<th>Table 4.4</th>
<th>Pension fund assets, size of investment markets and GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP (billion zloty)</td>
<td>616</td>
</tr>
<tr>
<td>T-bill &amp; T-bond market (billion zloty)</td>
<td>98</td>
</tr>
<tr>
<td>Capitalisation of Warsaw Stock Exchange (billion zloty)</td>
<td>123</td>
</tr>
<tr>
<td>Free float of Warsaw Stock Exchange (billion zloty)</td>
<td>40</td>
</tr>
</tbody>
</table>


The free float consists in freely traded shares and excludes holdings of over 10% belonging to a single shareholder or group of related shareholders (e.g., a group of companies or family), or to the Treasury, and also a company’s own shares, scheduled for retirement. The free float does include shares held by investment and pension funds and by asset management institutions, and shares covered by depository receipt programmes.

1 The free float consists in freely traded shares and excludes holdings of over 10% belonging to a single shareholder or group of related shareholders (e.g., a group of companies or family), or to the Treasury, and also a company’s own shares, scheduled for retirement. The free float does include shares held by investment and pension funds and by asset management institutions, and shares covered by depository receipt programmes.

the banks. T-bonds are also dominant in bank securities portfolios, and any sudden selloff of this paper by the pension funds would have an adverse effect on the value of bank portfolios.

**Guaranteed minimum pension**

Whereas a minimum level of old age benefits represents a clearcut retirement guarantee, any estimate of the level of future central government subsidies to the minimum pension is subject to a very high margin of error\(^1\).

The first pensions under the new system will not be disbursed until 2009, while the largest subsidies to the minimum pension will probably not be payable until 2035. Substantial subsidies to this pension are still a remote prospect, yet if unemployment remains high, these subsidies could be much greater than projected when the pension reform was launched (a forecast 0.1% of GDP). The persistence of a high rate of unemployment reduces the amounts paid to ZUS and transferred to the investment accounts of the open-ended pension funds, while at the same time decreasing the level of indexation applied to the notional accounts at ZUS. In terms of the size of the financial support to the minimum pension that will have to be forthcoming from central government, the level of unemployment is a more important factor than the rates of return achieved by the pension funds.

Managing the risk associated with the minimum pension guarantee is, however, facilitated by the fact that the level of government subsidies required can be anticipated a few years in advance.

**Required minimum rate of return**

This mechanism protects the members of open-ended pension funds against the effects of their chosen fund recording significantly worse investment performance than its competitors in any two-year calculation period. It is relatively simple to estimate the cost of this safeguard, which is equivalent to 1.5% of contributions, set aside on a reserve account, and another 0.1% transferred to a Guarantee Fund\(^2\). However, it is hard to gauge what proportion of the fees collected by a pension company constitutes compensation for assuming the risk of top-up payments. It is the shareholders in these companies that bear the risk of making those payments should the pension fund they run fail to fulfil the rate of return requirement. In 2001, one pension company was obliged to inject an additional amount that corresponded to 6.3% of the assets managed by its pension fund. Given the swift growth in pension fund assets, expenditure on this scale could in a few years prove heavy enough to have an adverse impact even on such large institutions as those that are shareholders in the pension companies.

It also difficult to assess the safety value to future pension beneficiaries of the minimum rate of return. To form a view on this, it would also be necessary to consider how much might be lost due to the distortion of investment strategies caused by the minimum requirement (through the shortening of investment horizons and copying of the strategies pursued by market leaders). The current investment strategies of the pension funds display an increasingly distinct reluctance on the part of fund managers to run the risk of topping up their fund’s accounts as a result of non-performance of the minimum rate of return. The strategy for avoiding this is straightforward. It involves replicating the investment strategies of the largest funds. The widespread adoption of this approach by the pension funds may reinforce the herd instinct on financial markets, which heightens the risk to other market participants, including the banks. This situation could be especially dangerous in the event of a speculative bubble developing and subsequently touching off a market collapse, which could occur as a side effect of the present investment restrictions on pension funds.

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\(^1\) Performing estimates of this kind requires long-term assumptions concerning inflation, interest rates, wage levels, the unemployment rate and several other indicators that are equally difficult to predict going forward ten or twenty years, or even several dozen years.

\(^2\) Pension companies allocate to a reserve account the equivalent of 1.5% of the assets (net) of the pension fund they manage. This amount is translated into “settlement units”, as are the assets of the pension funds, and is managed together with those assets. This represents a buffer in the event of the company not having sufficient capital to make up the shortfall that could arise if it failed to attain the minimum rate of return. Although the purpose of the Guarantee Fund is similar, in this case all the pension companies pay into the Fund the equivalent of 0.1% of the assets (net) of the open-ended pension funds they operate, and these sums are held on a single account managed by the National Securities Depositary.
Investment performance of pension funds and earnings of pension companies

The maintenance of low inflation has been one of the factors buttressing the safety of pension savings. This proposition is illustrated by Figure 4.7. From September 1999 to June 2001, there were three pension funds that did not manage to achieve a rate of return that beat inflation. However, the steep fall in inflation in the latter half of 2001 and in 2002 meant that none of the funds now experienced problems in registering a rate of return that was above the rate of inflation. Low inflation is no guarantee of a pension fund scoring high rates of return in real terms, yet it does make this considerably easier. In the long run, inflation constitutes a serious aspect of the investment risk faced by pension funds, particularly when these funds’ portfolios overwhelmingly comprise fixed-rate securities.

Figure 4.7
Real rates of return

![Chart showing real rates of return for pension funds from September 1999 to December 2002.]

NB: Weighted average calculated by market share as measured by assets at December 31, 2002. No consideration given to investment performance of funds that terminated their activity prior to year end 2002. Source: NBP (based on data from Commission for the Supervision of Insurance and Pension Funds and from GUS).

Figure 4.8
Pension company profitability, 2002

![Chart showing the relationship between assets managed and gross profit/loss for pension companies in 2002.]

Source: Commission for the Supervision of Insurance and Pension Funds.
The figures presented in Figure 4.7 also indicate that large pension funds are able to cope better than small ones, as is inferred by the weighted average rate of return considerably exceeding the arithmetic mean. Compared to the small pension funds, the large funds have the advantage of having to be much less concerned that they will not hit the target of the required minimum rate of return, and being able to invest without checking out what others are doing, since it is the smaller funds that copy the large ones. However, this competitive edge is of increasingly less importance when set against the problems with asset liquidity previously mentioned. The mounting liquidity troubles of the pension funds primarily concern the large ones.

Some of the pension funds have already built up an asset base that allows the pension companies that manage them to generate a profit. It is expedient to split out the gross profit reported by pension companies from their overall profit and loss accounts and to review their profitability on this basis, since the overall earnings of these companies are significantly influenced by factors that are not directly related to their core operations, such as financial income. In 2002, the financial income of all the pension companies (arising on the investment of their capital) totalled 86.7m złoty, whereas the net earnings of the whole sector came to 1.7m, and gross profit was a negative 43.8m. To generate profits from investing capital there is no need to set up a pension company; this income stems from the requirement that pension companies hold a high level of capital.

Figure 4.8 clearly shows that the economies of scale obtained by pension companies are considerable, and that further consolidations in this sector are inevitable. Nor should there be any unease that the process of consolidation will lead to a decline in market competition. It is evident that the two largest companies are in any case currently in another league from their competitors, so mergers and acquisitions amongst the small and medium-sized companies will strengthen their competitive position and foster competitive behaviour on the market overall.

Summary

The pension system launched in Poland in 1999 represented a qualitative transformation. The previous system, a source of instability to government finances and to the economy in general, was replaced by one that is to prove neutral to the national budget in the long term. Another objective of the pension reform was to increase the propensity to save of the Polish public, thereby generating new sources of finance for economic growth.

The new system reduces the size of future government liabilities related to pension benefits (cf. Table 4.2), while at the same time ensuring the safety of the retirement savings placed at open-ended pension funds.

The threats that can be identified to the new system include the risk associated with dwindling liquidity on the equity market, the inadequate diversification of pension fund portfolios, and also the lack of opportunities for hedging the funds’ assets against market risk. With the financial resources of the open-ended pension funds increasing, these issues could yield serious threats to financial system stability in the future.

4.4. Investment funds

Business characteristics

The essence of the business conducted by investment funds is to take the sums received in return for units or shares sold and invest these sums on financial markets. Investors acquiring title to participate in an investment fund become the co-owners of the assets of that fund, in the form of the equities, bonds or other securities purchased.
Investment funds have been present on the Polish financial market since the beginning of the 1990s, although the shares or units they offer were not initially a popular savings vehicle. A pronounced increase in the interest shown in investment funds was not seen until 2001, a year which marked a turning point in the development of this industry. The high returns available on the bond market and the ease of withdrawal afforded by units in investment funds gradually began to encourage investors. Since that time, the investment fund industry has witnessed strong growth in assets (up 5bn zloty in 2001 and 11bn in 2002).

**Impact of investment fund activity on banking sector stability**

An analysis of the ownership structure of investment companies (fund management companies) indicates that most of the companies operating in Poland are controlled by banks, whether directly or indirectly. Thus, the earnings of these management companies impact the earnings of the banks, as reported in their consolidated accounts. Losses generated by fund management companies may therefore affect the financial condition of banks, which in the longer term could worsen their capital position. This is at present the most important channel by which distress in the investment fund industry might spread to the banking sector.

Fund management companies are entitled to borrow at the banks, which would entail an ensuing credit risk to those banks. However, the relevant legislation makes the borrowings of these companies, for their own account, contingent on the level of their capital\(^\text{107}\), while loans taken out on behalf of investment funds depend on the type of fund in question and its asset size. At year end 2002, outstanding bank loans to fund management companies stood at some 47m zloty, which represented a tiny proportion of total bank loan portfolios. Taking into account the market share of particular kinds of investment fund and the borrowing ceilings set for them, the maximum amount of bank loans theoretically available to all investment funds in 2002 was around 3.1bn zloty. This would have constituted the equivalent of 0.63% of total banking sector assets.

Investment funds are permitted to deposit part of their assets at the banks. Any early withdrawal of these deposits could lead to a deterioration in bank liquidity. However, the legislation in force contains the proviso that balances held on bank accounts should be maintained “as necessary to meet the fund’s current liabilities”, thus stipulating that they are to be temporary in character, rather than an investment instrument\(^\text{108}\).

Although the threats to the banking sector presented above have so far remained negligible, they may become more significant as the volume of assets held by investment funds grows.

Investment funds can also have an indirect effect on the financial condition of banks and the stability of the banking industry as a whole through their activity on financial markets. The winding up of a large investment fund or a slump in securities prices could have a negative impact on banking sector earnings. It should be stressed, however, that the scale of this danger is minor, since equities represent a small proportion of banking sector assets.

**Systemic safeguards for the stability of the investment fund sector**

The purchase of units in an investment fund represents a very safe savings vehicle. One element of investor protection are detailed legal provisions that specify the basic principles for the operation of investment funds and the procedures governing the investment of their assets. Fund management companies are supervised by the Securities and Exchange Commission, and are also subject to public oversight due to the requirement that they publish their basic financial data.

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\(^{107}\) Investment fund management companies are prohibited from taking on liabilities in the form of loans and advances, and also issuance of their own bonds, to a total value exceeding 10% of their capital.

An additional factor reinforcing the safety of investments is the institution of depository, which is an undertaking independent of the management company. The depository is required to hold the assets entrusted to it in safe keeping and to exercise control and supervisory functions with respect to the company’s investment policies.

The principal risk confronting the customers of investment funds is market risk. The fact that the investment fund has personality at law and the establishment of the institution of depository minimises the risk of fraud or of assets being invested to the financial detriment of fund participants. Depending on their risk appetite, customers can invest in various types of fund, with differing asset structures.

The risk to customers of movements in the price of a fund’s assets may be substantially aggravated in the event of a particular management company being wound up. Should a company go into liquidation, the assets of its investment funds are not included in the assets of the bankrupt company. Management of the fund may be assumed by another management company. If no company takes over a given fund, it is then put into liquidation. The liquidation of an investment fund involves the disposal of its assets, the collection of amounts receivable, the satisfaction of the funds’ creditors and the redemption of units or investment certificates by distributing the cash obtained to the fund participants (in proportion to the number of units or certificates they hold). It has to be taken into consideration that the sudden sale of a major part of the assets of a large investment fund could have an adverse effect on the distributions made to its participants.

**Earnings of fund management companies**

Investment fund assets almost doubled in 2002, which found reflection in the earnings of management companies. The enhanced appeal of investment funds in 2001 and 2002 meant that the companies’ earnings improved markedly. Some of the companies posted a profit for the first time ever, while others considerably reduced their losses.

For the first time since they began operations, the fund management companies together reported positive earnings in 2002, totalling 32.2m zloty\(^9\). A profit was generated by 18 of the management companies operating in Poland. In 2001, only 4 had shown a profit, while the total earnings of the whole industry had come to a negative 42m zloty.

One reason for the improved performance of these companies was the growth in the value of assets under management, which translated into an increase in management fees. The companies would have recorded stronger earnings if customers had invested more in equity funds rather than in money market and bond funds, where the management fees are several times lower. In 2002, over 80% of total assets were held at bond and money market funds, with the share attributable to equity funds only coming to under 20%.

The healthier performance of the fund management companies helped boost the earnings of the financial groups to which they belong. However, the profits generated to date are still insufficient to cover prior period losses. So far, most shareholders in the management companies (these are chiefly banks) have had to provide them with additional finance. Indeed, some previous shareholders have withdrawn their capital from these companies due to low rates of return\(^10\).

4.5. Lease finance companies

**Business characteristics**

Lease finance constitutes an alternative to bank loans in financing business activity. Leasing allows a company to fund investment in both movables (e.g., process machinery and equipment, transport

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\(^9\) Preliminary unaudited figures released by the Securities and Exchange Commission.

\(^10\) One example are the owners of the Invesco management company, who pulled out of the investment fund market altogether. Some of the funds under management were transferred to another company, while the rest were wound up.
equipment or office equipment) and real property. Ownership of the assets under lease is retained by the lessor, who gives the lessee use of these, as specified in the lease agreement, in return for the payment also set therein. The agreement, including the payment schedule of lease instalments for use of the property concerned, is structured to meet the individual needs of the customer and to reflect their financial capacity.

The cost of lease finance to the customer is comparable to the cost of borrowing at a bank. One benefit of leasing is that the lease instalments and depreciation charges can be deducted from the customer’s taxable income\textsuperscript{111}. Further, the requirements concerning security for lease obligations are less strict than those for bank loans. Leasing companies have additionally benefited in the recent period from restricted access to bank credit.

Two basic forms of leasing can be distinguished, which differ from each other primarily with regard to the legal arrangements concerning title to the leased assets following expiry of the lease agreement. Operating leases are based on a short-term (and cancellable) agreement, and provide for the leased property to return to the lessor once the agreement has run its course. In financial terms, this is advantageous to the customer in a situation where the cost of the lease payments is lower than the cost of direct purchase, and the property in question is needed for a short period. In addition, the lease instalments represent a tax-deductible expense.

Where the lessee acquires title to the leased assets following the term of the agreement, the transaction is referred to as a financial lease. This is a long-term financing agreement, is non-cancellable, and the lease instalments are payable under a schedule that is contractually specified. Owing to the duration of the agreement, this form of lease finance is comparable with a bank loan as regards the cost incurred by the lessee. An extra incentive to the lessee, aside from the tax deductibility of the lease instalments, is the possibility of expensing the depreciation charges on the leased assets.

**Impact of leasing company activity on banking sector stability**

**Ownership structure**

The statutory definition of lease finance indicates that, for the lessor (the financing undertaking) to lease out an asset, they must have first themselves acquired that asset\textsuperscript{112}. There are two important implications from this, i.e., that lease finance cannot be carried on directly by manufacturing firms, and that the company concerned must have the funds to purchase the assets that are to be leased. These legal provisions have had a major effect on the ownership structure of the industry. The lease finance companies that dominate the market are linked either to the producers of the assets in question (mainly to car manufacturers), or to banks. Most companies, regardless of ownership, are connected with the banking sector via cooperation agreements that underpin the funding of leasing operations.

**Business relationships with banks**

Lease finance operations are funded under cooperation agreements between leasing companies and banks\textsuperscript{113}. These agreements detail the principles and form of collaboration to be pursued, the obligations of the two parties concerning particular transactions (loans or the purchase of lease receivables) and the conditions for extending finance. In practice, two forms of finance to leasing companies have developed, namely, bank loans and the discounting of lease receivables.

In the case of loans, the bank makes funds available to the company on the basis of separate agreements. These set the terms and conditions for granting and disbursing finance for the purchase of the assets to be leased (under a line of credit or working capital loans), and specify the security required, both from the lessee and the lessor.

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\textsuperscript{111} The tax deductibility of depreciation charges refers solely to financial leases.

\textsuperscript{112} Amendments to the Civil Code performed in July 2000 inserted a new Title XVII, which defines the concept of a lease finance agreement. Cf. the Civil Code of April 23, 1964 (as published in Dziennik Ustaw no. 60/2003, item 535).

\textsuperscript{113} Taken from: Konik, R., “Sytuacja banku wobec upadłości leasingodawcy” [The situation of a bank with respect to the bankruptcy of a leasing company], Prawo Bankowe no. 2/2002, p. 62 et seq.
In the case of receivables discounting, an assignment is made of the receivables arising on contractual lease payments. The bank thus acquires the right to demand payment of lease instalments from the lessee. The remuneration received by the lessor is equal to the value of the receivables concerned, less the discount applied. The receivables are generally transferred as part of the factoring activity conducted by the bank, which can take two forms. The first, non-recourse factoring, involves the bank assuming the entire risk associated with the performance of the lease agreement. This means that it has no right of recourse to the lessor for lease payments should the lessee default on their obligations. The lease finance company is then released from the risk of the debtor’s financial condition deteriorating. Under the second form, recourse factoring, the bank retains the right to pursue its claims against the lessor if the lessee does not pay.

Channels of leasing company influence on financial condition of the banks

Of the various acknowledged channels through which a lease finance company can impact a bank, the most important for the latter is the risk involved in lending to leasing companies. The bank’s choice of financing arrangements is crucial in securing its interests should the leasing company be declared bankrupt. The character of the collaboration between the two parties means that the bankruptcy of a leasing company leaves the bank as a creditor. Should the bank have extended loans to the company, then first of all it can utilise the security it has taken in order to reduce the debt outstanding as much as possible. It can also notify the trustee in bankruptcy of its claim on the company’s assets.

Receivables discounting (particularly on a non-recourse basis) essentially makes the bank’s position independent of the financial condition of the leasing company. Under recourse factoring, it may transpire that the lessee has halted their lease payments. The bank is then faced with the necessity of pursuing its claim against the leasing company, which is obliged to provide financial reimbursement. It should be underlined that this obligation arises only when the lessee has defaulted in relation to the bank. A claim on the bankrupt company’s assets can therefore only be filed once a delinquency is determined in the payment of lease instalments. The extent of the bank’s claim will be contingent on the size of the liabilities of the lessee, due and outstanding. Each payment made by the lessee will decrease the financial liability of the leasing company (this also applies to payments effected following the declaration of bankruptcy).

The failure of a lease finance company may also affect the financial condition of its customers. In the course of bankruptcy proceedings, the trustee may seize the assets being used by lessees to secure the repayment of the bankrupt company’s debts. The lessees thus lose equipment employed in their business and as a result their liquidity may be impaired. In their role as bank customers, the lessees could then also lose their repayment capacity. The banks would then need to perform additional provisioning and possibly undertake enforced collection measures. The lengthiness of judicial proceedings prolongs the time provisions are carried on a bank’s books, with negative consequences for bank earnings.

In addition to the threats indicated above, there are many other channels by which the lease finance sector can impact the stability of the banks. However, these would appear to be of relatively minor significance. One that has been identified and should be mentioned is the risk of a bank losing its liquidity due to a leasing company breaking its deposit agreements. Nonetheless, given the character of these companies’ business, it may be presumed that their account balances serve to meet ongoing requirements and a withdrawal of these balances would not undermine the liquidity of the bank in question.

Systemic safeguards for the stability of the lease finance sector

Lease finance is not a regulated industry. The only external supervision is that exercised by the market. Market concentration and a trend towards consolidations have led to a reduction in the number of companies in the industry, eliminating those that are inefficient or lack capital support.

\[114\] Not all forms of security remain in force when a leasing company is declared bankrupt. Cf. Konik, P., op. cit.
A dominant role is beginning to be played by companies linked to banks and manufacturers, which have assured access to funding and technological backup.

In addition, the membership of leasing companies in larger corporate groups allows their operations to be kept under control, and also – particularly as regards those connected with banks – makes it possible to avoid or limit situations that could destabilise the operations of the group, or in extreme circumstances even a given segment of the market as a whole. This provides a certain type of internal corporate oversight, which helps to compensate for the absence of systemic solutions guaranteeing that leasing companies operate safely (from a customer perspective).

**Earnings of leasing companies**

The years 2000–2002 brought significant changes on Poland’s lease finance market. At the beginning of this period, there were around 150 leasing companies in existence, while two years later the number actively conducting operations had tumbled to 40, which demonstrates the progressive concentration of the market. The foundation for lease finance activity is access to funding, which explains the growing importance of those companies that have capital links with banks or manufacturers. Of the 28 companies that report their performance to the Conference of Lease Finance Corporations\(^1\), 12 belong to banks, while 5 are related to the manufacturers of the goods they lease.

The net value of assets leased in the years 1999–2002 is presented in Table 4.5.

#### Table 4.5

**Net value of assets leased, by asset category (million zloty)**

<table>
<thead>
<tr>
<th>Category</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Net value of movables leased</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>of which:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- industrial machinery &amp; equipment</td>
<td>5,862.5</td>
<td>5,786.5</td>
<td>5,128.0</td>
<td>7,280.8</td>
</tr>
<tr>
<td>- road transport equipment</td>
<td>1,947.7</td>
<td>1,875.6</td>
<td>1,649.0</td>
<td>1,847.1</td>
</tr>
<tr>
<td>(excluding passenger cars)</td>
<td>2,990.0</td>
<td>3,145.6</td>
<td>2,582.0</td>
<td>4,363.5</td>
</tr>
<tr>
<td>- passenger cars</td>
<td>21.4</td>
<td>25.7</td>
<td>157.6</td>
<td>582.7</td>
</tr>
<tr>
<td>2. Net value of real property leased</td>
<td>1,680.9</td>
<td>1,119.9</td>
<td>1,317.0</td>
<td>560.3</td>
</tr>
<tr>
<td>3. Overall net value of assets leased (1 + 2)</td>
<td>7,543.8</td>
<td>6,906.4</td>
<td>6,445.0</td>
<td>7,841.1</td>
</tr>
<tr>
<td>4. Total value of assets under lease, net of depreciation</td>
<td>10,954.4</td>
<td>11,997.4</td>
<td>10,174.0</td>
<td>12,428.0</td>
</tr>
<tr>
<td>(at December 31)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NB: Figures based on data from 28 lease finance companies, representing around 75% of the total market.

The most difficult year for the lease finance industry proved to be 2001, which saw the smallest overall value of assets leased. The reason for this slump can be sought in the banks tightening their policies regarding the financing of leasing companies – chiefly independent ones – from the end of 2000 onwards\(^2\). Another factor which was not without relevance was the decline in overall business activity, which was most acute among small and medium enterprises, the main customers of the leasing companies.

The pronounced recovery witnessed in 2002 was especially visible in the leasing of road transport equipment, including passenger cars. One reason for this were amendments to tax legislation in 2002.

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\(^1\) The Conference of Lease Finance Corporations in Poland (Employers’ Association) was established in 1994 as an organisation bringing together lease finance companies and representing the interests of this business community in dealings with the government authorities and civil service and with local authorities. The Conference belongs to Leaseurope, a European organisation of leasing companies. In addition to lobbying, the Conference gathers information and compiles statistics on the Polish lease finance industry. (Source: www.leasepol.com.pl).

\(^2\) In 2000, the financial difficulties experienced by one of the largest companies on the market compelled the banks lending to this company to establish a large volume of specific provisions (some 250m zloty).
which scrapped the double VAT taxation on the leasing of cars. It is also worth noting the significant
growth registered in the capital outlay of lease finance companies, as measured by the total value of
assets under lease net of depreciation (this rose over 22% compared to 2001). The real figure for this
– given the lack of complete data – can be estimated at around 13.5bn zloty\textsuperscript{117}.

The noticeable improvement in the financial condition of the industry, expressed in the rising
value of assets leased, has been accompanied by changes in its structure. The concentration of the
market and consolidations that have taken place are rooted, among other things, in a tendency for
the average value of lease agreements to go up. Lease agreements increasingly involve the delivery
and maintenance of entire process systems or fleets of vehicles. Entering into contracts of this sort
requires companies that have a strong financial capacity.

\textit{Summary}

The failure of a lease finance company may come as the result of poor management and/or
overinvestment. This is because leasing companies are required to verify the borrowing capacity of
their customers. In such situations, a bank that is in collaboration with the company is forced to
carry out additional specific provisioning and to pursue its claims as provided for under bankruptcy
law. The bank’s interests can be protected by the nature of the cooperation agreement concluded
with the lessor, including the detailed specification of the principles applicable to that cooperation
and the types of security that will be required for funding to be disbursed.

Where legal regulations are absent, one form of oversight with respect to financial service
providers are the workings of the market itself. Competition leads to the elimination of inefficient
firms and those involved in dishonest practices. The crisis that gripped the lease finance market in
the years 2000–2001 proved that close ties with banks, whether through collaboration or
affiliation to banking groups, constitute a guarantee of efficient operations.

4.6. Loan brokers

\textit{Business characteristics}

Loan brokers make cash advances and function as intermediaries in arranging bank loans. Depending
on the type of agreement concluded with the bank concerned, the risk arising on a loan
may in part be borne by the bank or by the broker. Loan broking does not require authorisation
and as such is not subject to supervision. This means there are no external prudential regulations
in place, equivalent to those governing banks or insurance companies. This hinders access to data
that might be helpful in assessing the state of this industry and the role it plays within the financial
system\textsuperscript{118}.

Loan brokers first appeared in Poland in 1992. There are currently several thousand
businesses providing services of this kind. Most are small firms (with a staff of less than five) that
operate on local markets, with limited capital resources and limited access to modern technology.

The principal product on offer from loan brokers are instalment loans for the purchase of
durables. Aside from handling instalment sales, brokers’ outlets also extend cash advances. Towards
the end of the 1990s, mounting competition induced the brokers to extend their product range to
include such instruments as cash loans, housing loans (mortgages) and loans related to credit card
receivables.

Loan brokers primarily deal with customers wishing to borrow immediately (at the point of
sale) or within a few days. The amounts advanced can vary from several hundred zloty to tens of
thousands. Brokers have the advantage of being able to provide quick and easy transaction

\textsuperscript{117} www.leasepol.com.pl.

\textsuperscript{118} Useful data for analysing the industry are gathered and published on its web site by the Conference of Finance Companies
(Employers’ Association). This was set up in October 1999 by a group of over a dozen of the largest credit brokerage firms.
procedures, with a loan approval process that has relatively few formalities. Thanks to this, potential customers are not deterred by the borrowing cost, which is usually higher than at the banks.

Ownership structure

The loan brokers active on the Polish market may be divided into two basic groups, as follows:

- Firms involved in financing instalment sales; the dominant position here is occupied by firms with capital affiliations to banks, having either been established by them from scratch or subsequently acquired. A supplementary category are those firms that do not have capital links with banks, but act on their behalf as sales conduits.

- Firms independent of the banks, which include brokers extending cash advances that they fund themselves and brokers financed by parent companies.

Of the ten leading brokers, three are bank subsidiaries, three have taken over a bank, while the remaining four cooperate closely with banks.

Impact of bank collaboration with loan brokers on banking sector stability

Business relationships between loan brokers and banks

The ownership structure outlined above indicates that the activity of most loan brokers is founded on close cooperation with banks. The basis for this cooperation is regulated by an appropriate framework agreement. Depending on the type of agreement, the division of responsibilities may vary as regards preparing loan documentation, borrower assessment, and any enforced collection procedures that might prove necessary. However, regardless of the nature of the framework agreement between the bank and the loan broker, the customer always signs a loan agreement with the bank. It is the bank that makes available to the customer the funds indicated in the loan agreement or finances the purchase of the goods specified. In accounting terms, this means that all loans granted through the offices of loan brokers are shown in the bank’s reports as claims on personal customers. Thus, the activity of the brokers does not create an additional supply of credit (there is no multiplier effect).

Two basic forms of framework agreement may be distinguished, with the first treating the brokers solely as a distribution channel, while the second is in essence closer to the idea of outsourcing.

Where the loan broker functions as a distribution channel, their office is the sole point of contact for a customer wishing to take out a loan. The loan documentation prepared at this customer service outlet is checked and assessed at the bank, and it is there that the loan decision is taken. Any debt collection (recovery) procedures are also up to the bank. The role of the broker ends at the moment the customer signs their loan agreement with the bank. This arrangement implies that all credit risk is transferred to the bank. It is only in a situation where the broker fails to carry out the terms of the framework agreement and the bank suffers damage as a result that the bank is entitled to claim compensation from that broker. In extreme cases, the bank may suspend its business dealings with the broker and also withhold payment of loan origination fees. The quality of the loan portfolio generated by the broker serves the bank as the basis for evaluating the effectiveness of its cooperation with the firm and deciding whether to continue or terminate the relationship.

An opposite approach to the framework agreement described above is one that assigns the entire risk (or a substantial part thereof) to the broker, thereby making the relationship akin to

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119 All such cases, and the resolution of disputes, are regulated by the framework agreement between the broker and the bank.
outsourcing. The broker assesses the creditworthiness of the loan customer, frequently applying the procedures and verification techniques employed at the partner bank. The framework agreement may also provide for an employee of the broker signing the loan agreement with the customer, on behalf of the bank. All the bank does is make available to the customer the funds specified in the loan agreement. The broker is responsible for maintaining records of loans extended and monitoring them, and for all measures related to enforcing timely repayment by the borrowers. Should the loan become delinquent, the broker themselves makes payment in lieu of the borrower, or purchases the loan from the bank. Having acquired the rights of creditor, the broker then proceeds with recovery, on their own behalf and for their own account. From the bank’s perspective, the broker’s credit capacity is secured either by their own assets, or by the creation of a separate guarantee account (similar to a dealer reserve), where funds are held against any future losses arising from the default of loans originated by the broker.

Risks to the banks

The above two models of cooperation between banks and loan brokers differ in the impact they have on the credit risk exposure of the banks.

Where brokers operate solely as a distribution channel, the bank remains in full control of the entire lending process, from the time the documents are submitted, through verification, loan approval and subsequent monitoring, right up to loan recovery. All of this takes place in accordance with the established procedures in place at the bank. The bank only bears the consequences of any mistaken lending decisions, which could result in a worsening of loan portfolio quality and the need to establish additional provisions. For individual banks, additional provisioning is a financial burden, yet in systemic terms it is a guarantee of stability.

Under the second model, where the risk is passed over to the external firm, in whole or in part, the bank has a limited capacity to control the quality of the lending process. However, the banks appear to place great trust in the verification procedures applied by brokers, since the banks themselves are the source of these procedures. The transfer of techniques and control procedures is made possible where there is a capital affiliation of the two parties to the relationship. Thus, although risk has been shifted to a non-bank undertaking, thereby obviating the problem of specific provisioning against irregular assets, the risk nevertheless remains within the same corporate group and indirectly affects the banks involved in this sort of collaboration.

Both models of cooperation involve covenants that protect the interests of the bank should the customer stop servicing the loan or the broker find themselves in financial difficulty. Depending on the nature of the collaboration involved, the broker may be required to purchase the irregular loan from the bank or set aside a guarantee fund on a special account. The bank may also withhold the payment of remuneration to the broker, as security against unpaid customer borrowings. In addition, the broker is liable to the full extent of their assets for any damage suffered by the bank through the fault of the broker.

Systemic safeguards for the stability of the loan broking sector

The loan broking industry has been growing very rapidly, and its character and operations are regulated by the market. The standards that have been developed for cooperation with the banks makes it possible to root out any dishonest firms that pose a threat to financial system stability and undermine customer confidence.

In particular, membership in broader groups of companies allows loan brokers to work according to tried and tested loan verification procedures, thereby restricting the number of loans classified irregular. On the other hand, the special covenants and safeguards built into framework agreements constitute a guarantee that loan instalments will be paid even if the customer stops performing.

120 This account represents collateral up to the balance of funds held on it.
While there are numerous loan brokers active in Poland, only a few operate nationwide. The value of the loans originated by the five biggest firms represents over 80% of the total market. The performance in recent years of the industry in general, and of the largest loan brokers in particular, is presented in Table 4.6.

The noticeable reduction in the volume of lending in 2002 can be traced to several factors. Loan brokers, like banks, have felt the effects of the economy slowing. In addition, they face the disadvantage that their customers are from the least prosperous section of society. With unemployment on the rise, this results in an increase in credit risk and a decrease in operating profitability. This increase in risk translates into a higher percentage of impaired loans, i.e., those that are not serviced on schedule, and thus causes lending to be scaled back. Loan brokers began to experience a decline in loan portfolio quality towards the end of 2000. Maintaining adequate portfolio quality became the priority for most firms in the industry, with expansion plans shelved. The decrease in lending was therefore a result of both borrower repayment problems and the strategies adopted by the brokers themselves.

**Summary**

For the banks, collaboration with loan brokers is an additional vehicle for distributing loan products, and also an additional source of income. However, this market is subject to greater risk than the market for bank loans, since lending procedures are simplified and repayment is not fully secured. This heightened risk is supposed to be offset by a higher cost of credit than would be offered to corporates or longstanding retail customers (e.g., those holding current accounts at the banks in question). The interests of the banks are also protected by the nature of the framework agreements concluded with brokers, which in some cases requires guarantee accounts to be established. By acquiring loan broking firms or setting up their own, banks are able to supervise the verification techniques used by the brokers in loan approval and monitoring.

The close cooperation with the banks that is becoming indispensable in the loan broking business allows the banks to exercise control over this segment of the market, thereby reducing the risk of crisis situations and opportunities for criminal abuse.

### 4.7. Securities brokerage

**Business characteristics**

A specific feature of the Polish capital market is the coexistence of two types of brokerage institution:
• brokerage offices, which carry on the business of securities brokerage as organisationally and financially separate units of banks121, and

• brokerage houses, which trade as independent brokerage firms, organised pursuant to the provisions of the Commercial Company Code.

At year end 2002, there were 41 brokerage establishments operating on the Polish market, these comprising 5 brokerage offices and 36 brokerage houses. Since 1997, there has been a downward trend in the number of brokerage houses and banks conducting brokerage activity, which stems from the consolidations that have taken place within the banking industry and a deterioration in the financial performance of brokerage institutions.

At the end of 2002, clients held 1 million brokerage accounts (down 3.2% on 2001). The number of active accounts stood at only 300 thousand. In 2002, 99.2% of this overall number of accounts belonged to personal clients. The value of the securities held on client accounts fell 10.5% compared to 2001. Of these securities, 71.5% were shares in public limited companies, and 28.0% were bonds (in 2001, the respective figures were 68.4% and 28.1%)122.

**Impact of brokerage activity on banking sector stability**

In the initial phase of development of the Polish capital market, brokerage activity was mainly conducted by the brokerage offices operated by the commercial banks. This tendency was maintained right up to 1994, when the number of brokerage houses rose to over 30, as against a total of 54 establishments offering securities brokerage services.

The increase in the number of brokerage houses means that brokerage services are in the main no longer provided directly by banks, but rather by undertakings that are affiliated to the banks by capital and operate within a single corporate group. For the banks, the central risk related to the activity of brokerage offices and brokerage houses is the impact of their earnings on the financial condition of groups where the banks are the parent organisations. Another channel affecting the banks may be the reputation risk that would arise in the event of the failure of a brokerage house belonging to the same group of companies.

Brokerage establishments are permitted to carry out investments for their own account and at their own risk, although the scale of these is contingent on capital funds123. Any losses are taken to earnings, thereby lowering the return to shareholders. Simulation analyses conducted at the NBP, on the assumption that the current net capital of the brokerage houses and brokerage offices were at the lowest level admissible by statute, indicate that the exposure of these establishments under proprietary investments at year end 2002 was less than the regulatory ceiling. The market value of the securities held by brokerage establishments for their own account in 2002 stood at 407.5m zloty, whereas the prudential requirements set under legislation, assuming a minimum level of capital, would allow investments amounting to 740m. This testifies to brokerage institutions concentrating their attention on client-driven transactions, showing little inclination to incur the risk of a loss in value of securities held for proprietary trading.

**Systemic safeguards for the stability of the securities brokerage sector**

Should a brokerage house or brokerage office be declared bankrupt, the securities held on client accounts are not included in the assets of the bankrupt institution, and are returned to their owners. Funds held on client accounts and securities lost at the brokerage house are covered by a

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121 Legally, the term “brokerage office” should be taken to mean a bank conducting brokerage activity. The Act on Public Trading in Securities of August 21, 1997 (as published in Dziennik Ustaw no. 49/2002, item 447, and subsequently amended).


123 The size of these investments is dependent on the level of current net capital. A precise definition of this concept is given in the Ordinance of the Council of Ministers specifying the minimum capital of a brokerage house, contingent on the scale of its activity, and the maximum amount of borrowings and debt securities issued in relation to capital, July 17, 2001.
system of guaranteed compensation. As of January 1, 2003, the guarantee coverage stands at the equivalent of €3,000, and at 90% of the amount above that. The upper limit of coverage is the equivalent of €4,000. This upper limit is to rise gradually, reaching a target €22,000 in 2008124.

In the event of the failure of a bank conducting brokerage activity, client securities are guaranteed on the same basis as in the case of non-bank brokerage houses. Meanwhile, the funds held on brokerage accounts at banks conducting brokerage activity are guaranteed by the Bank Guarantee Fund on the same basis as the deposit insurance it provides.

Table 4.7
Financial data for brokerage offices & brokerage houses

<table>
<thead>
<tr>
<th></th>
<th>2001</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual share turnover on Warsaw Stock Exchange (billion zloty)</td>
<td>80.4</td>
<td>63.7</td>
</tr>
<tr>
<td>Commission income of brokerage offices/houses (million zloty)</td>
<td>476.3</td>
<td>396.4</td>
</tr>
<tr>
<td>Aggregate earnings (million zloty)</td>
<td>49.5</td>
<td>30.7</td>
</tr>
<tr>
<td>- total pre-tax profits</td>
<td>132.3</td>
<td>91.5</td>
</tr>
<tr>
<td>- total pre-tax losses</td>
<td>82.8</td>
<td>60.8</td>
</tr>
</tbody>
</table>

Source: GUS, Securities and Exchange Commission.

Earnings of brokerage establishments

In 2002, the stock market slump and stagnation on the market for new issues meant that most brokerage offices and brokerage houses registered a drop in income and fall in earnings. Only 19 establishments managed to generate a profit, while 22 posted a loss. The aggregate earnings of brokerage offices and brokerage houses in 2002 came to 30.7m zloty, as against 49.5m in 2001125.

The reduced income of brokerage houses was largely due to lighter trading on the stock market, which cut commission income. Stock market turnover in 2002 amounted to 63.7bn zloty, whereas the corresponding figure for 2001 had been 80.4bn (cf. Table 4.7).

The deterioration in earnings performance has compelled brokerage houses and brokerage offices to seek new income streams and to trim their operating expense. Most of them have been exploring new distribution channels (the Internet), offering investment opportunities abroad, carrying out the gradual integration of their distribution networks with the office networks of their parent banks, and also introducing a combined package of banking and brokerage products.

Prior to Poland joining the European Union, brokerage establishments will need to comply with the relevant capital adequacy standards. In this connection, they will need to provide a capital cushion against settlement and counterparty risk, and against FX risk.

Poland’s entry to the EU will present a big challenge to brokerage houses and brokerage offices. They will have to cope with competition from undertakings that are already well-established on EU financial markets.

The amendments enacted in 2003 to the Act on Public Trading in Securities endorse the principle of the “single licence”. Under this, domestic brokerage firms will be able to carry on the...
same activities in the EU as they do in Poland, without the need for additional authorisation. Identical rights in Poland will be granted to brokerage firms from EU Member States.

The majority of large brokerage houses and brokerage offices are already part of international financial conglomerates. Those that remain independent, with a small capital base, will have to look for development opportunities in niche markets, specialising in selected business lines that are seldom profitable for transnational corporations.

4.8. Credit unions

Business characteristics

Credit Unions (SKOK) constitute financial institutions that operate under the Act on Credit Unions and the Cooperatives Act. The object of their activity is to collect the savings of their members, to extend loans and advances to them, to carry out financial settlements, and to provide intermediation in the conclusion of insurance contracts. In addition, the customers of credit unions can open current accounts that are accompanied by Visa payment cards. Credit unions are also authorised to operate accounts for civil-law partnerships and sole proprietors.

Credit unions are non-profit organisations, offering their members most of the services provided by banks, yet on more attractive terms (higher deposit rates and lower lending rates).

In their totality, the credit unions make up a system of depositary/credit institutions which also includes the National Association of Credit Unions (a central institution with regulatory, supervisory and settlement functions) and the Mutual Insurance Association [TUW SKOK] (which insures the savings held at credit unions). These institutions constitute part of a “Savings Protection Programme” that is designed to ensure the safety and effectiveness of the credit unions. The particular role of these institutions stems from the fact that credit unions are not subject to supervision by the Commission for Banking Supervision.

Impact of credit union activity on banking sector stability

Given the relatively small volume of assets held by credit unions, their operations could pose a threat to financial system stability only in the event of a mass failure of these institutions that was so widespread as to endanger the cohesion of the Savings Protection Programme, and if the ensuing problems were then transmitted to the banks. However, in view of the comparatively minor share of bank deposits held by the National Association and individual credit unions (which altogether represented some 0.1% of bank deposits at year end 2002), any sudden withdrawal of these balances from the banks would not constitute any material danger to banking sector liquidity.

Systemic safeguards for the stability of the credit union sector

Pursuant to statute, the National Association is charged with a supervisory and stabilising role with respect to the system of credit unions (managing the stabilisation fund established from credit union deposits), and with safeguarding the liquidity of that system (as its “central bank”). In performance of its supervisory responsibility, the National Association sets standards for permissible risk, supervises the individual credit unions, and specifies the requirements to be met by management board members. In addition, it is authorised to prohibit the conduct of a particular line of business, and also to suspend the management board of a credit union. The objective of the stabilisation fund,

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126 The legal basis for the operations of credit unions is provided by the Act on Credit Unions of December 14, 1995 (as published in Dziennik Ustaw no. 1/1996, item 2).
127 In line with the negotiating position taken by Poland and accepted, credit unions are excluded from the application of EU banking directives.
128 The Act on Credit Unions of December 14, 1995 (as published in Dziennik Ustaw no. 1/1996, item 2).
established from contributions by affiliated credit unions equivalent to 1.22% of their assets, is to safeguard the system against insolvency and to finance rehabilitation programmes\textsuperscript{129}.

The National Association has established a standard for permissible risk in relation to the safety of the funds held by members of the credit unions, setting a requirement that these funds be insured by the credit unions at the Mutual Insurance Association to the equivalent of €22,500 (as of 2003)\textsuperscript{130}.

\textbf{Figure 4.9}

\textbf{Breakdown of credit unions by earnings}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{credit_unions_earnings.png}
\caption{Credit unions reporting positive and negative earnings by share of total sector assets}
\end{figure}

\textbf{Figure 4.10}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{credit_unions報告.png}
\caption{Credit unions reporting positive and negative earnings by share of total sector assets}
\end{figure}

\textsuperscript{129} The sums taken to this fund, in performance of Art. 43 of the Act on Credit Unions, are placed on a non-interest-bearing account at the National Association, and the fund is also supplemented by the total net earnings of the National Association.

\textsuperscript{130} Requirement under authorisation provided by Art. 35, subpara. 5, of the Act on Credit Unions.
Furthermore, the credit unions hold a liquidity reserve corresponding to 5% of their savings-and-loan fund (i.e., the savings gathered from their members, membership contributions and borrowings at the National Association), and pay a monthly premium to the Mutual Insurance Association representing from 0.02% to 0.06% of their members’ deposits. The premium rates payable to the Mutual Insurance Association by particular credit unions are based on the risk category assigned to the credit union in question.

Financial condition of credit unions

In contrast to the banks, the financial performance of credit unions improved in the years 2000–2002. The number of these institutions reporting negative earnings declined. There has also been a decrease in the share of the total assets of the credit unions represented by those recording negative earnings (cf. Figs. 4.9 & 4.10).

No credit union has failed since 1992. This is in large measure attributable to the intervention of the National Association, which has persuaded stronger credit unions to take over those whose survival was in jeopardy. An important consideration in assessing the stability of the credit unions is that their loan portfolios primarily consist of consumer loans (mainly with maturities of up to three years), and these institutions have in consequence not been exposed to the risk of corporate default or bankruptcy. In 2002, a mere 2.65% of the loans and advances granted to persons were for business purposes.

Table 4.8
Ratio of past due loans & advances (delinquency of over 30 days)

<table>
<thead>
<tr>
<th>Year</th>
<th>Ratio of past due loans &amp; advances (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>0.97</td>
</tr>
<tr>
<td>1999</td>
<td>4.04</td>
</tr>
<tr>
<td>2000</td>
<td>8.07</td>
</tr>
<tr>
<td>2001</td>
<td>11.13</td>
</tr>
<tr>
<td>2002</td>
<td>16.75(^1)</td>
</tr>
</tbody>
</table>

\(^1\) Preliminary figures.

Source: National Association of Credit Unions.

The deterioration in the financial situation of households has had a negative effect on the credit unions as it has on other institutions, and this found reflection in 2002 in an increase in past due loans and advances (cf. Table 4.8\(^{131}\)). This rise in the ratio of past due loans and advances was partly the result of the reporting standards for credit unions being put on a more ordered and uniform basis. In addition, the growth recorded in past due loans and advances was undoubtedly also related to the modest lending formalities applied (lending decisions are taken by other members of the credit union that have been elected to the credit committee, rather than by credit specialists, as is the case at banks).

Another factor that could have contributed to the increase in past due loans and advances was the lack of access by credit unions (right up until mid-2002) to the data held by the Credit Information Bureau. In an environment where the economy was flagging and the financial condition of potential borrowers was deteriorating, this additional information could have helped in refusing loan applications from customers who presented a danger of default.

Given the niche character of the activity conducted by credit unions, their capacity to compete with the banks is very limited.

\(^{131}\) It should be noted that credit unions include in this category the entire amount of their claim, i.e., principal plus contractual interest, penalty interest and statutory interest on arrears, and the relevant figures cannot therefore be measured against the irregular loan ratio at banks.
5.1. Introduction

The payment system, as a basic component of the financial infrastructure of a market economy, has a close connection with issues of financial stability. It is within the payment system that the first signs of its participants experiencing liquidity problems can be detected. Via the payment system, the difficulties suffered by one participant can spread to the remainder, leading to disruptions in the operation of the entire financial system. This linkage becomes apparent when we consider that the performance of payment by one participant in the system signifies an increase in the liquidity available to another, who in turn may have made performance of other obligations contingent on the receipt of funds from the first counterparty. On developed financial markets, the chain of interconnections between the operations conducted by particular institutions may be very extensive indeed, with the result that breaking one link in the chain may also affect counterparties that have no direct relationship with the original source of disruption. Cases of settlement default lead to a drop in mutual confidence among direct system participants and within the whole financial system. It should also be noted that the payment system not only handles the proprietary payments of direct system participants (arising, for example, from transactions on the interbank money market), but also those arising from payment instructions placed by their customers (including the instructions placed en masse each day by bank customers). This means that the consequences of disruptions in the payment system may have a negative effect not only on direct participants, but on virtually the whole economy as well. It is also worth emphasising that, while an efficient payment system may to some degree neutralise the impact on financial stability of disruptions stemming from the liquidity problems of its participants (e.g., by the use of solutions that facilitate liquidity management), a system that operates inadequately (e.g., fails to guarantee the requisite reliability and security) may itself contribute to or aggravate the undermining of stability.

Thus, it is essential for complementary measures to be undertaken by banking supervision on the one hand, and by the central bank, which oversees the payment system, on the other. These measures include:

- assessing the financial condition of banks applying to participate directly in particular payment systems,
- promoting knowledge of the risks associated with participation in payment systems,
- assessing the risk management mechanisms applied in particular payment systems and initiating change to make these mechanisms more effective.

5.2. International standards for payment systems

An awareness of the dangers posed by payment system disruptions, and of the possibility of these systems transmitting dislocations between particular domestic and international markets, has led to a tightening of international cooperation with a view to developing and implementing generally accepted standards which, when applied, would help improve the effectiveness and efficiency of payment system operations. One effect of such cooperation, which includes collaboration between the Bank for International Settlements (BIS), the International Monetary
Fund (IMF), the European Central Bank (ECB) and national central banks, has been the preparation of several reports on the operating principles, safety and minimum standards recommended for implementation in payment systems132.

One of the first reports issuing from the cooperation mentioned above (published by the BIS in 1990) contained a set of key recommendations for cross-border and multicurrency payment systems employing the principle of multilateral netting133. The recommendations set out in this report, known as the "Lamfalussy report" after the head of the group which wrote it, were for many years generally considered to represent the minimum standards for a safe payment system, while at the same time constituting the starting point for further reports, which expanded those standards. The desire to develop new standards that could be applied by the institutions overseeing payment systems was rooted, among other things, in the following considerations:

- Due to technological constraints and differing market requirements, the principles, procedures and standards applied in the payment systems of the most highly-developed countries cannot in all cases be adapted to countries where the payment system is at a lower level of development. This means there is a great need for more general principles that would on the one hand take account of “best practices”, while on the other lending themselves to universal application, regardless of the degree of development of a given payment system.

- There is a need to standardise and increase the transparency of operation of financial markets on a global scale, something that became particularly visible following the Asian crises of 1997–98.

An important outcome of work conducted by representatives of over ten central banks, the World Bank, the IMF and the BIS was the publication in 2001 of a report entitled Core Principles for Systemically Important Payment Systems134.

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**Box 5.1. Core Principles for Systemically Important Payment Systems**

I. The system should have a wellfounded legal basis under all relevant jurisdictions.

II. The system’s rules and procedures should enable participants to have a clear understanding of the system’s impact on each of the financial risks they incur through participation in it.

III. The system should have clearly defined procedures for the management of credit risks and liquidity risks, which specify the respective responsibilities of the system operator and the participants and which provide appropriate incentives to manage and contain those risks.

IV. The system should provide prompt final settlement on the day of value, preferably during the day and at a minimum at the end of the day.

V. A system in which multilateral netting takes place should, at a minimum, be capable of ensuring the timely completion of daily settlements in the event of an inability to settle by the participant with the largest single settlement obligation.

VI. Assets used for settlement should preferably be a claim on the central bank; where other assets are used, they should carry little or no credit risk and little or no liquidity risk.

VII. The system should ensure a high degree of security and operational reliability and should have contingency arrangements for timely completion of daily processing.

VIII. The system should provide a means of making payments which is practical for its users and efficient for the economy.

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5.3. Adjusting Polish solutions to conform to the Core Principles for Systemically Important Payment Systems

The principles presented above are currently taken to be the central criteria for evaluating payment systems in terms of their impact on financial stability, one expression of this being that they are part of the assessments carried out by the IMF and World Bank under their Financial Sector Assessment Programme (FSAP).

The above-mentioned assessment does not look at all payment systems in operation in a given country, but at those that are "systemically important", i.e., those which, if insufficiently protected against risk, would threaten to allow disruptions to spread among participants, and as a result throughout the financial system. Systems of this kind are generally identifiable by the size and nature of the payments they handle. Real-time gross settlement systems (RTGS systems) are usually considered systemically important, since these are primarily utilised for the settlement of transactions concluded on interbank markets (the money and securities markets). A characteristic feature of systems of this kind is the execution of particular payment instructions immediately after acceptance by the system and the transfer of funds between participants’ accounts on a transaction-by-transaction basis. These features distinguish RTGS systems from "deferred net settlement systems", where participants’ instructions are collected by the system within a designated time period, and the amount of funds transferred between particular accounts (most commonly once daily) is the result of netting all the payments due to and from a given participant. A deferred net settlement system, which is generally used to settle typical mass payment instructions from bank customers, may also be considered systemically important, where it fulfils one of the following criteria:

- it is the only payment system in the country,
- it has a large share in the value of all payments performed in that country,
- it is used for the settlement of financial market transactions or for the settlement of other payment systems.

An assessment of the kind referred to above, evaluating compliance with the principles set out in the BIS report, was also made of Polish payment systems, namely, the SORBNET system operated by the National Bank of Poland, and the SYBIR and ELIXIR systems operated by the National Clearing House (KIR SA)\(^\text{135}\). This assessment was performed by an IMF mission at the beginning of 2000.

\(^{\text{135}}\) SYBIR represents a system for the exchange of paper-based settlement documents, both credit instruments (credit transfer orders and cash deposit slips) and debit instruments (cheques). ELIXIR is a system for the exchange of electronic payment instructions, which comprise credit instruments (credit transfers) and debit transfers (direct debits and cheques drawn on personal transaction accounts).
The importance of the SORBNET system in terms of financial stability is determined — apart from the scale of settlements performed — by the nature of the payment instructions it handles, which involve open market operations, transactions on the interbank money market and transactions on the primary market for Treasury securities. The system is also used to settle the obligations of the banks calculated by KIR SA on the basis of data from the payment instructions which it processes. Similarly, the system is used to execute instructions placed by the National Securities Depositary, which form the basis for settling capital market transactions.

The systems operated by KIR SA were deemed to require assessment since these are the sole systems in Poland used to perform retail settlements between bank customers. Any disruptions to these systems could lead to all settlements being halted throughout the country (excepting those performed via SORBNET), and thereby trigger dislocations in all sectors of the economy. Nor is the value of traffic in these systems insignificant, as it accounts for a substantial proportion of all interbank settlements.

As a result of the assessment carried out by the IMF, it was found that none of the systems evaluated fulfilled all of the Core Principles.

The crucial shortcomings were considered to be the absence of:

- a sufficient legal basis guaranteeing the safety of settlements, in particularly ensuring settlement finality in the event of bankruptcy procedures being instituted,
- legal grounds for the application of multilateral netting, which is the basic principle underlying the systems operated by KIR SA,
- mechanisms guaranteeing settlement of the obligations of the banks arising from the exchange of payment instructions under the systems operated by KIR SA,
The payment system

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¥ instruments allowing the banks to manage their liquidity effectively in the SORBNET system,

¥ a legal basis that provided the NBP with clearcut powers of oversight in relation to the particular elements of the payment system.

The findings of the assessment performed within the framework of the FSAP prompted the institution of a series of measures in the years 2001—2002. The most important of these are outlined below.

1. A Bill on Settlement Finality in Payment and Securities Settlement Systems, and on the Principles for Oversight of those Systems was drafted at the NBP and enacted by the Sejm on August 24, 2001. The resulting Act, the provisions of which are to take effect on the day Poland joins the European Union (with the exception of those concerning the oversight of payment and securities settlement systems) introduces into Polish legislation the provisions of EU Directive 98/26/EC of 19 May, 1998, on settlement finality in payment and securities settlement systems. The new principles established by the Act, which is designed to limit systemic risk, include the following:

   • Netting – whether bilateral or multilateral – is legally enforceable and binding on third parties.

   • Transfer orders entered in a system prior to a moment defined by the rules of that system cannot be subsequently revoked.

   • In the event of a system participant being declared bankrupt, all their obligations arising from participation in the system prior to the declaration of bankruptcy shall be binding and cannot be questioned under bankruptcy proceedings. This provision eliminates the “zero hour rule”, whereby the orders placed by a system participant and executed on a given day prior to the declaration of bankruptcy are considered void.

   • The assets of a system participant collateralising their transactions, including operations with the central bank (e.g., the securities pledged against lombard or intraday credit facilities) cannot, in the event of their bankruptcy, be subject to the proceedings provided for under Bankruptcy Law. The introduction of this principle guarantees the inviolability of the rights (with respect to this collateral) held by the parties that received the collateral, which constitutes an important factor preventing a spread of payment system disruptions that could jeopardise financial stability.

2. In October 2001, the NBP implemented a central payment queue with an optimisation routine in the SORBNET system, which allows a reduction in liquidity requirements within that system.

This solution involves adopting the principle that instructions from a system participant lacking sufficient funds for payment on their account are not rejected by the system, but are held in a “queue” and executed as additional funds arrive on that participant’s account. Further, the optimisation routine makes it possible to check:

Table 5.3
Share of systems operated by KIR SA in total interbank settlements, by value

<table>
<thead>
<tr>
<th>Year</th>
<th>Value of traffic in SYBIR &amp; ELIXIR systems (billion zloty)</th>
<th>Share of traffic in KIR SA systems in value of total interbank settlements (%)</th>
<th>Traffic times GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>954.3</td>
<td>49.8</td>
<td>2.5</td>
</tr>
<tr>
<td>1997</td>
<td>1380.6</td>
<td>45.8</td>
<td>2.9</td>
</tr>
<tr>
<td>1998</td>
<td>2015.7</td>
<td>41.2</td>
<td>3.6</td>
</tr>
<tr>
<td>1999</td>
<td>3022.7</td>
<td>46.1</td>
<td>4.9</td>
</tr>
<tr>
<td>2000</td>
<td>3839.1</td>
<td>39.2</td>
<td>5.4</td>
</tr>
<tr>
<td>2001</td>
<td>4561.0</td>
<td>33.8</td>
<td>6.1</td>
</tr>
<tr>
<td>2002</td>
<td>4752.9</td>
<td>29.6</td>
<td>5.2</td>
</tr>
</tbody>
</table>

Source: NBP calculations based on data from KIR SA.
• whether there are orders in the queue from other participants, which cannot be performed due to a lack of available funds, and which involve payments to the participant concerned; if this is the case, then:

• whether the particular participants hold sufficient funds to cover their obligations as calculated by netting their orders with those placed for their account by other participants; should this condition be fulfilled, all the orders included in the netting procedure are executed.

The application of this optimisation routine often permits the performance of instructions received from system participants in a situation where they lack the funds necessary to settle each of their orders individually.

3. As of December 2001, the NBP made available to the banks a non-interest-bearing intraday credit facility, collateralised by Treasury bills deposited in the SKARBNET system, which has resulted in a significant improvement in settlement efficiency.

4. As of December 2001, banks holding current accounts in the SORBNET system became entitled to place their surplus funds on overnight deposit at the NBP.

With regard to the aforementioned Act on Settlement Finality in Payment and Securities Settlement Systems, and on the Principles for Oversight of those Systems, those provisions which authorise the NBP to oversee payment systems took effect on January 1, 2002. As a result, as of that date the NBP commenced the exercise of oversight of payment systems on the basis of formal statutory powers. In performance of its oversight responsibilities, the NBP conducted an assessment of the payment systems operated by KIR SA and PolCard SA to review their operational efficiency and safety, and compliance with the provisions of Polish law. The overriding objective of the assessment performed was to identify any areas that presented potential systemic risk, and thus posed a threat to financial system stability.

With respect to the KIR SA systems, the NBP decided to recognise ELIXIR as systemically important for the Polish payment system, principally in view of the fact that, following the termination of the SYBIR system in mid-2004, ELIXIR would be the sole system in Poland used to settle the mass payments of bank customers. A consequence of this decision is that the ELIXIR system will have to conform to the Core Principles. In particular, the President of the NBP issued a recommendation to KIR SA to provide a “guarantee of settlement”. Given the need for the banking community to examine various options for carrying out this recommendation from the NBP, and to ensure the time necessary to perform the relevant changes to the operating principles of the system, the recommendation set an implementation deadline of year end 2004.

In September 2002, the NBP performed another assessment of the SORBNET and ELIXIR systems, with the findings presented to a meeting of the Payment System Council. This assessment revealed that neither SORBNET nor ELIXIR were yet in compliance with all of the Core Principles.

In the case of SORBNET, particular attention should be given to Core Principle I (the legal basis for the operation of the system), which is satisfied only in part, mainly due to the fact that certain provisions of the Act on Settlement Finality have yet to take effect (pursuant to that Act, they are to take effect on the day Poland joins the European Union), which specifically means that the current state of affairs poses a risk of disruption, especially in the event of a system participant being declared bankrupt. Another principle that cannot be considered to be fulfilled in full is no. VII (the system’s security and operational reliability). This view is borne out by sporadic disruptions to the operation of the system, which chiefly involve electronic mail, used under SORBNET as the basic vehicle for participants forwarding payment instructions. In the case of ELIXIR, the most serious reservations concern compliance with Core Principles I (these reservations are similar to those regarding SORBNET) and III (risk management mechanisms). Core Principle V is not satisfied at all (there are no mechanisms guaranteeing settlement), with the result that there are major weaknesses which could generate disruptions to the operation of ELIXIR and cause these to spread throughout the financial system.
As regards the responsibilities of the central bank appended to the Core Principles, there is concern as to the degree to which Responsibility A is discharged, since there is no publicly stated central bank policy with respect to the payment system.

As mentioned earlier, the assessment of conformity with the Core Principles performed by the NBP had the aim of identifying those areas that could be the source of dislocations to the payment system, and thereby to the financial system as a whole. Seeking to reduce the dangers identified to a minimum, the NBP primarily took steps to address those areas where these dangers could have the most far-reaching consequences. With respect to the payment systems referred to above, the priority objectives were determined to be the following:

- **SORBNET**
  a) strengthening the legal basis for the operation of the system,
  b) improving system security as regards ensuring continuity of operations, including contingency arrangements for processing.

- **ELIXIR**
  a) strengthening the legal basis for the operation of the system,
  b) introducing mechanisms ensuring the timely completion of daily settlements in the event of an inability to settle by the participant with the largest single settlement obligation.

The following may be regarded as the most important tangible effects of the measures taken in 2002:

- the maintenance by the Sejm, at the initiative of the NBP, of provisions in the Bankruptcy and Corporate Rehabilitation Bill that are designed to accelerate the taking effect of the regulations concerning settlement finality; the relevant provisions were adopted by the Sejm on February 28, 2003, meaning that, once these take effect, Core Principle I can be taken to be satisfied;

- the commencement of work by KIR SA with a view to implementing the recommendation of the President of the NBP concerning the introduction of a guarantee mechanism for settlements performed under the systems operated by KIR.

At the same time, systematic analyses are being conducted at the NBP related to ensuring the continuity of operation of IT systems, particularly those considered critical for settlement liquidity. An important aspect of this is an analysis of the solutions adopted in terms of fulfilling the stringent requirements laid down by the European Central Bank. The significance of this issue is underlined by the need for the NBP to make preparations for participation in the TARGET system.

A point that should also be stressed is the major part played in this activity by the banks and other institutions involved in the functioning of the payment system infrastructure. The Payment System Council has operated as a forum for the coordination of activity, and it is here that the findings were presented of the assessments performed by the NBP, and previously by the IMF and World Bank mission. The Council has also heard presentations from KIR SA on concepts for the guarantee of settlement, and proposals from the NBP concerning the principles for oversight of payment systems and the central bank’s policy in this area, which represents an element in the fulfilment of Responsibility A of the Core Principles.
The impact of the new legal framework on bank risk management

6.1. Introduction

An important component of the regulations that constitute the legal environment conditioning the operations of the banks are “parametric” instruments of banking supervision. These represent standards specifying minimum requirements, and are established in order to limit the possibility of the banks assuming excessive risk. This is intended to help strengthen the safety of the banking sector as a whole.

The initial years of banking supervision were devoted to developing the prudential framework and prudential practices. The entire decade of the 1990s was a time of amendments to regulations and their adjustment to correspond to changing conditions (new risk factors, the increasing impact of market risk, and new risk management techniques). In the period under review, the years 2001–2002, banking supervision largely focused its attention on the need to bring domestic regulations into line with those in force in the European Union, with International Accounting Standards, and with the new guidelines of the Basle Committee on Banking Supervision. The regulators carried out this task through amendments to the provisions of statute law and the accompanying implementing regulations.

The amendments performed to the Banking Act in 2001 ushered in significant changes to the makeup of the legal provisions that constitute prudential standards. In addition, under the regulations on consolidated supervision, the legal foundations were laid for establishing and applying these standards on a consolidated basis as well. In 2002, GINB carried out a review of its prudential recommendations in terms of their current applicability and compliance with the regulations in place. In analysing the impact of the legal framework and prudential regulations on the quality of risk management at the banks, attention was concentrated on the regulations relating to the banking sector developed by the National Bank of Poland, the Commission for Banking Supervision and the Ministry of Finance.

Another event of major importance were the changes to accounting regulations that occurred on the taking effect of amendments to the Accounting Act and a series of ordinances issued by the Minister of Finance. Many of the changes involved the tidying up of existing legislation and were associated with adapting Polish regulations to conform to the legal requirements obtaining in the European Union. The principles applicable to the valuation and booking of financial instruments were defined and made more detailed, as were the methods and scope of consolidating the accounts of affiliated undertakings. Provisioning procedures, established by the Commission for Banking Supervision until the end of 2001, are currently regulated by an ordinance of the Minister of Finance.

The key changes in prudential standards included the following:

- the introduction of a new capital adequacy standard,
- modifications to the calculation of a bank’s capital base (regulatory capital),

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- amendments to the requirements concerning large exposures.

As regards changes in the area of bank accounting, the most significant were:
- new regulations on the valuation of bank assets and liabilities,
- new principles for the consolidation of accounts,
- amendments to the procedures for provisioning against the risk of banking operations.

6.2. Amendments to prudential standards

Introduction of a new capital adequacy standard

The introduction of a new capital adequacy standard was of pivotal importance for the banking sector. Compliance with the new standard requires the fulfilment of three conditions, namely, that a bank has the requisite capital base, that it satisfies the relevant set of capital requirements, and that it has a risk-based capital ratio at the appropriate level. Under the new wording of Art. 128 of the Banking Act, the banks are obliged to maintain:

1) their capital base at a level no lower than the zloty equivalent of \( \mathbf{5,000,000} \), translated at the mid-rate published by the National Bank of Poland and ruling on the day the accounts are drawn up, with the proviso that non-cash considerations for equity cannot exceed 15% of the bank’s basic equity and equivalents.\(^{138}\)

2) the sum total of their capital base and the additional items of bank balance sheets specified by the Commission for Banking Supervision, less the amount exceeding the ceiling on capital holdings, at a level no lower than the sum of capital requirements against particular risks involved in the bank’s activity,

3) their risk-based capital ratio at a level of no less than 8%, with a bank commencing operating activity required to maintain this ratio at no less than 15% for the first 12 months of operations, and at no less than 12% for the following 12 months.

Should a bank fail to meet the above requirements, it must notify the Commission for Banking Supervision immediately. In addition, at the request of the Commission, a bank is required to provide any and all information concerning its compliance with the requirements and standards laid down in Art. 128, quoted above. The changes in the content of this Article of the Banking Act were dictated by the need to bring prudential requirements concerning the composition of the capital base into line with Directive 2000/12.\(^{139}\)

In performance of its statutory authorisation, the Commission for Banking Supervision drew up Resolution no. 5/2001 on procedures for determining capital requirements against particular risks.\(^{140}\) This completed the phase of adjusting prudential regulations to correspond to the European Union standards contained in the capital adequacy directive (CAD) and subsequent

\(^{138}\) At banks incorporated as public limited companies, this comprises authorised share capital, paid-up and registered, together with the capital surplus and reserve capital.

\(^{139}\) The principal point of reference in assessing the compliance of Polish banking legislation with EU standards are the provisions of Directive 2000/12/EC of the European Parliament and of the Council of March 20, 2000, relating to the taking up and pursuit of the business of credit institutions (OJ L 126 26.05.2000, pp. 0001-0059). This replaced a series of previous banking directives governing various areas of the activity of credit institutions within the EU.

\(^{140}\) Resolution no. 5/2001 of the Commission for Banking Supervision on the scope and detailed procedures for calculating a bank’s risk-based capital ratio, taking account of the bank’s links with subsidiary undertakings or other undertakings belonging to the same group of companies, and on the specification of additional items of bank balance sheets included together with the capital base in calculating capital adequacy, and the scope and method of determining such items, December 12, 2001 (as published in Dziennik Urzedowy NBP no. 22/2001, item 43).
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amendments to it (CAD II). This phase involved the incorporation in the Polish system of prudential regulations of advanced methods of measuring and monitoring the risks arising from banking activity. In EU legislation, the CAD and CAD II directives expanded the prevailing requirements concerning the risk-based capital ratio. Similarly, Resolution no. 5/2001 of the Commission for Banking Supervision replaced previous regulations on the banks’ risk-based capital and extended them to include the following questions related to market risk:

1) capital charges against non-credit risks in banking operations,
2) a division of the bank’s operations into the trading and banking books,
3) a requirement that the bank calculate, on a daily basis, the outcome (market profit or loss) on its trading book,
4) a uniform standard for measuring market risk in the trading book,
5) the sanctioning of the use of advanced statistical models for market risk measurement and the calculation of market risk capital requirements.

Banks are required to maintain their capital base at a level commensurate to the risk they assume. The overall capital requirement to be met is defined as the sum of capital requirements arising on a bank’s exposure to particular risks. The resolution in question specifies the kinds of risk involved, risk measurement methods and the method of calculating capital requirements.

An important aspect of the resolution is the distinction introduced between the trading and banking books. A specification is given of the types of transaction and instrument that make up the trading book (simplifying matters, these comprise all kinds of short-term transaction). As in the CAD, the banking book is not defined explicitly, but understood as all those operations not included in the trading book.

Another concept introduced is the scale of trading book business, taken to be the value of the trading book as a proportion of total bank operations. It is the scale of trading book business that determines whether a bank is to be subject to a simplified capital adequacy regime (basically limited to credit, FX and commodity price risk, together with breaches of large exposure limits), or to a regime that encompasses the full set of risks arising from its operations. A new formula is given for the risk-based capital ratio, expressed as the quotient of the capital base and the overall capital requirement, multiplied by 12.5. This approach to risk-based capital ensures it is consistent with a comparison of the capital base and the overall capital requirement. The resolution allows the capital requirement against each type of risk to be calculated using methods of varying degrees of complexity, from simplified methods to ones employing Value at Risk (VaR), while also permitting the VaR method to be applied to more than one kind of risk.

**Modifications to the calculation of a bank’s capital base**

The amendments to the Banking Act altered the wording of Art. 127 as of January 1, 2002. The chief principles governing the composition of the capital base were maintained. The distinction

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141 Commodity price risk refers to the risk of price movements relating to any physical traded product of a specified type and category that is quantifiable in units of physical measurement, excluding gold, tangible fixed assets, and items collateralising the bank’s claims.

142 In the case of banks with significant trading book business, the capital base is increased by trading book ancillary capital and decreased by any amount exceeding a ceiling on capital holdings.

143 The Act Amending the Banking Act and Other Legislation of August 23, 2001 (as published in Dziennik Ustaw no. 111/2001, item 1195), and Resolution no. 6/2001 of the Commission for Banking Supervision on detailed procedures for determining the capital base of banks belonging to banking groups for the purpose of applying the standards and limits stipulated in the Banking Act, on the level and detailed scope of deductions from a bank’s core capital and the conditions for such deduction, on other items of bank balance sheets to be included in supplementary capital, the level thereof and the conditions for such inclusion, on other deductions from a bank’s capital base, the level thereof and the conditions for such deduction, and on the consideration to be given to a bank’s links with subsidiary undertakings or other undertakings belonging to the same group of companies in determining the method used to calculate the capital base, December 12, 2001 (as published in Dziennik Urzedowy NBP no. 22/2001, item 44).
between core and supplementary capital continues to apply. Pursuant to this Article, the Commission for Banking Supervision can have a bearing on the size of the capital base both via bank-specific legal instruments (approving the inclusion of subordinated loan capital or of an additional portion of the commitments of members of cooperative banks) and via general instruments issued under authorisation given in this Article. A bank’s capital base comprises its core capital and supplementary capital (no greater than core capital), less deductions from the capital base.

The change to the previous wording of Art. 127 was designed to bring the calculation of a bank’s capital base fully into conformity with the requirements of Directive 2000/12. As regards the methodology for calculating the capital base of a bank operating on a standalone basis, the changes introduced flow directly from the amendments to the Banking Act. In accordance with Art. 127, para. 3, subpara. 3, of the Act, the Commission for Banking Supervision may specify other items of bank balance sheets to be included in supplementary capital, although these must have been assigned exclusively to the absorption of any loss incurred by the bank. Since some of the previous components of supplementary capital failed to satisfy this basic condition, they had to be eliminated. This involved the investment fund, certain historical types of subordinated debt, and other funds established pursuant to other regulations.

For banks that have capital links with other undertakings, the requirement has been introduced that they determine their consolidated capital base. This change stemmed from the establishment in Polish law of the institution of consolidated supervision, in accordance with the requirements of EU legislation. In line with the provisions introduced, the consolidated capital base should be calculated on the basis of consolidated accounts (an identical method has been adopted for banking groups). The requirement of determining the consolidated capital base is limited to banks that have subsidiary undertakings (including within the framework of a corporate group). This limitation is traceable to the technical constraints on calculating and applying prudential banking standards where the parent organisation is a non-bank undertaking.

*Large exposure limits* 144

The amendment to Art. 71 of the Banking Act is the result of a desire to adjust the provisions therein to reflect fully the requirements of Directive 2000/12. In addition, these provisions were revised to remove the doubts that had arisen on the practical application of large exposure limits. The changes to Art. 71 involve:

- the express stipulation that a bank’s large exposure limits, equivalent to 20% and 25% of its capital base, include off balance sheet commitments extended (in addition to claims outstanding),
- the introduction of separate large exposure limits for customers connected with the bank through a parent-subsidiary relationship (20%) and for other parties that are not connected to the bank by capital or management (25%),
- an extension of the scope of exemptions from the 20% and 25% limits,
- statutory authorisation for the Commission for Banking Supervision to specify the rules to be applied in calculating large exposure limits.

Resolution no. 7/2001 of the Commission represents the performance of three statutory authorisations given to the Commission and also takes account of the solutions employed in

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144 The Act Amending the Banking Act and Other Legislation of August 23, 2001 (as published in Dziennik Ustaw no. 111/2001, item 1195), and Resolution no. 7/2001 of the Commission for Banking Supervision on the detailed procedures and conditions for including claims and extended off balance sheet commitments in determining compliance with large exposure limits, on the specification of other claims and extended off balance sheet commitments exempt from the provisions concerning large exposure limits, and on the consideration to be given to a bank’s links with subsidiary undertakings or other undertakings belonging to the same group of companies in calculating large exposures, December 12, 2001 (as published in Dziennik Urzedowy NBP no. 22/2001, item 45).
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Directive 2000/12. The resolution contains detailed principles and conditions for the inclusion of claims and extended off balance sheet commitments in the determination of limit compliance. Particular claims and commitments are to be considered at nominal value, without deducting any specific provisions established and without applying any risk weights (in the case of claims) or counterparty risk weights (commitments). Thus, the items concerned constitute the actual individual exposures to a bank’s counterparty, while their sum total reflects the potential large exposure. Thanks to this approach, the picture obtained of the bank’s exposures is more precise, and may be assessed more unambiguously. In addition, an indication is given of the linkages between particular resolutions of the Commission as regards deductions from the capital base, which are exempt from large exposure limits, and as regards the method of expressing the value of off balance sheet commitments to lend and guarantee commitments. The resolution includes a listing of other claims and commitments that are exempt from the provisions of the amended Art. 17, paras. 1 and 2, of the Banking Act. The list of exempt exposures has thus been extended, in accordance with the statutory authorisation granted, thereby bringing Polish regulations in this area into line with European practice.

Given the progressing consolidation of the banks and the possibility of consolidated supervision being applied to corporate groups, the bank’s capital relationships have also been taken into consideration in setting large exposure limits. Banks subject to consolidated supervision are required to calculate their large exposure limits on a solo basis, and also to calculate them separately for the bank and its subsidiary undertakings together, as if these all constituted one bank in relation to parties outside the group. A determination of consolidated large exposure limits has to be based on the capital base of the group as a whole and the consolidated accounts. Consolidated large exposure limits are applicable only to those banks with subsidiaries (and similar relationships within a larger corporate group).

6.3. Amendments to accounting regulations

New regulations on the valuation of bank assets and liabilities

The valuation process is intended to measure the monetary amounts corresponding to the assets and liabilities carried in a company’s accounts. The principal changes that took place in relation to the valuation of assets and liabilities in the period under review involved the introduction of new classification categories and measurement methods for financial instruments. The new categorisation of financial instruments applied under an ordinance of the Minister of Finance encompasses the following types of asset:

- financial assets held for trading,
- originated loans and receivables,
- financial assets held to maturity,
- financial assets available for sale.

The new provisions on the categorisation of financial instruments require a specification to be made, at the moment of acquisition or origination, of the length of time an instrument is to be held in an undertaking’s portfolio. There is thus no scope for arbitrary reclassifications of given instruments. The amended regulations establish new valuation methods for items shown in the accounts, i.e., measurement to fair value and at amortised cost, as adjusted by the effective interest rate.

145 Ordinance of the Minister of Finance on detailed procedures for the recognition of financial instruments, the measurement methods applicable to such instruments, the scope of their disclosure and the manner of their presentation (as published in Dziennik Ustawi no. 149/2001, item 1674).
146 A detailed description of these categories is given in §6–9 of the Ordinance.
• **Fair value** is the amount for which an asset could be sold, or a liability settled, in an arm’s length market transaction between willing and knowledgeable parties. The fair value of a financial instrument traded on an active market constitutes the market price less transaction costs, if these were to be significant.

• **The amortised cost as adjusted by the effective interest rate** represents the acquisition cost of the instrument minus principal repayments, adjusted by discounting its value at the effective interest rate. This rate reflects the change in the yield on a financial instrument, adjusted by costs incurred and fees received.

The new valuation methods are designed to ensure that company accounts clearly show the effects of financial operations performed (movements in the value of securities portfolios and in the level of risk assumed). One problem, however, is the lack of any standard for determining the effective interest rate, and indeed the considerable degree of subjective discretion applied.

The interval between enactment and implementation in the case of these regulations was too short for there to be any chance of bank accounting systems being realigned to cope with the new standards. Due to the obstacles that emerged in developing a valuation methodology for the amortised cost method and in adapting bank IT systems, it was decided that the taking effect of these provisions would be deferred until January 1, 2004.

The General Inspectorate of Banking Supervision has conducted a survey of commercial banks to judge the impact of the changes in accounting principles on the value of commercial bank assets. The results of this survey indicate that the value of assets measured to fair value and classed as *held for trading* would have risen 5bn zloty, while that of assets in the category *available for sale* would have gone up 1.1bn zloty. Meanwhile, assets valued at amortised cost and included in the categories *originated loans and receivables* and *held to maturity* would have been written down 4.1bn and 2.8bn zloty, respectively. The estimated net movement in the value of instruments in these four asset categories came to a negative 769m zloty. The net movement in the total assets of the commercial banks stood at a negative 537m zloty.

These calculations imply that the change in asset values will not be large. The problem, however, is the implementation cost of the new IT systems used to value assets under the new rules.

The estimation of asset and liability values in line with the new principles may yield certain discrepancies in balance sheet amounts. These will be treated as unrealised gains or losses and entered in the bank’s profit and loss account under **net gains/losses on financial operations**, or **net FX gains/losses** (depending on the character of the transaction concerned).

The effects of movements in the value of financial instruments classed as *available for sale* and remeasured to fair value will be reflected both in the profit and loss account and on the bank’s capital accounts, under the item *revaluation reserve*. Until now, movements of this sort were only taken to profit and loss.

**Principles for the consolidation of accounts**

The legal regulations concerning the compilation of consolidated accounts are the result of work undertaken with a view to harmonising Polish regulations with International Accounting Standards (IAS) and the legislation of the European Union. As of January 1, 2005, all listed companies in the European Union and in Poland will be required to draw up their accounts in accordance with IAS. In the case of companies required to prepare an opening balance, the application of IAS has already taken place, as of January 1, 2003. The compilation of consolidated accounts is regulated by the Accounting Act, as amended, and the relevant ordinance of the Minister of Finance147. The key changes performed in this area include the following:

147 Ordinance of the Minister of Finance on procedures for the compilation of the consolidated accounts of banks and the consolidated accounts of financial groups, December 12, 2001 (as published in Dziennik Ustaw no. 152/2001, item 1728).
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6.4. Other changes

A major question in terms of the banks’ lending policies was the alteration of regulations regarding the audit requirements for small companies. These are not required to have their accounts audited where they fulfil two out of three specified requirements, namely, annual average staffing of no more than 50, total assets of under €2.5m, and net sales revenues of under €5m. A lack of audit requirements radically impairs the quality of company accounts, thereby inducing banks to deepen their credit analysis and take additional precautions in relation to borrowers. An assessment of repayment capacity using unaudited financials is difficult, and certainly less reliable. It is estimated that 2/3 of Polish GDP is generated by firms that are not required to have their accounts audited.

Another important change for the banks is the provision in the Accounting Act concerning claims classified special mention. This obliges the banks to treat interest receivable on these claims as income in suspense, booking it accordingly under the item accrued expense, deferred income and income in suspense.

A joint subsidiary constitutes an undertaking jointly controlled by a parent organisation or significant investor and other shareholders or partners, pursuant to its articles of association, memorandum of association or another agreement concluded for a term of no less than one year. Joint subsidiaries that are not registered companies are subject to consolidation by a proportional method, whereby the items in their financial statements are summed, and then adjusted. Joint subsidiaries that operate as registered companies are consolidated by the equity method.


The equity method involves reporting, in the consolidated accounts of a corporate group, investments in associate or subsidiary undertakings that correspond to that part of the capital of those undertakings attributable to the parent undertaking of the group. The value of the investments shown is calculated as the percentage of net assets, expressed at fair value, attributable to the parent.

In December 2002, claims classified special mention amounted to 14,435m zloty.
Under the Ordinance of the Minister of Finance on specific provisioning procedures, when an exposure is classified *special mention* there is no delinquency of over one month in payment of either principal or interest, and the financial condition of the obligor does not give rise to concern, yet there are reservations regarding the risk associated with a given region, industry, group of customers or product group. This risk category requires specific provisions of 1.5%. The obligation to book interest on these exposures as income in suspense, rather than recognising this as current period interest income, reduces the bank’s earnings.

6.5. Summary

The period under review witnessed very significant changes in the regulatory policy pursued by the Commission for Banking Supervision. A turning point was the inclusion in the Banking Act of a new capital adequacy standard. This fact should be viewed not only in terms of the relevant requirements in Poland having already, in 2002, achieved full conformity with EU standards and the guidelines of the Basle Committee on Banking Supervision, but also in terms of the large progress made in the quality of the standard now established. This will increase the safety of the banks and allow a more precise determination of what risks are covered by capital. The systematisation and full correspondence with EU standards of the regulations on the calculation of the capital base and large exposure limits will assist in comparisons with banks from other countries. The package of regulatory amendments introduced compels the banks to be more meticulous in their risk management, to carry out a better, comprehensive identification of risk factors, to apply accurate measurement techniques, along with appropriate internal controls and audit, to calculate their capital requirements properly, and to comply with the capital adequacy standard in force. All of this signifies increased safety, although it also spells greater expenditure on IT technologies, risk management support tools and the expansion of data bases.

An assessment of how the new solutions were working, performed in mid-2002, allowed a judgement to be made for the first time on the level of market risk, namely, that it does not pose a significant threat to the Polish banking sector, representing around 7% of the total risk exposure of the banks. As expected, the key types of market risk proved to be FX risk and interest rate risk. The establishment of new prudential arrangements resulted in a small change in the aggregate risk-based capital ratio of the banking industry, which slipped around 1%, whereas the projection had been a decline of 1.4%. The banks gave a positive reception to the changes performed and smoothly adjusted to the new requirements (similar views are expressed by representatives of bank risk management departments).

The purpose of the amendments carried out to accounting regulations was to harmonise Polish law with EU legislation and International Accounting Standards. The data presented in the accounts of Polish institutions will now become internationally comparable.

As GINB had projected, the alteration of valuation principles will be neutral in its effect on the financial instruments held by the banks.

As regards the consolidation of accounts, the basic aim of the changes made was to improve the transparency and accuracy of the consolidated accounts compiled by corporate groups. This aim could only be achieved by implementing principles convergent with IAS and international regulations.

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152 Classification principles are laid down in the Ordinance of the Minister of Finance on procedures for establishing specific provisions against the risk of banking operations, December 10, 2001 (as published in *Dziennik Ustaw* no. 149/2001, item 1672). As of January 1, 2002, decision-making powers in this area were transferred from GINB to the Ministry of Finance. However, GINB participated in the development of the ordinance in question, which represented implementing legislation to the Accounting Act and constituted a modification of the resolution of the Commission for Banking Supervision which was in force until year end 2001. A discussion of the changes in the new regulation is given in section 7.2, entitled “Principles for loan classification and specific provisioning”.
Part II

7
Monographic studies

7.1. Banking sector stability and the increase in irregular loan ratios

Given the high proportion of loans classified irregular, concern has been expressed as to whether the situation of Poland’s banking sector might not be similar to that seen in the years 1992–94. The purpose of this article is to clarify to what extent that concern is justified. The analysis presented below represents an attempt to seek answers to the following questions:

1. Does the current situation of the banks in terms of irregular loan ratios resemble that witnessed in the years 1992–94?
2. Is the high proportion of irregular loans in these two periods attributable to the same causes?
3. Can it be concluded that the threats now posed to the banking sector are similar to those present in the 1990s?
4. Are the potential macroeconomic consequences of high irregular loan ratios similar?
5. Does the above imply that similar remedial measures are called for?

In short, the above questions can be summarised as follows: Do the figures portraying the proportion of loan portfolios classified irregular have an economic significance comparable to the developments observed in the years 1992–94?

Figure 7.1
Proportion of irregular loans in bank portfolios, 1992–2002

<table>
<thead>
<tr>
<th>Year</th>
<th>Substandard</th>
<th>Doubtful</th>
<th>Loss</th>
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<tr>
<td>1992</td>
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<td>1993</td>
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<td>2002</td>
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Source: NBP.
7.1.1. Proportion of bank loans classified irregular

In the years 1992–94, over 30% of all bank loans were classified irregular, with more than half of these classified loss. In the years 2000–2002, the ratio of irregular loans was lower, and more importantly, the share of loss classifications was smaller (cf. Fig. 7.1). The asset classification principles adopted in 1992 have remained in force to this day, with certain modifications. It could therefore be inferred that the numbers reflect kindred experiences, and that an application of the classification criteria employed in the years 1993–94 to current loan portfolios would most probably produce discrepancies in classification and allocation to particular risk categories that were minimal compared to those obtained using today’s procedures.

To judge if the figures on irregular loan ratios in the two periods refer to the same situation, a determination has to be made of whether loan classification methods have not changed, and more broadly, of whether the legal and regulatory environment for the operations of the banks has not changed.

7.1.2. Legal and regulatory environment

It became apparent in the very first years of economic transition that a series of legal standards were out of step with the requirements of a market economy. This was also true within the banking sector. Major amendments were made to the Banking Act in 1992, including ones that facilitated banking regulation and supervision. Modified accounting principles were introduced in January 1992. These made it possible to present accurate data on the condition of the banks. Comprehensive accounting solutions for business undertakings, including banks, were then implemented in 1994 under the Accounting Act.

The key regulation in terms of credit risk assessment was not introduced until December 1992. The asset classification system established under this regulation required the banks to establish full specific provisions against their irregular assets by the end of 1993. Since the previous standard in place had been a Recommendation of the President of the NBP, which did

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Table 7.1

<table>
<thead>
<tr>
<th>Year</th>
<th>Substandard</th>
<th>Doubtful</th>
<th>Loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>1992</td>
<td>9.7</td>
<td>9.7</td>
<td>12.3</td>
</tr>
<tr>
<td>1993</td>
<td>7.3</td>
<td>6.1</td>
<td>16.7</td>
</tr>
<tr>
<td>1994</td>
<td>5.8</td>
<td>5.4</td>
<td>16.7</td>
</tr>
<tr>
<td>2000</td>
<td>4.4</td>
<td>5.1</td>
<td>5.5</td>
</tr>
<tr>
<td>2001</td>
<td>4.7</td>
<td>4.7</td>
<td>8.3</td>
</tr>
<tr>
<td>2002</td>
<td>4.6</td>
<td>5.2</td>
<td>10.9</td>
</tr>
</tbody>
</table>

Source: NBP.

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153 In reality, asset classification criteria were tightened in terms of the cut-off dates for delinquency (loans classified substandard in 1993 would have in some cases been considered doubtful in 1994, while certain doubtful loans would have been treated as loss). At the same time, the list of security eligible for deduction from the provisioning base was expanded. On this, see the particular regulations of the President of the NBP on offsetting banking risk through the establishment of specific provisions, viz. Regulation no. 19/92, November 18, 1992 (as published in Dziennik Urzędowy NBP no. 11/1992), Regulation no. 11/93, October 5, 1993 (Dziennik Urzędowy NBP no. 12/1993), Regulation no. 2/94, January 7, 1994 (Dziennik Urzędowy NBP no. 1/1994) and Regulation no. 13/94, December 10, 1994 (Dziennik Urzędowy NBP no. 23/1994). The current loans classification regime is dealt with more extensively in section 7.2 of the present Report, entitled “Principles for loan classification and specific provisioning”.

154 These included accrual basis accounting for interest on both assets and liabilities, and the full and conservative valuation of both the assets and the liabilities and capital shown in bank balance sheets. Cf. Regulation no. 1/91 of the President of the NBP on uniform principles of bank accounting, December 12, 1991 (as published in Dziennik Urzędowy NBP no. 2/1991, item 3).


156 Regulation no. 19/92 of the President of the NBP on offsetting banking risk through the establishment of specific provisions, November 18, 1992, op. cit.

157 This was the original deadline, which was subsequently put back by one quarter. Several banks were treated more leniently, i.e., they were given an advance exemption from the need to provision by the original deadline.

158 Recommendation no. 2/90 of the President of the NBP on the review and classification of claims on customers and banks, August 10, 1990.
not have the force of an unconditionally binding legal instrument, the banks had not carried out a proper evaluation of their loan portfolios and had not performed sufficient provisioning. As a result, most of the requisite provisions had to be established in a short space of time, only once the new Regulation of the President of the NBP had taken effect.

Despite the introduction of the appropriate regulations, the banks did not have the financial capacity to establish full specific provisions by the required deadline without incurring losses, i.e., without diminishing their capital. Thus, the assistance of their shareholders proved essential, which in the case of state banks meant supporting them with restructuring bonds issued by the Treasury. These bonds strengthened the banks’ capital position and allowed them to make up the shortfall in specific provisions, and then to write off part of their loans as part of a restructuring process. The legal basis for providing the banks with the bonds concerned was furnished by the Act on the Financial Restructuring of Enterprises and Banks of February 1993\(^{159}\).

7.1.3. Causes of high irregular loan ratios

**Situation and operations of the banking sector**

Any comparison of the operations of the banking sector in the periods under consideration has to factor in the differences connected with the sector having moved to a different stage of development. In the years 1992–94, the banking sector was more fragmented. The particular banks carried on business on a smaller scale than at present, and their assets were consequently much less diversified, making the banks much more sensitive to external disruptions. In addition, the sector was dominated by state banks, which on the one hand signified that the Treasury was responsible for their operations, while on the other it meant that a large part of the banking industry displayed the characteristics (including the defects) typical of state banks. The situation of the banks was a difficult one; in formal terms, many of them were trading while insolvent. At the same time, the banks retained strong liquidity, thanks to which the condition they were in did not trigger customer anxiety and made it possible to avoid the danger of a banking panic.

Today, most banks are controlled by private-sector shareholders, principally prominent foreign banks. The banks are in the main profitable and solvent, and they perform their specific provisioning on an ongoing basis as assets are classified, i.e., without any greater delays, which was frequently the case in the years 1992–94. As a result, an increase in specific provisioning expense can cause no more than temporary difficulties (by reducing earnings). In the present situation, the cost of any bank restructuring would primarily be borne by the given institution’s private-sector owners.

**Macroeconomic situation and systemic factors**

The large share of loans classified irregular was largely rooted in similar factors in both of the periods under analysis. It is traceable to the weakening of economic growth and the deterioration in the finances of bank customers. However, the problems encountered by corporate customers differed in the two periods in question.

The beginning of the 1990s was a time of recession driven by transition, as the economic system was remodelled and the stabilisation undertaken of a structurally imbalanced economy. A “hard budget constraint” was imposed on business enterprises, depriving them of the opportunity to shift their own financial problems onto their parent organisations, and in the last resort onto central government and the taxpayer. This led to severe financial difficulties at these enterprises. In addition, rapidly mounting unemployment and import competition caused a demand barrier to emerge, restricting sales markets. One of the most serious sources of difficulty to bank customers in this period were the problems they faced in collecting receivables from their own customers (due to “payment bottlenecks”).

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\(^{159}\) The Act on the Financial Restructuring of Enterprises and Banks (…) of February 3, 1993 (as published in Dziennik Ustaw no. 18/1993, item 82). This Act also had certain other objectives, e.g., it was intended to smooth preparations for bank privatisation and assist the privatisation of state enterprises.
The years 2000–2002 should be regarded as the first economic slowdown related to the business cycle. The visible effects of this included liquidity problems at numerous companies, and a buildup of past due receivables and liabilities (including bank debt), which in some cases even led to corporate failures.

**Tax system**

The tax regime is currently more conducive to specific provisioning than it was in the years 1992–94, allowing the banks to provision at less expense. The tax legislation in force in the first half of the 1990s was less favourable in this regard. At that time, the sole tax-deductible provisioning expense were charges to provisions against loss classifications, provided that the actual likelihood of loss to the bank was demonstrable. All other provisioning charges depressed net earnings. It should be recalled here that the rate of corporate income tax then was substantially higher than it is today (40%, as against the present 27%). This tax treatment of provisioning expense constituted a disincentive that was liable to discourage banks from a correct classification of their assets (excepting loss classifications). This, in turn, was liable to cause major changes in the volume of irregular assets due to the findings of an on-site examination by bank supervisors or an external audit of the bank’s accounts. At present, banks are able to expense against their taxable income any provisioning charges they perform against loss loans, and half of those required against doubtful ones.

Another aspect of the comparison between the situation of the banks in the mid-1990s and at present is that the universal practice now is for the banks’ accounts to be audited by leading accounting firms, a process that has become more reliable after the experiences of recent years and the failure of Arthur Andersen. In addition, many banks are now listed on the stock exchange, with the result that their financial condition is known not only to bank supervisors, but also to market analysts.

7.1.4 Threats to the banking sector

One of the more important reasons for high irregular loan ratios in both periods is related to the banks themselves, and involves credit risk management. The banks may be considered to have made mistakes in their credit risk management, both at the beginning of the 1990s and in recent years, by failing to take account of the possibility of the economy slackening. This yielded similar results in both periods, producing a growing proportion of adversely classified assets. Nonetheless, one factor that distinguishes the years 1992–94 from 2001–2002 is the relative quality of credit analysis in these periods, one expression of this being the application of appropriate internal policies and procedures. It would be hard to compare the credit analysis methods employed in these years given the experience accumulated in the intervening period, e.g., in assessing customer creditworthiness. The implementation of more advanced credit risk management methods was also helped by years of cooperation with external auditors and the competence developed by banking supervision.

Furthermore, as regards gauging the real volume of impaired assets, a particularly dangerous practice in the first half of the 1990s was the “rollover” of delinquent loans. This involved replacing past due loans, including the interest accrued, with new facilities classified satisfactory, which thus meant concealing loan repayment problems and understating the proportion of adverse classifications.

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161 The banks were obliged to make public disclosures of their financial performance under Regulation no. 5/93 of the President of the NBP on the procedures for the publication of audited bank balance sheets and profit and loss accounts, March 30, 1993 (as published in Dziennik Urzedowy NBP no. 4/1993, item 8).
162 An example here is the delayed reaction of the banks to the financial malaise of the Szczecin shipyard.
163 In the years 1991–94, some banks did put in place procedures and methods of analysing loan applications that had been developed together with their partners under the twinning agreements of that time with Western banks.
Apart from the “technical” factors that condition the differences between the present level of irregular loans and that seen in 1992–94, another issue that has to be considered is the length of time these have been carried in the banks’ assets. Some irregular loans have been booked in this category for many years. In 2000, almost 20% of loss classifications dated back to before 1995, while in 2001 13.3% were pre-1996, and in 2002 16.4% were pre-1997. The fact that loss loans are held in bank portfolios for so long is primarily the result of collection problems and the reluctance of the banks to write them off, since this would entail surrendering their claims and abandoning attempts at recovery. In the years 1992-94, the ageing of irregular loans was relatively short, as they had generally been originated at the start of the 1990s; hence the need for a swift surge in specific provisioning.

An important problem for banks was and still remains the collection of past due claims, including the enforcement of their security interests. The weakness of enforced collection stems from the poor effectiveness and slowness of the courts and bailiffs. The establishment of a security interest is a similarly costly and time-consuming process, e.g., in taking a mortgage on a property (entering the mortgage lien in real estate records) or entering movable assets in a court lien register. The upshot is that the banks demand security to a value well above the loan amount being granted and have a preference for highly-liquid collateral.

One factor that reduced the potential risk associated with the bank’s irregular loan portfolios was the creation in 1995 of the Bank Guarantee Fund164. The task of the Fund is to provide deposit protection to the banks and hold funds earmarked for assistance to banks implementing

<table>
<thead>
<tr>
<th>Table 7.2</th>
<th>Specific provisions required and established in the years 1993, 1994, 2001 &amp; 2002 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk category</td>
<td>Regulatory provisioning requirement</td>
</tr>
<tr>
<td>Substandard</td>
<td>20</td>
</tr>
<tr>
<td>Doubtful</td>
<td>50</td>
</tr>
<tr>
<td>Loss</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: NBP.

<table>
<thead>
<tr>
<th>Table 7.3</th>
<th>Net provisioning charges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net charges to specific &amp; general provisions and valuation allowances</td>
<td></td>
</tr>
<tr>
<td>- million zloty</td>
<td>459</td>
</tr>
<tr>
<td>- % of total assets</td>
<td>0.8</td>
</tr>
<tr>
<td>- % of net income from banking activity</td>
<td>10.7</td>
</tr>
<tr>
<td>Net interest margin (% of total assets)</td>
<td>5.3</td>
</tr>
<tr>
<td>Net income from banking activity (% of total assets)</td>
<td>7.8</td>
</tr>
<tr>
<td>Net earnings (million zloty)</td>
<td>1,497</td>
</tr>
<tr>
<td>ROA (%)</td>
<td>2.7</td>
</tr>
</tbody>
</table>

NB: The figures for financial performance in 1993 include Bank Handlowo-Kredytowy, Katowice, which was under liquidation; this inclusion contributes to the large losses recorded.

Source: NBP.

rehabilitation programmes. In these circumstances, the risk of confidence in the banking sector being undermined by a bank’s insolvency is considerably lower than at the beginning of the 1990s, although the cost of any payouts on insured deposits are borne by the whole industry.

Coverage of irregular assets by specific provisions

In 1993, in the wake of the introduction of Regulation no. 19/1992, the banks attempted to establish specific provisions against exposures classified irregular. However, by year end they had not managed to achieved the regulatory level of provisioning coverage, particularly with respect to doubtful classifications. It was not until 1994 that the banks fulfilled their provisioning requirements in full, with a certain surplus in provisions against substandard and doubtful exposures. In the years 2001—2002, the level of provisioning was higher than required, although the surplus in the case of substandard classifications was now minor.\textsuperscript{165}

In the years 1993–94, banks were forced to devote some 30% of their net income from banking activity to specific provisioning against irregular exposures, which represented the equivalent of around 2% of their total assets. In the years 2001–2002, specific provisioning expense (net) was much lower, corresponding to around 20% of net income from banking activity and 1.3% of total assets. On the other hand, the cumulative net value of provisions established was several

\begin{table}[h]
\centering
\caption{Distribution of banks by risk-based capital ratio (percentage of total no. of banks)}
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline
\hline
Under 0\% & 15 & 16 & 18 & 1.4 & 1.4 & 1.7 \\
0\% – 2\% & 4 & – & 1 & – & – & 1.7 \\
2.1\% – 7.9\% & 12 & 6 & 4 & 8.2 & 3 & 3.4 \\
Over 8\% & 69 & 78 & 77 & 90.4 & 96 & 91.5 \\
\hline
\end{tabular}
\end{table}

\textsuperscript{165}These calculations take into account the value of eligible security, i.e., security admitted by the aforementioned Regulation as a deduction from the provisioning base.
times greater, reflecting the changed scale of banking operations (as measured by total assets and by claims on non-financial customers, these operations expanded six- and sevenfold, respectively, from 1993 to 2001).

In the years 1993–94, the effective net interest margins reported by the banks were much higher than in the years 2000–2002. This implies a lower sensitivity to loan portfolio quality in the early 1990s.

**Bank solvency**

In the years 1992–94, a huge 15%–18% of the banks were insolvent by prudential standards, while the number satisfying minimum capital adequacy requirements ranged from 69% to 78%. By contrast, in the years 2001–2002 less than 2% of the banks were insolvent. Over 90% had a risk-based capital ratio equal to or exceeding 8%. In 1993, average risk-based capital stood at only 4.7%, whereas in 2000–2002 it came to 13%. This means that at present most banks not only have adequate capital against their risk exposures, but also hold a surplus cushion that could absorb a higher level of risk. This confirms the hypothesis that the state of the banking sector in the years 1992–94 diverged substantially from that observed today. While the years 1992–94 can be considered a time when banking sector stability was in jeopardy, the situation witnessed in recent years gives no such grounds for concern.

### 7.1.5. Remedial measures

**Restructuring legislation**

The special (interim) legislation in force in the years 1993–96 represents an important illustration of the differences between the situation in the 1990s and at present. In the Act on the Financial Restructuring of Enterprises and Banks, already mentioned, special legal solutions were applied (such as bank-led arrangements) to assist a resolution of the problem of irregular loans (via restructuring or the partial forgiveness of interest and/or principal). These solutions were solely applicable to state banks and state enterprises.
This Act made an essential contribution to resolving the issue of problem loans. The restructuring of loan portfolios performed in the years 1993–96 principally involved negotiations with public-sector borrowers in order to reorganise their debt (through debt relief, rescheduling, debt-for-equity swaps or the sale of debt). At the end of 1994, some 1/3 of all the impaired assets then held in bank portfolios were subject to restructuring pursuant to the Act, with over 86% of these exposures classified loss, 8% doubtful and 6% substandard.

In the latter half of the 1990s, the status of most of the inefficient state enterprises of that time altered, with these enterprises being restructured or privatised. Nevertheless, due to a difficult economic environment, the condition of many of them has again deteriorated; this includes companies involved in shipbuilding, mining and transport. In 2002, an attempt was made at partially repeating the solutions applied in the years 1993–96, by offering the banks special tax advantages for restructuring the debt of state enterprises. It should be noted, however, that the objectives of restructuring in the years 1993–94 differed from those being pursued today; whereas extraordinary measures were taken then to avoid a systemic crisis and restore the banks’ capacity to generate profits once their assets portfolios were cleaned up, the intention today is to encourage banks to provide additional loan financing to companies being restructured in return for tax benefits.

7.1.6. Summary

Despite the similar proportion of irregular loans in bank portfolios today and in the years 1992–94, the financial condition of the banks is completely dissimilar. This is because the banks are capable of performing the requisite specific provisioning without resorting to external assistance.

The high ratio of irregular assets does not currently expose the banks to the same risk as at the start of the 1990s, and above all does not give rise to systemic risk, i.e., a risk to the functioning of the banking sector as a whole.

At the same time, the potential economic consequences of high irregular loan ratios are considerably smaller than in the years 1992–94.

Despite the similarities observable in the situation of the banking sector in the two periods reviewed, a fundamental difference is also evident, namely, that the large proportion of loans classified irregular does not currently generate serious dangers (particularly systemic ones) comparable to those of the years 1992–94. Nor are extraordinary measures demanded to lay the basis for substantial capital injections to the banks, particularly from public funds.

7.2. Principles for loan classification and specific provisioning

7.2.1. Introduction

Asset quality at the banks is a key issue in assessing financial system stability. At the end of 2002, over 20% of the aggregate loan portfolio of banks in Poland was classified irregular. This fact might well raise concerns, particularly in a situation where the corresponding ratio in most European Union countries is no more than several percent. To clarify the reasons for domestic banks showing an irregular loan ratio of over 20%, it is necessary to explain the principles governing specific provisioning against irregular loans, which have a major influence on the financial performance reported by the banks. Presenting the procedures for the establishment of specific provisions will allow us to answer the question of whether the high ratio of irregular loans in Poland – relative to similar ratios in other countries – can automatically be construed to mean that the Polish banking sector is less stable, or whether there are other factors at work here.

Given that credit risk is regarded as the most serious threat to financial system stability, this question has been an important area of regulatory activity from the initial development of Poland’s commercial banking sector. The significance of credit risk found expression in the findings of an analysis of the composition of risk exposure within the banking sector. A study performed in 2003 indicates that, at year end 2002, some 93% of the risk assumed by the banks comprised credit risk and “other risks”\textsuperscript{167}. Similar results are observable in Western countries. This signifies that traditional banking activity (lending) should continue to be the prime focus of interest for analysts.

Although credit risk constitutes the greatest threat to the banking sector, a characteristic feature of the evolution of prudential techniques has been the dynamic development of tools for the measurement of other types of risk, with poor progress made in designing methods for the measurement of credit risk. In the case of market risk, the use of statistical methods (such as VaR) has become the accepted measurement standard, while credit risk is to this day estimated using dispersed and very simplified methods, such as reference to the risk-based capital ratio, large exposure limits, or specific provisions.

It is a conspicuous fact that there are still no international standards defining the approach to specific provisioning. This issue is not addressed by any document published by the Basle Committee on Banking Supervision, nor is it regulated in any directive of the European Union. These questions are resolved on an individual basis by particular national regulators, which gives rise to numerous differences, although certain common aspects of regulatory practice are identifiable. Hopes for a qualitative advance in this area are offered by the work being done by the Basle Committee on the New Capital Adequacy Framework, which gives appropriate regulatory recognition to credit risk models.

### 7.2.2. Fundamentals of specific provisioning

In line with International Accounting Standards, the fair presentation of financial statements requires that assets be presented at amounts reflecting their true value. In the case of claims on borrowers, the decisive role is played by the amount that the bank may recover under the repayment due. In expecting that amounts due will not be repaid, a bank is required to disclose this in its books of account by one of two methods:

- presenting its claim less the forecast amount unpaid,
- presenting its earnings to include the forecast loss.

The amount deducted from the claim or earnings presented constitutes a specific provision. The method of disclosing specific provisions in financial statements implies that this category has a dual aspect, namely:

- asset valuation (an adjustment to the claim presented),
- financial performance (an adjustment to earnings).

Contrary to general connotations, a specific provision does not represent funds “set aside” to cover losses.

The timely inclusion in the accounts of a specific provision (by adjusting the relevant claim and earnings) is designed to disclose projected losses. In this sense, a specific provision constitutes a forward-looking presentation of loan losses and represents part of an early warning system for the bank’s management and shareholders, and also for banking supervision.

In other words, the procedure for calculating specific provisions is based on the principle of “showing today losses expected tomorrow”. In particular, specific provisions allow bank supervisors to track risk within the banking sector.

\textsuperscript{167} The “other risks” referred to here include large exposure risk, certain forms of market risk and other risks, yet without FX risk and interest rate risk.
In addition, by lowering earnings, a specific provision withholds part of an institution’s profits and excludes it from distributions to shareholders. Specific provisions are in this respect a vehicle for passing loan losses on to shareholders, while protecting depositors. The reduction of earnings by specific provisioning expense impacts the possibility of profit distributions. Thus, it is **first and foremost the bank’s owners that feel the effects of specific provisioning**. This compels the bank’s owners to participate in loan losses, which prevents these losses from being passed on exclusively to depositors.

### 7.2.3. Structure of specific provisions

The development of accounting systems has given rise to asset valuation principles as a basic mechanism for anticipating the loss of asset values. These principles may be based on market information on asset prices (e.g., in the case of trading account assets, the price of securities held for trading), or on arbitrary solutions (e.g., in the case of tangible fixed assets). Similar principles cannot be applied to outstanding loans because of their different nature (trading is absent or limited, and they are not subject to wear and tear). Nonetheless, there is an undoubted need to evaluate asset quality (for both balance sheet reporting and prudential purposes). A claim that is highly likely to be repaid (e.g., on the Treasury) has a different value from one that is long past due (e.g., on an undertaking that is going bankrupt). The necessity of taking these factors into account is crucial at banks, where loan outstandings constitute a significant item on the balance sheet.

The system of asset classification and specific provisioning represents the equivalent of asset valuation principles. One expression of this approach is the inclusion of the requirement to establish specific provisions in the Accounting Act (as of 2002), with statutory authorisation to determine the detailed procedures involved being vested in the Minister of Finance (this was previously the responsibility of the Commission for Banking Supervision, which reflected emphasis on the prudential character of specific provisions).

### Scope of application

Classification and provisioning procedures apply to all credit exposures at a given bank. As understood under Polish regulations, credit exposures constitute:

- claims outstanding (exclusive of interest),
- extended off balance sheet commitments (commitments to lend and guarantee commitments).

In the case of extended off balance sheet commitments, an additional question is whether the commitment is conditional or unconditional, as follows:

- where the commitment is conditional in character (the bank may at any time and without notice block the disbursement of funds), there is no requirement to establish specific provisions,
- where the commitment is unconditional in character (the bank is incapable of blocking the disbursement of funds), the requirement obtains that specific provisions be established commensurate to the given risk category.

The classification and provisioning system does not include other assets, in particular securities, which are valued in accordance with procedures laid down in the regulations specifying bank accounting principles.

Neither does the Polish system of prudential regulations require specific provisioning to be performed in relation to a third group of off balance sheet transactions, namely, trading transactions. This flows from the nature of these transactions. The credit risk exposure associated with them does not normally involve the notional amount, but solely price differences caused by market developments. It has been assumed that these price differences, which impact the balance sheet, are subject to capital charges under the risk-based capital ratio, and as such the associated credit risk is fully covered.
**System of specific provisioning**

The specific provisioning system in force in Poland consists in two separate procedures:

- asset classification,
- determining the provision required.

**Asset classification**

The objective of asset classification is to assess the quality of the bank’s business environment, in this case the risk presented by its customers\(^\text{168}\). The more accurate the assessment, the better will be the information available to the bank and to banking supervision regarding the creditworthiness of banking sector customers.

Under the Polish regulatory system, asset classification, generally speaking, is based on the simultaneous application of two criteria, namely:

- an appraisal of the financial condition of the obligor,
- an appraisal of delinquency in servicing outstanding claims.

The parallel and independent application of these criteria may in some instances lead to a loan serviced on schedule being classified irregular, where the financial condition of the obligor has undergone distinct deterioration. This is perceived as an expression of the stringency of the solutions applied in Poland.

The procedures currently in force define both criteria precisely. It is noteworthy that the cut-off dates for delinquency are stricter than those employed in many other countries. These dates are set as follows:

- up to 1 month – for claims classified satisfactory and special mention,
- from 1 to 3 months – for claims classified substandard,
- from 3 to 6 months – for claims classified doubtful,
- over 6 months – for claims classified loss.

By contrast, many countries use the following classification calendar:

- from 3 to 6 months – for claims classified substandard,
- from 6 to 12 months – for claims classified doubtful,
- over 12 months – for claims classified loss.

In addition, some countries utilise the category of special mention to refer to claims that are past due from 1 to 3 months.

A direct consequence of classifying a claim as irregular is the requirement to reverse out accrued interest from the profit and loss account, and subsequently treat further interest as income in suspense. This reflects the conviction that the impairment of an asset also impairs the likelihood of realising the income associated with that asset. This approach, aside from reducing earnings by charges to specific provisions, signifies an additional lowering of earnings. It is an approach that is well-known and utilised in most prudential systems. It is worth noting that, because of this, there is no need to establish specific provisions against interest receivable on irregular loans.

A major difference in relation to the solutions in place in many other countries is that Polish regulations do not give consideration to loan security at the time of asset classification. The

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\(^{168}\) As opposed to other specific provisioning systems that focus on the risk of particular exposures.
classification system is intended to provide a sound assessment of the risk present in the business environment of the banking sector, not an assessment of the risk posed to the bank (its potential losses). A weak customer should be acknowledged to be weak, regardless of the security the bank has taken. In other words, it is presumed that the furnishing of security does not in itself improve the borrower’s financial condition.

**Determining the provision required**

The classification of a bank’s exposures does not have a direct impact on its earnings. The bank’s earnings are not diminished by the classification findings, but by any specific provisions established.

The amount of specific provisions required is contingent not just on the classification made, but also on whether the bank holds appropriate security that mitigates the risk connected with the loan it has extended. The list of security eligible for deduction from the provisioning base is a long one in Poland, whereas international practice is to recognise mainly cash on deposit, guarantees and safe securities (e.g., Treasury or bank paper). The deduction of security from the provisioning base considerably reduces the amount of specific provisions required.

While the non-recognition of security held by the bank at the asset classification stage provides obvious analytical benefits, it also has negative consequences for the bank. This is because, where a bank has taken the highest-quality security against a claim classified irregular, it is still required to place the interest accruing in suspense, even though it would be a simple matter to recover both the principle and interest on the claim by realising the security.

In general, the initial provisioning base represents the amount of the bank’s claim or off-balance sheet commitment. However, in the case of purchased debt, cheques and bills of exchange, the principle adopted is that the provisioning base constitutes the expense incurred by the bank.

The Polish system of specific provisioning sets the provision required as the following percentage of the provisioning base:

- 0% for exposures classified satisfactory,
- 1.5% for exposures classified special mention,
- 20% for exposures classified substandard,
- 50% for exposures classified doubtful,
- 100% for exposures classified loss.

These ratios are considered minimum standards. Banks are free to provision at a higher level.

The above threshold requirements for specific provisions against particular categories of exposure have been adopted in many countries. The practice of Western countries is for the level of the provision to be determined by the bank on the basis of a case-by-case assessment of the actual risk of default. In Poland (as in other countries of the region), the set schedule of provisions is mandatory. True, it is currently admissible to use bank-specific schedules for provisioning (based on credit risk models), but so far no bank has opted to do so.

**Writeoffs**

The picture that is given of loan portfolio quality at banks in Poland is conditioned not only by the relatively strict classification requirements in force, but also by the particular solutions concerning loss assets being removed from the balance sheet. Banks display a reluctance to write off loss assets, since the tax regulations impose a restrictive framework for recognising write-offs as a tax-deductible expense, while at the same time there are doubts as to the possibility of charging off assets against provisions without abandoning the bank’s claim or acknowledging it has lapsed.

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169 Excluding consumer loans and advances, which require provisions corresponding to 1.5% of the provisioning base.
These circumstances result in the balance sheets of Polish banks being “weighed down” with claims classified loss, which in more liberal regimes would not be shown in the accounts at all. These issues are at present the subject of consultation between the NBP and the Ministry of Finance.

7.2.4. Comparison of specific provisioning systems in various countries

An analysis of the specific provisioning regimes in place in various countries of the world indicates that there is no uniform, generally applicable standard. However, certain regional tendencies can be discerned.

Most of the G-10 countries allow the use of internal systems for asset classification and the establishment of an “adequate” level of specific provisions (see the “internal models” shown in Diagram 7.1). These systems are subject to supervisory review and approval. In addition, the supervisory authorities may utilise various tools to verify the adequacy of the provisioning performed.

The supervisory authorities of most developing countries base themselves on standardised classification and provisioning systems, applying five risk categories with an arbitrarily determined provisioning requirement for each (see the “classification systems” in Diagram 7.1). The great majority of countries in Central and Eastern Europe employ specific provisioning systems based precisely on this type of standardised tool. The differences that exist here are more a question of detail (reclassification periods, recognition of security, provisions against “special mention” exposures) than of the general framework of the system. These systems are considered strict and are founded on the following basic components:

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170 The G-10 group comprises Belgium, Canada, France, Germany, Holland, Italy, Japan, Luxemboung, Sweden, Switzerland, the UK and the USA.
There are some variations in the application of this approach. In Slovakia, for example, as in Poland, consideration is given to security only when the required provisions are calculated, whereas in the Czech Republic the recognition of security at the asset classification stage was introduced as of the beginning of 2003. However, the Czech supervisors have established a rule that security may be only be recognised for 540 days. After this time, the security is no longer taken into account.

There are large divergences in the asset classification and specific provisioning systems in place in the particular countries of the European Union. In Holland and the UK, individual banks use their own internal classification systems. The Germans and the Italians (modelling themselves on the USA) have introduced a standardised classification system, yet without a precisely determined level of provisions for the particular risk categories involved, allowing the banks to decide on “adequate” levels themselves. The closest to the countries of our region is Spain, where there is a set framework for both classification and the amount of provisions (substandard – 10%, doubtful – 25%-100%, loss – 100%). There are also differences in recognising security. Some countries consider security at the classification stage, while others do so when the required provisions are being determined.

Most countries, Poland included, treat provisions against balance sheet items as a deduction from the carrying value of assets. Thus, the exposure concerned is presented in the balance sheet net of provisions. In Germany, on the other hand, provisions against balance sheet items are shown on the liability side of the balance sheet (as is the case in Poland with provisions against off balance sheet commitments), and the establishment of these does not therefore reduce the value of total assets.

There are very significant variations in the definition of non-performing assets, which generally comprise claims that are delinquent. Both in the G-10 countries and in other EU countries the criterion for classing assets as non-performing is that they are 90 days past due (180 days in the USA for instalment loans). Under the system applied by Polish banking supervision, non-performing assets are taken to be irregular assets, which therefore includes loans that are being serviced on schedule, yet have been classified irregular due to the poor financial condition of the obligor.

To summarise, it should be concluded that, in comparing loan portfolio quality at banks operating in particular countries, given the lack of a common standard (akin to the risk-based capital ratio, for example), it is essential to take account of the specific solutions adopted in the classification and provisioning systems of those countries. Without doing so, any comparison is virtually worthless.

7.2.5. Summary

The asset classification and specific provisioning regime in place in Poland back at the beginning of the 1990s already included the key elements that represent its backbone to the present day. These are:

- the application of dual classification criteria,
- non-recognition of security at the time a loan is classified, yet recognition when provisions are calculated (with certain exceptions),
- fixed provisioning thresholds.

These elements are at the same time the principal points raised when the opinion is expressed that the system is harsh. Despite the far-reaching modification and relaxation carried out by successive regulations, these points are still being brought up to this day, with the following arguments being put forward:
The classification of claims as irregular using the dual criteria in force must necessarily also include claims that are performing on a timely basis. Meanwhile, the criterion of repayment performance is itself based on rather short timing definitions (1 month – 3 months – 6 months) compared to the longer past due periods permitted in many other countries (3 months – 6 months – 12 months).

The non-recognition of security at the asset classification stage generally paints a worse picture of the structure of bank loan portfolio quality than that given by the more commonly used systems, which do not employ this approach.

The percentage provisioning requirements applied can be considered relatively high in terms of the real risk of non-recovery.

The introduction of these solutions was not groundless. In the 1990s, Poland’s nascent commercial banking sector called for special protection. The specific provisioning regime was not the only area where banking supervision set requirements that were stricter than those included in international standards or practices (another example is the capital adequacy regime). An important issue was also stabilising the economy as a whole, and the banking system plays a particularly significant role in that economy. Positive corroboration of the solutions adopted is supplied, for example, by the fact that it proved possible to avoid more serious disruptions of the kind that ensued from the Russian or Mexican crises.

What can be considered at present is whether the relative strictness of the specific provisioning system is still needed. There are many arguments that might be cited in support of relaxing this system, such as:

- The banking sector in Poland has now been in operation for over ten years, allowing it to be regarded as mature;
- Poland has brought its legal regulations governing the banking industry into line with those in force in the European Union;
- The involvement of foreign banks in Poland’s banking sector is exceptionally high (which is a stabilising influence).

Banking supervision is aware of these arguments and has been acting to reduce the financial and administrative burden borne by the banks. This has included the following:

1. The easing of requirements. The procedures for asset classification and specific provisioning have been subject to a systematic process of relaxation. In particular, a portfolio approach has been sanctioned for consumer loans and small business loans.

2. Approval for the use of internal credit risk models. A standardised approach to asset classification and specific provisioning must by its very nature be a simple one, since it has to be implemented at all the banks. Naturally, the price to be paid for simplicity is a reduction in accuracy. In line with the principle of conservatism, this signifies an increased level of specific provisions. The regulators are conscious that more sophisticated banks will be willing to incur the relevant expenditure to put in place more precise systems for estimating the risk of loan loss. It is for this reason that the regulations allow banks to use internal credit risk models. The internal methodologies applied may involve both systems for asset classification and for specific provisioning. At the same time, it should be pointed out that this approach conforms to the proposals of the Basle Committee concerning credit risk, contained in the New Capital Adequacy Framework.

3. A systematic expansion of the list of eligible security. In addition to the basic forms of security admissible as deductions from the provisioning base (guarantees extended and securities issued by the highest-class undertakings), Polish regulations also recognise physical collateral (in particular, liens and transfer of title to movables).

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A portfolio approach involves aggregating exposures with similar characteristics in order to determine the provisioning base.
7.3. Credit risk (an analysis using data on the banks' large exposures)

Loans represent the dominant item in bank assets. In December 2002, loans to non-financial customers accounted for over 40% of total banking sector assets. Lending is also the most important source of bank income, in the form of interest receivable and loan fees. The loan portfolio can also yield losses, should a borrower stop servicing their loan. Prudential regulations require the early establishment of specific provisions, which are intended to reflect the losses that will be incurred in the future due to the non-payment of particular loans. The bank is exposed to a similar risk where it holds a portfolio containing debt securities.

Credit risk, understood as the default risk of borrowers and the issuers of debt securities, constitutes the most serious threat to bank earnings. The purpose of quantitative research into this risk is to estimate the losses that banks could sustain due to a deterioration in loan portfolio quality.

A key parameter in quantitative investigations into credit risk is the probability of default of a particular borrower within a specified time horizon. Data on this may be sourced externally, e.g., from credit rating agencies. This information can also be obtained by using econometric models analogous to the credit scoring methods employed by banks. The estimations involved in models of this kind require data on the credit history of bank customers and data depicting the financial position of the borrower. In the research carried out by central banks and bank supervisors, the data input for these models is generally taken from credit registers and data bases on corporate earnings.

The probability of default is also a crucial parameter in the context of the proposed New Basle Capital Accord, which allows banks to calculate capital requirements for credit risk on the basis of their own assessment of borrower risk. The measure of risk applied is the probability of default derived using the banks' internal models.

7.3.1. Data and method of analysis

In its initial stage, the research into the quantification of credit risk undertaken at the National Bank of Poland sought to analyse the factors impacting default probabilities. Credit history information was drawn from a data base on large exposures that is maintained in connection with the system of reporting requirements for the banks. The information in this data base refers to all customers to whom the bank has a total exposure, on and off the balance sheet, in excess of 500,000 zloty or the equivalent of 2.5% of its capital base, where this is less than €5m. These data, submitted monthly to the NBP, show the bank's exposure broken down by basic category of

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172 Polish prudential regulations include a mechanism for taking future loan losses to the profit and loss account, whereby the establishment of specific provisions is based on asset classification criteria that incorporate an assessment of the borrower's financial condition, and the provisioning required is greater that the amount past due at the time a deterioration in loan quality occurs. For example, if a borrower is 30 days in arrears in paying a single loan instalment, Polish regulations demand that a provision be established equivalent to 20% of the value of the loan balance outstanding, which is designed to factor in the possibility of further problems in servicing the loan (non-payment of subsequent instalments).

173 Rating agencies such as Moody's and Standard & Poor's publish regular statistics on rating migrations. For each rating category, the historical frequency can be found of migration to the category representing default (e.g., “D” in the S&P rating methodology).

174 “Credit registers” is a term used for data bases that contain information on individual borrowers, primarily concerning the size and – often – the quality of their borrowings. The data are regularly submitted by the banks, which also have the right to obtain information (usually in aggregate form) on their current and potential customers. In the EU, credit registers are operated in Austria, Belgium, Germany, Spain, France, Italy and Portugal, while those outside Europe include ones in Brazil, Mexico, Argentina and Malaysia. In Poland, an example of a credit register relating to individual customers is the data base run by the Credit Information Bureau (Biuro Informacji Kredytowej SA).

175 The scope of information required and procedure for filing reports are specified in Resolution no. 3/2002 of the NBP Management Board, February 15, 2002 (as published in Dziennik Urzędowy NBP no. 5/2002). The data on large exposures is reported in bank return no. B0300.
instrument\textsuperscript{176} and give the relevant asset classifications, in line with prudential regulations. Another important item additionally provided in this particular return is information on specific provisions established and the value of security taken. In all, the data currently encompass around 64\%, by value, of the total loan portfolio of the banks (figures for December 2002), which allows them to be considered representative, particularly as regards claims on corporate customers. The remaining information on borrowers is meagre, and apart from identifying data (name, incomplete REGON or PESEL identification numbers for domestic borrowers, and Foreign Customer Record code for non-residents) merely categorises the borrowers by industry (where these are domestic businesses).

The sole source of nationwide data on company financial performance is the information compiled by GUS. Due to the regulations on the secrecy of statistics\textsuperscript{177}, however, this information cannot be passed on by GUS in a form that would allow particular undertakings to be identified. The research therefore utilised the data published by GUS (in aggregate form) on corporate earnings by section and division of activity. Unfortunately, these data only portray the financial condition of the average company in a given industry, whereas the condition of particular undertakings may diverge markedly. The data should be treated solely as a representation of “industry risk”, rather than the risk associated with the financial position of specific borrowers.

The definition of default adopted in the research was that the exposure to a customer had been classified \textit{loss}\textsuperscript{178}. This category refers to borrowers in the greatest financial difficulty, where repayment of the bank’s claim in accordance with the terms of the loan agreement is highly unlikely. The definition of default proposed in the \textit{New Basle Capital Accord} is broader than that employed in the research\textsuperscript{179}. The adoption of a narrower definition was motivated by a desire to make use of all the information available in the data base on large exposures, including information on the past quality of the customer’s borrowings. In the literature of the subject, default is defined as a situation where there is little likelihood of the borrower’s condition improving. An analysis of the migration matrix\textsuperscript{180} (cf. Table 7.5) indicates that this situation corresponds to a loss classification. Where a borrower was classified differently by various banks, the research allocated that borrower to the lowest category assigned.

\subsection*{7.3.2. Factors impacting changes in credit quality}

To analyse the probability of a borrower finding themselves in the category defined as default\textsuperscript{176}, use was made of logit models estimated for companies in all industries for which GUS data were available and for the remaining customers in the data base (including persons, general government institutions and non-residents). The variables utilised in the models and signs of the parameters (indicating the direction of influence exerted by the variables on the probability of default) were derived by the estimation process presented in the annex to this section. The data used covered the period from December 1996 to December 2002. An interpretation of the findings allows the following general conclusions to be drawn:

\textsuperscript{176} The banks report information on the value of their exposures on and off the balance sheet. Balance sheet exposures comprise loans, equity investments, other securities, purchased debt, other balance sheet exposures and interest receivable. Off balance sheet exposures are broken down into guarantees and related instruments, confirmed L/Cs, undrawn lines of credit, joint ventures and other off balance sheet exposures.
\textsuperscript{177} Art. 38 of the Act on Public Statistics of June 29, 1995 (as published in Dziennik Ustaw no. 88/1995, item 439, and subsequently amended).
\textsuperscript{178} This category includes exposures to obligors where payment of principal or interest is past due over six months, or where the financial condition of the obligor has been subject to irretrievable deterioration, precluding the repayment of their obligations. Detailed classification criteria are set out in the Ordinance of the Minister of Finance on procedures for establishing specific provisions against the risk of banking operations, December 10, 2001 (as published in Dziennik Ustaw no. 149/2001, item 1672).
\textsuperscript{179} The \textit{New Basle Capital Accord} considers default to have occurred where the obligor is past due more than 90 days on any credit obligation or their financial condition has deteriorated to the extent that contractual repayment is unlikely. Cf. Consultative Document, The \textit{New Basle Capital Accord}, Basle, April 2003.
\textsuperscript{180} The migration matrix shows the probability of a borrower “migrating” between classifications within a given time horizon (e.g., the probability that a borrower classified in risk category X at time 0 will be classified Y at time T).
The overall economic situation, as reflected in GDP growth and profit margins in particular industries, has a significant impact on the probability of a deterioration in corporate credit capacity. Worsening profitability is connected with a reduced ability to generate the surplus funds necessary for debt service, which naturally diminishes the repayment capacity of the companies concerned.

The quick liquidity ratio has a positive impact on the probability of default, implying that a rise in this ratio may be evidence of mounting payment bottlenecks among companies\textsuperscript{181}. Businesses that experience problems in collecting their receivables from their customers, as may be indicated by a large volume of short-term receivables, will also face problems in servicing their bank debt.

The negative impact on the probability of default of undrawn lines of credit as a proportion of total exposures indicates that the banks offer these facilities to customers with above-average credit capacity. In addition, where a company’s financial condition gradually deteriorates, this ratio may decline, since the company will tend to utilise all available sources of financing, including undrawn lines, in the hope of surviving and overcoming its difficulties. In this event, an increase in the utilisation of lines of credit may be a warning sign pointing to liquidity problems at the company in question.

The level of indebtedness (in nominal terms) has a positive impact on the probability of default. This attests to the lower credit quality of borrowers with a large amount of debt, including large corporates. It should be noted, however, that a ratio lending itself to better interpretation would be the leverage ratio (debt to asset ratio), although calculating this was impossible due to the lack of individual financial data on bank customers.

The level of real interest rates increases the burden of interest payable by borrowers and may lead to repayment problems.

Foreign customers and those from the general government sector exhibit better debt service capacity than other customers.

Customers with foreign currency obligations also show better credit capacity. This finding confirms information obtained during informal consultations with the banks, indicating that they apply stricter lending criteria to foreign currency facilities.

The goodness of fit of the models was tested by checking the accuracy of borrower classifications. For each model, a threshold was selected of the predicted probability of default, above which borrowers were classified as in default within the following year. The threshold was established so that the probability of error whereby a sound customer was classified as in the default category, was equal to the probability of error whereby a customer that moved into default in the course of the following year was classified sound (“Type I” and “Type II” errors were equal). In 70% of cases, the classification was correct\textsuperscript{182}. Given that no data were available on the financial performance of particular borrowers, this result should be considered satisfactory. By comparison, in similar studies conducted regularly by the Bank of Italy, based on financial data for individual companies and information from a credit register, 74% of obligors are on average classified correctly\textsuperscript{183}.

7.3.3. Results of estimating average level of bank losses in 1-year horizon

Data on the default probabilities of individual customers can be utilised to assess the credit risk exposure of the banks. The simplest method is to calculate the expected value of the loss distribution. Credit risk models such as CreditRisk+ and CreditMetrics also make it possible to obtain a full probability distribution of the losses on a loan portfolio. In both the literature of the subject and the publications of the Basle Committee the predominant approach is to point to

\textsuperscript{181} This ratio is defined by GUS as the ratio of short-term investments and short-term receivables to current liabilities.

\textsuperscript{182} For each group of obligors, 2/3 of observations were used in estimating the parameters, while the remaining 1/3 were utilised to test the model predictions “out of sample”. The correctness of classification cited above refers to testing the quality of model prediction “out of sample” (whereby predictions were performed and the correctness of classification was checked for data points that had not been used in the estimation process).

\textsuperscript{183} Foglia, A., Using credit register and company accounts data for measuring credit risk: a supervisory approach. Included in materials from conference organised by the Financial Stability Institute, Basle, November 2002
specific provisions as the method of taking account of the average level of loan portfolio losses\textsuperscript{184}. A bank’s capital, on the other hand, is seen as a cushion to absorb above-average losses. In the research being presented, only the first type of analysis was performed, comparing the expected value of the probability distribution of loan losses with the level of specific provisions. The default probabilities obtained from the models described earlier were used to estimate the average level of loss that the banks might incur as a result of loan portfolios deteriorating in 2003.

The reasoning behind the analysis outlined below was as follows:

- Each bank customer is marked by a certain probability of migrating to default (defined as the exposure to that customer being classified loss) in the course of the coming year.

- As a result of the customer migrating to default, the bank is able to recover from the loan balance an amount corresponding to the value of the security taken and a certain part of the remainder. The percentage of the loss in the unsecured loan amount is specified by the parameter termed “loss given default” (LGD).

- We assumed that there was no possibility of quality improvement in loss loans. This assumption is supported by an analysis of the migration matrix calculated on the basis of reclassifications of individual borrowers (cf. Table 7.5). In the course of a year, less than 5% of borrowers classified to the loss category are upgraded. These situations are partly attributable to successful restructuring measures, and partly to differences in borrower classifications at various banks.

Estimates of the average levels of loss were carried out using the following assumptions:

- The average expected loss (EL) was estimated as the product of the probability of default of a given customer in a one-year time horizon, the value of the exposure and the parameter LGD.

- The exposure at default (EAD) reflects the whole balance sheet exposure and 25% of off balance sheet instruments. The EAD was adjusted by the value of security deductible from the provisioning base\textsuperscript{185}, interest receivable and the value of any equity investments held. The percentage of off balance sheet instruments that crystallise onto the balance sheet depends on the type of product concerned. In consultations with the banking community, the relevant percentages for various products were quoted as being from 3% to 50%.

- Default probabilities were predicted from the logit models mentioned earlier, using data from the bank’s B0300 returns for December 2002 and GUS data published up to the third quarter of 2002. For customers in the loss category in December 2002, the probability of default was taken to equal 1 (the assumption being that there was no possibility of loss loans improving in quality).


\textsuperscript{185} Prudential regulations allow banks to deduct only part of the value of eligible loan security from their provisioning base. Detailed rules on this are laid down in the Ordinance of the Minister of Finance on procedures for establishing specific provisions against the risk of banking operations, December 10, 2001 (as published in Dziennik Ustaw no. 148/2001, item 1672).
The value of LGD was taken to be 85%. It is difficult to judge the proper value of this parameter in Poland, particularly since central banks and supervisory institutions only have partial data on this subject even in countries with stabilised market economies. Estimates based on consultations with the banks indicate that on average they manage to recover within one year less than 20% of the value of loans classified doubtful and loss.

The level of average loss was compared against the level of specific provisions, which should reflect the losses expected by banks on their loan portfolios. The term “loss” is understood here as that part of the loan amount which the bank will be unable to recover from the borrower (assuming partial satisfaction of the bank’s claim through the liquidation of security). Specific provisions are treated as cover for the future losses expected by the bank.

The notional shortfall in specific provisions may be interpreted as the loss that could on average result from a deterioration in loan portfolio quality over one year. However, this value only shows part of the impact on bank earnings of changes in the structure of portfolio quality. The analysis solely includes the losses generated by loans migrating to “loss” classifications, and does not take into account the release and establishment of provisions stemming from migration between other risk categories. To obtain a value comparable with net movements in specific provisions, the amount of specific provisions established and released as a result of these reclassifications was estimated using the migration matrix and the quality structure of portfolios in December 2002. The amount of this provisioning (net) associated with the banks’ large exposures may be estimated at around 2bn zloty. Thus, the total figure obtained for net movements in specific provisions comes to 5.18bn zloty. This represents 83% of the figure for 2002. In view of the limited coverage of bank loan portfolios provided by the data base on large exposures, it can be posited that net movements in specific provisions in 2003 should be at a similar level to those reported for 2002.

<table>
<thead>
<tr>
<th>Table 7.6 Results of estimate of average level of loss in 2003, LGD = 85% (billion zloty)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Total value of balance sheet items, less interest receivable and equity investments (gross) 177.16</td>
</tr>
<tr>
<td>II. Total value of eligible security taken 33.27</td>
</tr>
<tr>
<td>III. Of which: security against exposures classified satisfactory, special mention, substandard &amp; doubtful 26.03</td>
</tr>
<tr>
<td>IV. Exposure at default (I – II + 0.25 * OBS instruments) 159.57</td>
</tr>
<tr>
<td>V. Average expected loss (EL = PD * LGD * EAD) 16.51</td>
</tr>
<tr>
<td>VI. Of which: loss on portfolio of loans currently classified satisfactory, special mention, substandard &amp; doubtful 5.54</td>
</tr>
<tr>
<td>VII. Specific provisions established against all exposures 13.85</td>
</tr>
<tr>
<td>VIII. Specific provisions established against exposures classified satisfactory, special mention, substandard &amp; doubtful 2.36</td>
</tr>
<tr>
<td>IX. Notional shortfall in specific provisions against exposures classified satisfactory, special mention, substandard &amp; doubtful (V–VIII) 3.18</td>
</tr>
</tbody>
</table>

Source: NBP.

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These data are most frequently gathered using surveys based on questionnaires (these are carried out by the Bank of France and Bank of Italy, for example) or in the course of informal consultations with bank practitioners. The studies performed by the Bank of France assume LGD to be 71%. The New Capital Accord suggests a value of 45%. However, there are differences here in the definition of default.

The estimate was performed as follows: for each pair of risk categories (excluding the “loss” category), the gross value of exposures (less eligible security) in the first category, e.g., substandard, was multiplied by the probability of migration to the second category, e.g., doubtful, and then by the difference between the provisioning requirements for these categories (in this example, by +30%, since the provisioning requirement for substandard exposures is 20% of the principal, while for doubtful exposures it is 50%).
7.3.4. Summary

Credit risk analysis requires access to data for long observation periods, since corporate default, the subject under investigation, is a relatively rare event. On the FX and fixed income markets, the horizon for analysis is several months ahead, at most. In studying credit risk, the time frame is a question of years. A particularly important aspect of credit risk is its correlation with the phases of the business cycle. To estimate default probabilities, it is essential to use historical data that cover at least one full cycle.

The data available on the Polish banking sector which formed the basis for the analysis outlined above do not extend to a whole business cycle, and largely refer to a period of slowdown in growth. For this reason, the estimates presented in this study are probably overly cautious. However, the results of estimating average losses indicate that credit risk does not at this moment constitute a serious threat to the safety of the banks.

Work on credit risk analysis and modelling will in the future be broadened to include the use of portfolio models to analyse the adequacy of the banks’ capital resources.

Annex

Variables used to estimate default probabilities and signs of estimated parameters

<table>
<thead>
<tr>
<th>I. Data from large exposure data base</th>
<th>Corporates</th>
<th>Other customers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total customer indebtedness at all banks (logarithm)</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Customer classified “substandard”</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Customer classified “doubtful”</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Undrawn lines of credit as % of total exposure</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Customer with foreign currency debt</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Change in indebtedness on previous month (principal)</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Change in interest receivable on previous month</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

II. Financial data on industries

| Quick liquidity ratio | + |
| Gross profit margin | – |

III. Macroeconomic data

| Real interest rate (weighted average lending rate, zloty loans, deflated by PPI) | + | – |
| Average GDP growth in preceding 4 quarters | – | – |
| Real effective exchange rate | – | + |

IV. Additional data

| General government customer (NACE section L – “Public administration, defence, compulsory social security”) | – |
| Customer from section of “Financial intermediation” | + |
| Non-resident customer | – |
| Customer from section of “Health” | – |

NB:
1. Data refer to period from December 1996 to December 2002, using a sample of over 38 thousand commercial bank customers.
2. The category “corporates” comprises undertakings classed in those sections and divisions of economic activity included in aggregate GUS data on financial performance published in Biuletyn statystyczny GUS [GUS Statistical Bulletin] (sections C to I and section K). The category “other customers” comprises the remaining business undertakings, domestic persons and non-residents.
3. Data from large exposure data base and data on real interest rates and exchange rates refer to period 12 months prior to determination of whether customer is in default. Models do not include undertakings in default at start of period analysed.
4. Financial data and data on GDP taken from period 3 months preceding data referred to in point 3 above. This stems from longer delay in publication of GUS data.
5. Positive value of parameter signifies that increase in value of variable heightens probability of default of customer concerned. Due to non-linear character of logit model, particular parameter values cannot be interpreted as marginal increments.
6. Estimates performed by method of maximum likelihood. Estimates of all parameters differ significantly from zero at a significance level of 1%.