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# The Costs of Banking Sector Restructuring in Poland*

# Koszty restrukturyzacji sektora bankowego w Polsce

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## Abstract

The aim of this paper is to estimate the costs of banking sector restructuring in Poland, borne by the government and the central bank in the years 1993-2006. The authors focused mainly on the assistance measures that directly contributed to generating costs. Aggregated costs of the banking sector restructuring borne in the years 1993-2006 by public bodies amounted to 18.6 billion zloty (22.4 billion zloty in 2006 prices), corresponding to 2.61% of the annual GDP. The largest costs related to the tools employed in the banking sector restructuring process were those of servicing restructuring bonds allocated by the State Treasury to finance threatened banks (over 80% of total costs). The largest share of assistance went to state-owned banks, i.e. 90.3% in current prices. Total costs of banking sector restructuring in Poland are not high when compared to such costs in other transition countries.

**Keywords:** banking sector restructuring, banking crises, fiscal costs, financial stability

**JEL:** G21, G34, H81

## Streszczenie

Celem tego opracowania jest oszacowanie kosztów restrukturyzacji polskiego sektora bankowego poniesionych przez rząd i bank centralny w latach 1993–2006. Autorzy skupili się przede wszystkim na działaniach pomocowych, które generowały bezpośrednie koszty. Zagregowane koszty restrukturyzacji sektora bankowego poniesione w latach 1993–2006 przez instytucje publiczne wyniosły 18,6 mld zł (22,4 mld zł w cenach z 2006 r.), co odpowiada 2,61% rocznego PKB. Wśród instrumentów zastosowanych do restrukturyzacji sektora bankowego w Polsce największe koszty wynikały z konieczności obsługi obligacji restrukturyzacyjnych przekazanych przez Skarb Państwa wybranym bankom mającym problemy (ponad 80% łącznych kosztów). Udział nominalnych kosztów pomocy dla banków państwowych w całkowitych kosztach wyniósł aż 90,3%. Łączne koszty restrukturyzacji banków w Polsce nie były wysokie w porównaniu z innymi krajami przechodzącymi transformację z gospodarki centralnie planowanej do gospodarki rynkowej.

**Słowa kluczowe:** restrukturyzacja sektora bankowego, kryzysy bankowe, koszty fiskalne, stabilność finansowa

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## 1. Introduction

In almost all Central and Eastern European countries a major challenge of the systemic transition was posed by the restructuring of the banking sectors. These sectors were not adapted to operate in free market conditions. Money played a passive role in centrally-controlled economies, i.e. cash flows followed the flows of goods which prevented the development of institutions inherent in a market economy (Wyczański, Gołajewska 1996). Therefore, the insufficient development and weakness of the banking sectors in all transition countries was one of the key barriers for privatisation and further economic development.

Shortage of capital, balance sheets swelling with bad loans, and the shortage of funds to support development were the main weaknesses of the banking system at the time. The weaknesses were accompanied by the lack of experience and shortage of qualified personnel both in banks and state administration agencies. Although the banking sector in Poland started to develop rapidly in the early 1990s, the above-mentioned factors led to the need of an intervention by the government and other public authorities to fend off a systemic crisis. Assistance measures involved substantial costs – the main burden in the initial phase of the transition was carried by the government and the central bank, and in subsequent years – by the newly established deposit insurance fund.

**The aim of this paper is to estimate the costs of the banking sector restructuring borne by the government and the central bank**[1] in the years 1993–2006. When analysing the restructuring of Polish banks, the authors focused mainly on the assistance measures which contributed directly to cost generation. Changes in the laws, regulations, and institutional environment are not discussed in the paper, or are presented very briefly.

The paper extends previous research in at least three directions. First, contrary to some earlier studies it carefully describes the method used to calculate the costs of the Polish banking system restructuring (Kawalec 1999; Tang et al. 2000; Zoli 2001; Sherif 2003; Caprio, Klingebiel 2003). This is especially important when comparing costs of international crises.

Second, similarly to Iwanicz-Drozdowska (2002, pp. 243–257) this article provides a detailed description of different types of costs borne by the Treasury and the NBP. However, our study uses a different method to calculate these costs. Instead of adding nominal values of loans, bonds, other funds and interest paid on these funds to problem banks, it aims at calculating the net costs borne by the Treasury and NBP after controlling for the income generated from these instruments (e.g., the sale of bank shares).[2] The opportunity costs are calculated in cases, where funds are lent to banks at interest rates lower than the market rate (e.g. costs related to promissory notes and the redemption of banks' bonds). To the authors' best knowledge no other research on the Polish banking restructuring takes these costs into account.

Third, the study presents results on costs calculated in current prices, in real terms (i.e. in 2006 prices) and in relation to GDP in each year. These three approaches are used in order to account for significant price changes over the years 1993–2006 in our analysis and to make the results comparable with international crises. Moreover, the paper describes the share of specific assistance instruments in the total cost, identifies the largest beneficiaries of the state assistance, and presents the distribution of the restructuring cost in time.

Section 2 of this paper describes the early phase of bank operations in a market economy environment and Section 3 presents the origins of financial problems in the banking sector. Section 4 discusses the methods of providing assistance to bankruptcy-threatened banks, and Section 5 presents the calculation of the cost of such assistance. The last section, Section 6, presents main conclusions.

## 2. Transformation of the banking system in Poland

Organisational and legislative measures whose goal was to develop a new model of the Polish banking sector were taken at the end of the 1980s, even before the economic transition was initiated (Baka et al. 1997). By that time, the **banking sector in Poland had a monobank character** – the superior role was played by the National Bank of Poland (NBP) in which the features of a central bank and a commercial bank operating local branches country-wide were combined. In addition, there were 4 commercial banks in Poland, i.e. Powszechna Kasa Oszczędności Bank Państwowy (PKO BP), Bank Gospodarki Żywnościowej (BGŻ), Bank Polska Kasa Opieki SA (PEKAO SA), and Bank Handlowy SA, which carried out certain specialised functions. Business areas of these banks were defined in such a way

[1] The paper does not take into account the costs borne by the Bank Guarantee Fund (BFG) because a major part of these costs was incurred by the banking sector, whereas public institutions contributed only a smaller part of the costs (NBP's share in payments to the assistance fund). Moreover, these costs were much lower than the costs incurred by the State Treasury and the NBP.

[2] For example, Zoli (2001), Caprio, Klingebiel (2003) and Iwanicz-Drozdowska (2002, pp. 252–253) take into account the value of restructuring bonds of series A, B, C and D granted to banks in the period 1993–1996 when calculating the amount of assistance to these banks in that period. In our paper the actual transfers of interest and principal in each year are used, which allows us to calculate the final costs more accurately. The difference in accuracy is significant here, because the nominal value of bonds equalled PLN 4.70 billion, while the actual principal paid in the period 1993–1996 amounted to PLN 0.65 billion and in the period 1993–2006 it totalled PLN 10.76 billion. There exist other differences in results possibly due to different sources of data, more information about costs available only recently and different calculation methods used in these studies.

so as not to overlap, which allowed to avoid competition (Wyczański 2007, p. 62). In the second half of the 1980s, the following new banks were established: Bank Rozwoju Eksportu SA (BRE Bank SA), Bank Inicjatyw Gospodarczych SA (BIG SA), and the Łódzki Bank Rozwoju SA (ŁBR SA). In a centrally-planned system a banking system did not practically exist in Poland, being replaced by bank administration structures. Enterprises could not freely choose a bank branch to service them, while banks themselves were functioning as cash desks since credit decisions were taken by state administration that did not take into account the results of borrowers' credit-worthiness analyses (Balcerowicz, Bratkowski 2001).

The fundamental goal of the Polish banking sector's reform was to transform banks into the core of the financial system and the most important source of funding for enterprises (CASE 2001). Two laws were adopted in January 1989 which outlined the general framework of the banking system in Poland: the *Banking Act*, and the *Act on the National Bank of Poland*. Under the new law, the NBP became a central bank in a strict sense, performing the functions of an issuing bank, and a credit, settlement, and foreign currency central institution. The NBP was also assigned responsibility for supervising the banking sector. In order to boost market competition, operating branches, which offered deposit and credit services, were spun off from the NBP to form 9 regional commercial banks. In the second half of 1989 and in January 1990 restrictions related to the type of entities serviced, activity profile and territorial restrictions were lifted and conditions for banking sector entry were liberalised. Overall, the above measures were intended to provide institutional environment encouraging competition among banks. As a result, the monobank system was abolished and **a free market, two-tier system was introduced** (Wyczański 2007, p. 63).

## 3. The origins of problems in the banking sector

In the early 1990s, the NBP pursued a liberal policy on bank business licensing. The priority was to provide conditions for market initiative and opening of private banks, which was expected to boost competition in the banking sector. As a result, in the years 1989–1991 a number of new banks were established. In 1989, twelve new banks started activities, in 1990 – 40, and in 1991 – 17. Most of them were small banks usually opened by state-owned enterprises and local governments. By the end of 1991, Poland had 82 domestic banks and 3 branches of international banks (Wyczański, Gołajewska 1996, p. 19).

The country was short of capital, therefore the **newly-established private banks** usually had a small capital base, insignificant assets and personnel, and poor know-how. With time it led to problems in this group of banks which required central bank intervention and remedial action. However, the problems encountered in the banks, whose share in the assets of the whole banking sector was small, did not pose a systemic threat, although their potential bankruptcy could undermine confidence in the whole banking sector.

The *Banking Act* opened the market also to **foreign investors** who were additionally offered special incentives in the form of tax exemptions. At first international banks showed small interest in the Polish market mainly because of the unstable macroeconomic situation and Poland's low credibility on international markets.

The main source of problems in the Polish banking sector in the early 1990s was not only the newly-established private banks, but primarily **large state-owned banks**. This was caused to a great extent by a heavy burden of state enterprises' bad loan portfolios inherited from the old regime. The condition of state enterprises deteriorated even further in the early 1990s as they found it difficult to adjust to the new economic environment and cope with competitive imported goods and the mushrooming private companies. State-owned enterprises suffered as a result of lower demand for their products caused by the decline in real wages[3] on the one hand, and because of the dramatic rise in the cost of credit resulting from interest rates growth, on the other hand. The difficult situation of these enterprises led to delays in loan repayment which deteriorated the financial condition of state-owned banks which serviced them.

Financial problems of the banking sector were aggravated by internal factors of the banks themselves, such as: inadequate credit procedures, difficulties in assessing potential borrowers' financial condition, shortage of experienced personnel, weak control mechanisms, the lack of proper regulations within credit portfolio assessment and the mismatch of credit supply and demand (Iwanicz-Drozdowska 2002, p. 231). Problems experienced by state-owned banks became apparent at the end of 1991, when the **share of bad loans represented 34.8% of their portfolio**. While in June 1990 the share of bad loans ranged from 9% to 20% in these banks, in June 1992, it grew to 24%-86%. It became clear that Poland was seriously threatened by a banking crisis (Balcerowicz, Bratkowski 2001). The above mentioned problems came to full light in 1993 when the banking sector posted a loss resulting mostly from the deterioration of credit portfolios and the need to make specific reserves for claims. The difficult situation in the banking sector required intervention by public institutions in order to maintain confidence in the newly-developed banking system and protect households' deposits.

[3] In 1990 alone, real wages dropped by 25% against the previous year.

## 4. Assistance programs for the banking sector

At the time when Poland began the process of bank restructuring, the mainstream approach was to establish a separate entity (with or without a banking license) and transfer bad loans out of existing banks into this "hospital bank" (Szelągowska 2004). More active methods applied in Poland proved to be successful and were used in other countries later on. The banking sector received support from the State Treasury, the central bank and, after 1994, from the Bank Guarantee Fund. The State Treasury focused on helping to restructure state banks that had a significant share of bad loans dating back to the period of centrally-planned economy, whereas the NBP saved primarily other than state-owned banks which started operations in the transition period. Both the State Treasury and the NBP offered assistance to co-operative banks sector whose problems surfaced with some delay.[4]

### 4.1. State Treasury assistance

The adoption of two laws: the *Act on financial restructuring of enterprises and banks,*[5] and the *Act on Cooperative Banks and BGŻ Restructuring*[6] played a key role in solving the difficult situation in the sector of state-owned banks. The former Act, often called the "debt restructuring law" was the response of the state to the consequences of a systemic transition which hit both state-owned enterprises and banks. Under this law the State Treasury became co-responsible for the bad loans granted before 1992 and banks received financial support in the form of **restructuring bonds**. The bonds were intended to increase the banks' capital base and help them make the required reserves for non-performing loans (Iwanicz-Drozdowska 2002).

The restructuring bonds program covered a total of 10 banks: PKO BP, Pekao SA, BGŻ and 7 banks out of the "nine" (banks)[7]. The bonds were issued in four series in the years 1993-1994 and two other series in 1996. Table 1 lists the banks that received financial support in the form of restructuring bonds and specifies the dates and values of each issue.

The restructuring bonds were issued in the form of 15-year securities payable in 28 six-month instalments after a 1.5-year grace period. Their interest rate was equal to the average NBP rediscount rate in a given interest period. The banks involved were paid an interest of 5 percentage points, and a proportional part of the

[4] These measures, for instance, consisted in amending the *Banking Act*, introducing new supervisory regulations, and establishing the Bank Guarantee Fund.

[5] The political economy dimension of the whole process was important in defining the forms of restructuring. Banks were perceived by the general public as very wealthy institutions at that time, so any idea of public funds spent on them required a lot of clever marketing. That was a major reason for combining restructuring of banks and enterprises within a uniform framework (both in legal framework and in financial rules).

[6] This law introduced a three-tier structure of co-operative banking sector: the national bank (BGŻ transformed into a joint stock company), regional banks, and co-operative banks.

[7] Restructuring bonds were not granted, for formal reasons, to Wielkopolski Bank Kredytowy SA and Bank Śląski SA, as they had been privatised before the adoption of the Act.

Table 1. *Value of restructuring bonds granted to banks in the period 1993-1996*

| Series | Banks | Face value of bonds received (in millions of zloty) | Date of issue |
|---|---|---|---|
| A | Bank Depozytowo-Kredytowy w Lublinie SA | 179.021 | 30.07.1993 |
| | Bank Gdański SA | 160.959 | |
| | Bank Przemysłowo-Handlowy SA w Krakowie | 159.843 | |
| | Bank Zachodni we Wrocławiu SA | 144.506 | |
| | Pomorski Bank Kredytowy SA w Szczecinie | 136.367 | |
| | Powszechny Bank Gospodarczy SA w Łodzi | 125.639 | |
| | Powszechny Bank Kredytowy SA w Warszawie | 193.665 | |
| | Total "Seven" banks | 1,100.000 | |
| B | Powszechna Kasa Oszczędności Bank Państwowy | 573.420 | 16.12.1993 |
| C | Bank Gospodarki Żywnościowej | 426.580 | 29.12.1993 |
| D | Bank Gospodarki Żywnościowej* | 1,530.000 | 21.11.1994 |
| | Bank Polska Kasa Opieki SA | 370.000 | 21.11.1994 |
| – | Bank Gospodarki Żywnościowej SA | 600.000 | 23.09.1996 |
| – | Bank Gospodarki Żywnościowej SA | 100.000 | 19.12.1996 |
| Total | | 4,700.000 | |

* Part of the bonds was earmarked for co-operative banks and for opening regional banks.

Source: *Ordinance of the Minister of Finance dated July 27, 1993, on defining the banks to which Treasury bonds will be extended and on the division of the amount allocated in the budget law for increasing the banks' capital base and reserves* (Journal of Laws July 31, 1993), *Ordinance of the Minister of Finance dated September 19, 1996, on the issue of bonds earmarked for increasing the capital base of Bank Gospodarki Żywnościowej SA* (Official Journal of the Ministry of Finance, September 20, 1996), and *Ordinance of the Minister of Finance dated December 16, 1996, on the issue of bonds earmarked for increasing the capital base of Bank Gospodarki Żywnościowej SA* (Official Journal of the Ministry of Finance, December 18, 1996).

principal, while the remaining interest was capitalized. NBP was the issuing agent of the restructuring bonds and the bonds were to be redeemed according to a 15-year schedule (because of a chronic budget deficit) (Wyczański, Gołajewska 1996).

Another assistance measure offered by the State Treasury was capital injections granted to PKO BP (December 2000) and BGŻ (May 2002) in the form of listed companies' shares which the banks could sell. It should be noted that the transfer of shares represented a cost to the State Treasury only in the case of PKO BP. In the case of BGŻ, the State Treasury received the bank's shares in exchange for the shares in State Treasury companies.

### 4.2. Assistance measures provided by the National Bank of Poland

In the years 1993–1995, in addition to assistance measures provided by the State Treasury, the National Bank of Poland carried out activities that focused on supporting restructuring programs in bankruptcy-threatened domestic non-state and co-operative banks. The central bank did not provide financial support to state-owned banks in the process of privatisation, it only supported domestic non-state and co-operative banks. Deposits held by such banks were not subject to explicit State Treasury or other institution guarantee until 1994. In the first half of the 1990s, Poland did not have a universal deposit insurance scheme. The *Banking Act* maintained the existing responsibility of the State Treasury but only in the case of saving deposits kept in state banks.[8] This regulation limited State Treasury guarantees to a selected group of banks and to deposits held by individuals. As the two-tier banking sector developed, many private and mixed-capital banks were established. However, pursuant to the law, they were not covered by any guarantees whatsoever. This distorted competition between banks as banks protected by the Treasury were privileged in comparison to the newly established private banks (Baka 2005).

Overall, during the period 1993–1995, the **NBP was involved in the restructuring of 13 commercial banks**. These were, however, relatively small banks, none of them holding more than 1% of the banking sector assets at the time. The criterion the central bank applied was the stability of the whole financial system and retaining public confidence in the banking sector rather than a purely economic calculation (Iwanicz-Drozdowska 2002, p. 247–255). Confidence in the Polish banking sector in the early 1990s was low. There were fears that any rumour of a bank failure might trigger a bank run resulting in mass withdrawals of the deposited funds.

NBP intervention measures in relation to banks facing bankruptcy consisted in extending direct and indirect capital support, as well as providing liquidity. The central bank assistance was granted in the following **forms**:

– re-financing credit to replenish bank funds (1992–1994),

– exemption from the reserve requirement,

– purchase of promissory notes of the restructured banks,

– purchase of bonds issued by banks,

– purchase of restructured banks' shares.

Granting the latter four forms of assistance to a bank was conditional on its implementation of a restructuring program; before such a program was implemented the NBP had been offering re-financing credit only. In addition, in a vast majority of cases the-least-cost criterion was adopted – the central bank avoided granting assistance that exceeded the value of deposits kept in each bank involved.[9]

Legal grounds for **extending NBP financial support to restructuring programs in banks** after 1993 were provided by the decision of the NBP Management Board adopted on May 25, 1993, on using the following instruments of bank restructuring: purchase of shares and long-term bank bonds, and securitisation promissory notes. Moreover, a resolution passed by the Sejm (Polish Parliament) on March 5, 1994 regarding the assumptions for the monetary policy, required the NBP to undertake measures to strengthen the financial standing, operating efficiency, and consolidation of the banking system with the use of the above-mentioned instruments and by allocating up to 300 million zloty for the purpose. Out of the amount approved by the Sejm 259.79 million zloty[10] was spent on assistance and 5.8 million zloty – on restructuring programs in co-operative banks. Agreements signed between the NBP and the restructured banks defined, among other things, the objective, the type and size of the assistance, as well as the bond and promissory note redemption dates, and the final deadline for settling the central bank's assistance.

The National Bank of Poland commenced the banking sector financial support program in 1993 when its assistance was granted to the Łódzki Bank Rozwoju SA. Next, in the years 1993–1994, the central bank acquired shares in Pierwszy Komercyjny Bank SA in Lublin (PKB SA), Prosper Bank SA and Interbank SA. The top priority issue from the systemic point of view was granting support to PKB SA since the disclosure of the bank's financial problems stirred a temporary panic among depositors. In order to retain confidence in the banking sector, mainly private banks, the NBP intervened by acquiring the bank's shares and extending a financial support in the form of purchase of bonds and credit in the form of promissory notes. This was the

[8] And also in other banks which had received protection before the Act became effective.

[9] Based on information from NBP's Domestic Operations Department.

[10] Established on the basis of an agreements signed in 1994.

first case of the central bank taking over a private bank. The National Bank of Poland held PKB SA shares until November 1998, when it sold them to Powszechny Bank Kredytowy SA.

Subsequently, the NBP helped to merge 4 other banks – 3 with PKB SA and 1 with Prosper Bank. Simultaneously, it offered financial support to a bank that decided to acquire a bankruptcy-threatened bank. The NBP also bought bonds from: PKB SA, Prosper Bank SA, ŁBR SA and Interbank SA. Interest on the bonds and promissory note credits was fixed at the level of 1% per year.

The nominal value of funds transferred by the NBP to commercial banks facing bankruptcy (purchase of shares, bonds, and promissory notes) totalled 555.12 million zloty. In addition, the central bank allocated 125.9 million zloty in promissory note credit to support banks which acquired the threatened co-operative banks. These amounts, however, did not represent the cost of support granted to threatened banks but were the nominal value of funds transferred to the banks in exchange for their shares, bonds and promissory notes. In subsequent years the NBP benefited financially from holding the bonds and promissory notes, and selling the shares. These benefits were smaller, however, than expenditures because the bonds and promissory note credits bore preferential interest, and the central bank had to carry out open market operations to absorb increased liquidity from the banking system. The estimated NBP costs resulting from the restructuring program are shown in sub-section 5.2.

After 1994, the central bank also used **exemptions from the reserve requirement** as an instrument supporting the financial condition of commercial and co-operative banks. Until the end of 1997, the bank applied this solution on the grounds of the *January 31, 1989, NBP Act,*[11] and from 1998 onwards – on the grounds of the *August 29, 1997 NBP Act.*[12] The central bank granted the last of such exemptions in 2000. Overall, 28 commercial banks and 254 co-operative banks benefited from the arrangement.[13] The banks were obligated to invest the exempted funds in Treasury securities. Since the exempted funds increased the banking sector's liquidity,[14] the NBP had to conduct open market operations to keep liquidity at an appropriate level. The reserve requirement was interest-free until April 2004. Therefore, exemptions generated costs for the NBP resulting from open market operations. The NBP costs resulting from reserve requirement exemptions are presented in sub-section 5.2.

[11] Art. 30, section 4.

[12] Art. 39, section 3.

[13] Since May 2004, interest on the reserve requirement funds has been equal to market rate (0.9 of the rediscount rate) which reduces NBP costs incurred by exempting banks from the reserve requirement. Only one commercial bank was exempted in this period.

[14] These operations of the NBP were not the main source of the banking sector over-liquidity. Structural over-liquidity in Polish banks after 1995 resulted mainly from FX transactions conducted by the central bank.

In addition, in the years 1993-1994 the NBP offered specific purpose **refinancing credit** bearing a market interest rate to solvency-threatened banks under receivership, to help them replenish their funds.[15] The value of credit made available to the banks at that time totalled 209.5 million zloty. These credits were paid back by the banks according to a repayment schedule. Agrobank SA was the only exception: it paid back only 4.5 million zloty of the 6 million zloty loan, with the value of the loan principal unpaid by the bankrupt bank accounting for only 0.8% of the total value of credits. Owing to the fact that credit exposures to banks bore a market interest rate the cost for the NBP was only the unpaid principal of the loan extended to Agrobank SA.

In September 1996, the NBP converted 67.5 million zloty of the re-financing credit for central investment into a subordinate loan for BGŻ SA (Iwanicz-Drozdowska 2002, p. 248). The loan, bearing 1% interest, was repaid by the end of 2004.

The central bank's assistance took a specific form in the case of **restructuring the PKO BP bank**. The NBP exempted this bank from the 800 million zloty reserve requirement for one year starting January 2, 2001. In addition, NBP bought PKO BP's bonds with a total face value of 3.2 billion zloty bearing inflation-indexed interest. PKO BP invested a total of 4 billion zloty in a 3-month revolving time deposit in NBP and the one-year income from the deposit was transferred to the bank's account. Moreover, PKO BP bought three equal tranches of 91-day NBP money bills with a nominal value of 7.5 billion zloty. Subsequently, the bills were rolled over three times. In December 2000, PKO BP received a capital injection from the State Treasury in the form of company equity worth ca 390 million zloty (Grzegorczyk 2000; Tomaszkiewicz 2000). The cost of the assistance granted to PKO BP is estimated in sub-section 5.2.

## 5. The costs of banking sector restructuring

### 5.1. Costs incurred by the State Treasury

Costs of assistance granted to state-owned banks resulted from the cost of servicing their restructuring bonds and were primarily borne by the State Treasury. As the restructuring bonds were given to the banks free of charge, in subsequent years the state budget incurred costs related to the redemption of the securities principal and interest instalments. The State Treasury repurchased some restructuring bonds before maturity[16] to reduce bond servicing costs which were relatively high because of the capitalisation of unpaid interests.

[15] Based on the *NBP Act* of January 31, 1989.

[16] For example on 30 November 2001, bonds from series A were purchased for the total amount of 209.2 million PLN.

**Table 2.** *Budget costs arising from the servicing and redemption of restructuring bonds in the years 1995–2006*

| Year | Restructuring bonds – related costs borne by the state budget (in millions of zloty) | | | | |
|---|---|---|---|---|---|
| | Restructuring bonds of series A, B, C, D | | Restructuring bonds of BGŻ issued in 1996 | | Total |
| | interest | principal | interest | principal | |
| 1995 | 142.9 | 208.1 | – | – | 350.9 |
| 1996 | 292.0 | 443.9 | – | – | 735.9 |
| 1997 | 322.2 | 530.2 | – | – | 852.4 |
| 1998 | 353.9 | 634.6 | 104.8 | 63.6 | 1,156.8 |
| 1999 | 320.4 | 625.6 | 78.5 | 71.3 | 1,095.8 |
| 2000 | 310.6 | 670.3 | 89.1 | 202.6 | 1,272.5 |
| 2001 | 324.4 | 957.2 | 80.5 | 73.7 | 1,435.7 |
| 2002 | 305.3 | 1,054.4 | 51.0 | 81.1 | 1,491.7 |
| 2003 | 263.2 | 1,116.4 | 26.5 | 85.9 | 1,492.1 |
| 2004 | 212.7 | 796.3 | 20.3 | 88.9 | 1,118.3 |
| 2005 | 112.3 | 3,718.8 | 20.2 | 91.9 | 3,943.1 |
| 2006 | – | – | 12.3 | 94.8 | 107.1 |
| Total | 2,959.9 | 10,755.6 | 471.0 | 853.7 | 15,052.5 |

*Source: Ministry of Finance.*

By May 2005 all bonds from A, B, C and D series had been redeemed and in December 2006 the State Treasury's debt related to BGŻ restructuring bonds amounted to 482.9 million zloty. Table 2 shows the costs borne by the state budget in the years 1995–2006, in relation both to the current servicing and redemption of restructuring bonds before maturity.

The total nominal costs incurred by the State Treasury in relation to servicing restructuring bonds in the years 1995–2006 amounted to over 15 billion zloty. The total value of these costs will grow insignificantly following further servicing of securities issued for BGŻ. At this point it should be mentioned that the State Treasury has not been charged with all the costs of servicing restructuring bonds. Some costs have been incurred by the Fund for Privatisation of Polish Banks (FPBP) in relation to the redemption of bonds from series A before maturity (on 31 July 1998 it represented the amount of 1,218.535 million zloty and on 31 July 1999 – 313.730 million zloty). The total amount contributed by FPBP to servicing restructuring bonds stands at 1,532.266 million zloty (Cf. Szelągowska 2004).

Moreover, the State Treasury bore additional costs related to the capitalisation of PKO BP with shares in companies with the value of approximately 390 million zloty in 2001. The costs of assistance granted to PKO BP are discussed below in sub-section 5.2.

One way of thinking about the assistance of the State Treasury to state-owned banks is that this assistance was just a transfer of funds from the owner of the bank to the bank and therefore it cannot be considered as a cost, but rather as the change in the structure of assets owned by the Treasury. However, if the state-owned banks had not needed assistance, the Treasury would have been able to use the funds for other purposes. Therefore the funds transferred to the bank are treated in this study as a proxy of costs borne by the Treasury to avoid the failure of the bank. A similar approach was adopted by Tang et al. (2000), Zoli (2001), Iwanicz-Drozdowska (2002) and Sherif (2003).

### 5.2. Restructuring costs incurred by the NBP

The central bank was involved in the restructuring of banks and granted assistance in various forms. Such financial support did not always generate costs for the NBP. For example, refinancing credits extended by the NBP bore market interest rates and they are not considered to be a cost. The costs of the restructuring incurred by the NBP in the years 1993–2006 are presented below, together with the description of the applied methodology.

**Costs related to promissory notes incurred by the NBP** have been treated as costs borne by the NBP via assistance granted to banks in the form of promissory note credit and absorbing surplus liquidity from the market in the amount corresponding to the credit amount. As the annual interest rate of promissory note credit was 1%, the cost for the NBP was the amount of credit multiplied by the difference between the official repo rate and the rate of promissory note credit. Costs in the following years have been calculated using data on repurchased notes at the end of the year. It has been assumed that the average annual value of repurchased notes is equal to the arithmetic average of the value of notes at the end of the previous year and at the end of the current year. The average value of notes repurchased during a given year is multiplied by the average repo rate minus 1 p.p. (the interest rate of promissory notes). The average repo rate has been calculated as the arithmetic average of the repo rate at the beginning of each month of the year.

**Costs related to the redemption of bonds** issued by threatened banks have been treated as NBP's costs incurred by the purchase of bonds of individual banks. As the annual interest rate of these bonds was 1%, the cost has been calculated as the value of bond multiplied by the difference between the official repo rate and the bonds' interest rate. The repo rate is the rate at which NBP could borrow money on the financial market in order to maintain an appropriate liquidity level on the market. The costs for a given year were calculated using the average annual value of redeemed bonds. The average annual value of redeemed bonds is equal to the arithmetic average of the value of bonds at the end of the previous and current year. The average value of bonds held by the NBP during a given year is multiplied by the average repo rate minus 1 p.p. (the interest rate of papers). The average repo rate has been calculated as the arithmetic average of the repo rate at the beginning of each month of the year. For 1993, the difference between the rediscount rate from 1993 and the figure being the difference between the rediscount rate and the repo rate in 1994 was used.

**Costs related to the exemption of banks from the reserve requirement** have been calculated as the sum of costs related to the exemption of individual banks (except for PKO BP) from the reserve requirement. The cost of exempting one bank from the reserve requirement has been estimated by multiplying the fraction which corresponds to the part of the year when such exemption was in force, by the average repo rate in that year and by the amount exempted from the reserve requirement at the beginning of the exemption period.[17] The repo rate is the rate at which the NBP could execute open market operations in order to maintain an appropriate liquidity level on that market. Since May 2004 the reserve requirement funds bear the rate of interest of 0.9 of the rediscount rate. In practice this means that the cost of annual exemption from the reserve requirement in the years 2004–2006 amounted to some 0.15% of the exempted amount.

**Costs related to purchase and sale of banks' shares** have been calculated on the basis of the value of purchase/re-sale transactions of banks' shares. In each month, the accumulated amount spent on the purchase of shares has been multiplied by the average repo rate (divided by 12) from that month. The amount received from the re-sale of shares has been deducted from the figure obtained in this way, producing monthly costs of servicing banks' shares. Annual costs have been calculated as the sum of monthly costs.

Table 3 shows estimates of costs borne by the NBP in the years 1993–2006 excluding assistance for BGŻ and PKO BP.

**The costs of the conversion of the refinancing credit for central investment projects** (67.5 million zloty) **into a subordinated loan for BGŻ** have been

[17] As the amount exempted from the reserve requirement usually kept growing in the following years, the amount is likely to be underestimated.

Table 3. *Estimated costs of NBP's assistance for bankruptcy threatened banks (in millions of zloty)*

| Year | NBP costs related to promissory note credit | NBP costs related to repurchase of bonds | Costs related to the exemption of commercial banks from the reserve requirement | Costs related to the exemption of co-operative banks from the reserve requirement | Net costs of purchase of banks' shares by NBP |
|---|---|---|---|---|---|
| 1993 | 11.9 | 3.3 | 0.0 | 0.0 | 0.8 |
| 1994 | 49.2 | 20.5 | 1.0 | 0.0 | 15.9 |
| 1995 | 79.3 | 33.6 | 17.3 | 3.8 | 28.2 |
| 1996 | 67.7 | 17.8 | 59.1 | 11.5 | 38.8 |
| 1997 | 79.8 | 10.6 | 108.9 | 25.3 | 38.6 |
| 1998 | 72.0 | 9.4 | 104.1 | 26.1 | 11.3 |
| 1999 | 39.7 | 5.9 | 86.8 | 20.3 | 0.0 |
| 2000 | 40.8 | 7.0 | 141.7 | 17.7 | 0.0 |
| 2001 | 27.9 | 5.1 | 252.9 | 4.9 | 0.0 |
| 2002 | 12.7 | 2.1 | 97.9 | 0.0 | 0.0 |
| 2003 | 6.9 | 0.7 | 61.4 | 0.0 | 0.0 |
| 2004 | 6.0 | 0.0 | 8.7 | 0.0 | 0.0 |
| 2005 | 4.2 | 0.0 | 0.6 | 0.0 | 0.0 |
| 2006 | 1.8 | 0.0 | 0.0 | 0.0 | 0.0 |

Note: The costs do not include assistance for PKO BP and the outstanding credit for Agrobank SA (1.5 million zloty).

*Source: Own estimates on the basis of NBP data.*

## Table 4. *Cost of assistance for PKO BP SA*

| Type of assistance | Costs (in millions of zloty) |
|---|---|
| Purchase of bonds from PKO BP | 332.8 |
| Exemption from the reserve requirement | 124.0 |
| Servicing 3-month time deposit (rolled-over) in the NBP | 222.4 |
| Servicing 91-day NBP money bills (rolled-over) | 131.0 |
| Recapitalisation of the bank with shares of companies | 390 * |
| Total | 1,200.2 |

* Grzegorczyk (2000) and Tomaszkiewicz (2000).
*Source: own calculations on the basis of NBP data.*

calculated by deducting interest on the subordinated loan from interest on the potential refinancing credit for central investment projects in each year of the subordinated loan duration. These calculations use the interest rate of the NBP refinancing credit for central investment projects (one of the central bank's tools) and the interest rate of the subordinated loan for BGŻ, amounting to 1% per year.

**The costs of assistance for PKO BP** include the costs of converting bonds and funds from the exempted reserves totalling 4 billion zloty into a rolled-over 3-month time deposit in 2001.[18] These costs also include the cost of servicing 4 equal tranches of 91-day NBP money bills purchased by PKO BP with the total face value 7.5 billion zloty and their roll-over until the end of 2001.[19] Moreover, the cost of recapitalisation of the bank in 2000 by the State Treasury with shares of companies, valued at some 390 million zloty, has been included, although this was not cost incurred by the NBP.

The above mentioned **costs of assistance for PKO BP amount to 1 200.2 million zloty**. The cost of converting bonds and funds from the reserve requirement into a time deposit in the NBP has been calculated in the following way:[20]

[18] Interests accrued on 2 January 2002 were included into interests from 2001.

[19] Interests repaid in January 2002 were included into costs of 2001.

[20] The costs presented here are broken into NBP's assistance tools. The same result would be obtained by deducting the amount of 3.2 billion PLN, multiplied by the inflation rate, from the amount of interest earned from the PLN 4.0 billion deposited in the NBP.

## Table 5. *Total costs of the banking sector restructuring in the years 1993-2006*

| Year | NBP costs related to promissory note credit | NBP costs related to purchase of bonds | Costs of exemption from the reserve require ment | Costs of servicing restructuring bonds | Costs related to the purchase of shares | Costs of assistance for PKO BP | Costs of subordinated loan for BGŻ | Total costs | Total costs in 2006 prices | Total costs in relation to GDP |
|---|---|---|---|---|---|---|---|---|---|---|
| | in millions of zloty | | | | | | | | | in % GDP |
| 1993 | 11.9 | 3.3 | – | – | 0.8 | – | – | 16.0 | 56.9 | 0.01 |
| 1994 | 49.2 | 20.5 | 1.0 | – | 15.9 | – | – | 86.6 | 233.0 | 0.04 |
| 1995 | 79.3 | 33.6 | 21.1 | 350.9 | 28.2 | – | – | 513.1 | 1 079.7 | 0.15 |
| 1996 | 67.7 | 17.8 | 70.6 | 735.9 | 38.8 | – | 4.1 | 934.8 | 1 640.7 | 0.22 |
| 1997 | 79.8 | 10.6 | 134.2 | 852.4 | 38.6 | – | 16.8 | 1,132.3 | 1 729.7 | 0.22 |
| 1998 | 72.0 | 9.4 | 130.2 | 1,156.8 | 11.3 | – | 16.0 | 1,395.7 | 1 907.0 | 0.23 |
| 1999 | 39.7 | 5.9 | 107.2 | 1,095.8 | – | – | 11.2 | 1,259.7 | 1 604.1 | 0.19 |
| 2000 | 40.8 | 7.0 | 159.4 | 1,272.5 | – | – | 14.2 | 1,494.0 | 1 727.9 | 0.20 |
| 2001 | 27.9 | 5.1 | 257.8 | 1,435.7 | – | 1,200.2 | 12.4 | 2,939.2 | 3 222.2 | 0.38 |
| 2002 | 12.7 | 2.1 | 97.9 | 1,491.7 | – | – | 6.9 | 1,611.2 | 1 733.4 | 0.20 |
| 2003 | 6.9 | 0.7 | 61.4 | 1,492.1 | – | – | 4.1 | 1,565.2 | 1 670.5 | 0.19 |
| 2004 | 6.0 | 0.0 | 8.7 | 1,118.3 | – | – | 4.3 | 1,137.2 | 1 172.7 | 0.12 |
| 2005 | 4.2 | 0.0 | 0.6 | 3,943.1 | – | – | – | 3,948.0 | 3 987.4 | 0.41 |
| 2006 | 1.8 | 0.0 | 0.0 | 590.0 | – | – | – | 591.9 | 591.9 | 0.06 |
| | | | | | | | Total | 18 624.8 | 22 357.2 | 2.61 |

Note: The costs of servicing restructuring bonds in 2006 include among others the value of bonds that have not been repaid yet by the State Treasury.
*Source: own calculations on the basis of NBP and Ministry of Finance data.*

• as the bonds bore an inflation-indexed interest rate, the 2001 inflation rate was deducted from the repo rate and the figure obtained in this way was multiplied by the value of bonds, i.e. 3,2 billion zloty,

• the costs of exempting PKO BP from the reserve requirement in 2001 have been calculated in the same way as for other banks,

• the costs of servicing the 4 billion zloty deposit have been calculated by multiplying the deposited amount by the repo rate and deducting the resulting figure from the interest earned on the deposit.

The cost of servicing money bills has been calculated as interest earned by PKO BP in 2001 (on 91-day money bills of the NBP), diminished by the amount of interest the NBP would have paid for borrowing the same amount at the repo rate in the same period. The value of recapitalisation with company shares has been taken from press archives (Table 4).

### 5.3. Total public costs of the banking sector restructuring

**Total public restructuring costs** have been calculated as costs borne by the State Treasury related to the servicing of restructuring bonds allocated to certain banks and the costs of the NBP related to promissory note credit, purchase of bonds and shares of bankruptcy-threatened banks, the costs of exempting some funds from the reserve requirement and the costs of assistance for PKO BP provided by both the central bank and the State Treasury. It should be noted that the paper does not take into account the costs incurred by the NBP to co-finance the BFG assistance fund (a fund providing financial assistance to bankruptcy-threatened banks),[21] nor the amounts spent on reimbursements to depositors of bankrupt banks. In addition, the paper has not included budgetary costs related to corporate income tax exemption granted mainly to co-operative banks (Cf. Iwanicz-Drozdowska 2002, p. 252).

Table 5 shows the costs of restructuring of the Polish banking sector broken into following years and assistance measures applied.

[21] I.a. BFG granted a 600 million PLN loan to PKO BP in 2000.

## 6. Main conclusions

**1. Aggregated costs of the banking sector restructuring borne in the years 1993-2006 by public bodies amounted to 18.6 billion zloty.** Total real cost of the banking sector restructuring has been calculated in 2006 prices with costs from previous years having been recalculated using the consumer prices index. **Aggregated cost in 2006 prices amounted to 22.4 billion zloty,** which represents **2.61% of the annual GDP**.

**2.** Total costs of restructuring in Poland are not high as compared to other countries undergoing an economic transformation from centrally-planned to market economy. It should be noted that the banking sector restructuring was needed in all transition countries, and **fiscal costs of Polish banks' restructuring are among the lowest in this group of countries.** The cost of state assistance for state-owned banks alone amounted to 18% of GDP in the Czech Republic, 13% of GDP in the Slovak Republic and 8% of GDP in Hungary (Sherif 2003; see also Kawalec 1999; Caprio, Klingebiel 2003).

**3. Among the tools employed in the banking sector restructuring the biggest costs are related to the servicing of restructuring bonds** allocated by the State Treasury to problem banks (over 80%). Exemptions from the reserve requirement, promissory note credit, recapitalisation of PKO BP with shares and the purchase of bonds issued by these banks had a smaller share in the costs. The purchase of shares in banks by the NBP represented the smallest share in total costs among all analysed tools (Table 6).

The State Treasury assistance for restructuring banks in the years 1993-2006 included the costs of servicing restructuring bonds and the recapitalisation of PKO BP. These costs amounted to 15.9 billion zloty, i.e. 2.15% of the average annual GDP in the analysed period. The costs of NBP assistance totalled 2.7 billion zloty, i.e. 0.46% of the GDP. The share of State Treasury assistance represented 85.5%, while that of the NBP – 14.5%. In real terms these shares amounted to 83.7% and 16.3%, respectively.

Table 6. *Restructuring costs breakdown according to the financing method*

| Restructuring cost borne by: | Percentage share in costs | |
|---|---|---|
| | in current prices | in 2006 prices |
| 1. State Treasury: | **85.5** | **83.7** |
| Restructuring bonds | 83.4 | 81.8 |
| Recapitalisation of PKO BP with shares | 2.1 | 1.9 |
| 2. National Bank of Poland: | **14.5** | **16.3** |
| Release from obligatory reserve | 5.6 | 6.0 |
| Promissory note credit | 2.7 | 3.8 |
| Purchase of bonds issued by banks | 0.6 | 1.0 |
| Purchase of banks' shares | 0.7 | 1.1 |
| Subordinated loan for BGŻ | 0.5 | 0.5 |

*Source: own calculations on the basis of NBP and Ministry of Finance data.*

Table 7. *Restructuring costs breakdown according to beneficiaries and funding institutions*

| Assistance for banks | Percentage share of assistance in total costs | | Percentage share of state institutions in assistance for individual banks (in current prices) | | Percentage share of state institutions in assistance for individual banks (in 2006 prices) | |
|---|---|---|---|---|---|---|
| | in current prices | in 2006 prices | State Treasury | NBP | State Treasury | NBP |
| 1. State banks including: | 90.3 | 88.2 | 94.7 | 5.3 | 94.9 | 5.1 |
| BGŻ | 48.6 | 47.4 | 99.0 | 1.0 | 98.9 | 1.1 |
| PKO BP | 18.5 | 17.8 | 76.5 | 23.5 | 77.7 | 22.3 |
| 2. Private and co-operative banks* | 9.7* | 11.8* | 0.0 | 100.0 | 0.0 | 100.0 |

Note: *excluding assistance in the form of bonds given to BGŻ by State Treasury. BGŻ was to allocate some of the funds to the restructuring of co-operative banks.
*Source: own calculations on the basis of NBP and Ministry of Finance data.*

**4. The small share of assistance for private and co-operative banks is a characteristic feature of the assistance provided by public bodies.** The share of assistance for state-owned banks was 90.3% in current prices. In real terms (in 2006 prices), this share totalled 88.2%. The whole assistance of the State Treasury was earmarked for state-owned banks while 66.7% of NBP funds was allocated to bankruptcy-threatened private and co-operative banks and the remaining to PKO BP and BGŻ (Table 7).

**5.** Among all banks **the most significant assistance was extended to BGŻ**. In the years 1993, 1994, and 1996 the State Treasury granted restructuring bonds to BGŻ with the total value of 2.66 billion zloty, including 296.18 million zloty that was allocated to the restructuring of co-operative banks (Cf. Iwanicz-Drozdowska 2002). In 1996, the NBP provided BGŻ with a subordinated loan. The face value of assistance for BGŻ is estimated at 9.1 billion zloty (10.6 billion zloty in 2006 prices), which represents 1.21% of GDP.

**The second most assisted bank was PKO BP,** which received restructuring bonds with the total value of 573.4 million zloty in 1993 and in 2000 shares totalling some 390 million zloty from the State Treasury, as well as a significant assistance from the NBP that cost the central bank 810.16 million zloty in the years 2001-2002. The estimated total cost of assistance for PKO BP SA was 3.45 billion zloty (3.99 million zloty in 2006 prices), representing 0.46% of GDP.[22]

The share of assistance costs for BGŻ SA and PKO BP SA in the total cost of assistance for the banking sector amounted to 48.6% and 18.5% in current prices respectively. In real terms the costs are slightly smaller: 47.4% and 17.8% respectively.

[22] In absence of detailed data on repayment of individual series of bonds, these figures are estimates of real costs.

**6. The costs of the banking sector restructuring in Poland were spread over the years 1993–2006**, but some costs will continue to be incurred in the coming years. Although the most significant problems in commercial and co-operative banks emerged in the years 1993–1996, restructuring costs were the lowest in that period. In the years 1993–1996 the total costs amounted to 1.6 billion zloty (3.0 billion zloty in 2006 prices), representing 0.42% of the annual GDP[23]. The costs continued to grow until 2001, when the flow of capital to banks reached 2.93 billion zloty mostly due to the assistance for PKO BP SA. In subsequent years the value of funds went down, and it grew again in 2005, reaching 3.95 billion zloty.[24] Moreover, as of the end of 2006, the State Treasury's debt related to bonds given to BGŻ SA was still 482.9 million zloty.

A question that remains open is how large would the social and economic cost and the cost of the financial sector in Poland have been, if public institutions had refrained from helping threatened banks. A potential loss of confidence in the banking sector could have been particularly dangerous in the initial stage of its development and would have certainly delayed the establishment of strong financial institutions in Poland. The measurement of social and macroeconomic costs of refraining from helping banks threatened with bankruptcy seems a very difficult task. On the contrary, some costs incurred by the Treasury to assist state-owned banks had probably a major impact on the stream of bank privatization revenues. Comparing the hypothetical scenarios and opportunity costs of crisis resolution methods is an important issue and future studies may address this problem.

[23] For international comparison the years 1993-1996 could be defined as the "crisis period" and the years following this period could be called the "post-crisis period".

[24] Mainly due to redemption of restructuring bonds by the State Treasury before maturity.

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