



Center for Social & Economic Research

**The Financial Situation  
of Polish Enterprises 1992-93  
and its Impact on Monetary and  
Fiscal Policies**

by

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## Introduction

This is the first detailed study of enterprise finances in a country of Central and Eastern Europe during transition. It is based on enterprise data collected monthly by the Polish Central Statistical Office. Its primary purpose is to provide answers to questions about the size of enterprise debt, particularly bad debt, to banks, other enterprises, and the government; about its distributions by sector of activity and type of ownership; and about its evolution over time.

The central findings are, firstly, that the bad debt is a large proportion of total debt, both to banks and enterprises, and, secondly, that it is highly concentrated. The study identifies enterprises, in terms of sales (and possibly employment) representing about a tenth of the whole enterprise sector, whose debt in relation to the total income of these enterprises is particularly large. In terms of financial situation and the softness of the budget constraint, these enterprises have been (and are) distinctly different than most other enterprises, forming effectively a 'black hole' of the economy. The Polish enterprise sector has thus been found to have, in 1992-3, a heavily pronounced dual structure: about 90% of it is almost debt-free while about 10% of it has accumulated large debts to banks, the government and other enterprises.

The paper also discusses the implications of these findings for the conduct of fiscal and monetary policies of the central authorities and for the lending policy of commercial banks.

## 1. Data

The Polish Central Statistical Office (CSO) divides all enterprises (legal persons), irrespective of ownership, into three categories: large (L), medium (M) and small (S). Those of the L category employ 50 or more in industry and construction and 20 or more elsewhere (domestic and foreign trade, transport, communications, agriculture services, forestry, and communal housing services). The whole enterprise sector accounted, in 1992, for about 70% of the economy's total employment outside agriculture, and for about 70% of the country's Gross Domestic Product (GDP).

Enterprises of the M category employ between 5 and 49 (but 19 outside industry and construction), and those of the S category employ between 1 and 4. In 1992-3, there were about 20 to 25 thousand L-type enterprises, about 50 to 60 thousand M-type enterprises, and some 1 to 2 million businesses of the smallest category. The CSO collects monthly some key data from all enterprises of the L category (except state farms) and from a sample of 10% of those of the M category, using the so-called F0-1 form. It is this data set which we use in this paper.

## 2. Indicators of financial situation

We shall use two indicators to describe the financial situation of each enterprise. One of these is the ratio of the stock of net financial assets, to be denoted by F, to quarterly gross sales and other income, S. The other is the ratio of a measure of gross profits, Z, to S, both quarterly. The F indicator is defined as follows:

$$F = \text{own money} + (\text{receivables} - \text{payables}) - (\text{credits and loans}) \quad (1)$$

Own money is either cash or, more often, deposits with banks. Receivables are payments due from customers, mainly other enterprises. Payables include tax obligations to the government, central and local, and to parabetary funds. However, most payables are payments due to other enterprises for goods and services provided. Credits represent the borrowing from banks which are agreed by banks, while loans stand for non-bank borrowing.

Until the beginning of 1993, there had been no automatic capitalization of the interest due but unpaid. The interest of this kind on 'directed credit' (e.g. to housing cooperatives and farms) was and is automatically capitalized. However, on any other credit the unpaid interest was frequently typically no capitalized until the beginning of 1993, but is being capitalized since. The amounts involved were, according to internal data of the NBP, 22.5 trn zł and 23.0 trn zł, respectively, in 1992 (Trn stands for trillion, or  $10^{12}$ ). These numbers may be compared with the GDP in 1992 of 1140 trn zł. and with the total bank debt of non-financial economic units of 237 trn zł. at the end of 1992.

In this paper we take the entry 'credits and loans' of the F0-1 form to be a good approximation of the total bank debt. To obtain bank debt precisely, the data on 'credits and loans' should be augmented by unpaid non-capitalized interest and reduced by non-bank credits and loans. Taking into account what we know about the magnitudes of loans and unpaid interest, our procedure possibly underestimates somewhat the true debt position in 1992.

The financial situation of an enterprise depends not on the amount of debt, but on the ability to meet its debt payments obligations. We take the ratio

$$f = F / S \quad (2)$$

as a measure of that ability, where S stands for an average quarterly gross income from the start of year. We calculate f for each quarter. For example, to compute a 2<sup>nd</sup> quarter f, any year, we take F as it was at the end of the 2<sup>nd</sup> quarter, while S is half of the gross income during the year's first two quarters.

The financial situation of an enterprise depends also on its ability to cover current production costs in the medium to long-term. We take as a measure of that ability the ratio

$$z = Z / S \quad (3)$$

where  $Z$  represents the so-called gross financial result augmented by amortization (the depreciation allowance)<sup>1</sup>.

Our intention is to divide the enterprise sector into groups characterized by similar values of  $f$ , and then subdivide each group further according to the value of  $z$ . The procedure aims, as a first step, to identify the enterprises which have both a highly negative  $f$  and a negative  $z$ .

### 3. The distribution of L enterprises in terms of $f$

Most enterprises of whatever size turn out to have  $f$  in the range between -1.5 and +1.5. We divide this range into 30 equal subranges, each of the length 0.1. To each such subrange there corresponds a subgroup of enterprises. The gross income of any such subgroup is then computed as a proportion of the gross income of the total population of our L enterprises. In this way we arrive at an income weighted distribution of enterprises in terms of  $f$  (Table 1). The diagrams in Figure 1 and 2 are such a distributions for quarter III, 1992.

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<sup>1</sup> Note that cash flow equals  $Z - \Delta\text{inventories} - \Delta\text{receivables} + \Delta\text{payables}$ , where  $\Delta$  denotes change during the accounting period. If inventories and receivables do not increase, but payables continue to increase, the cash flow position is better than that indicated by  $Z$ .

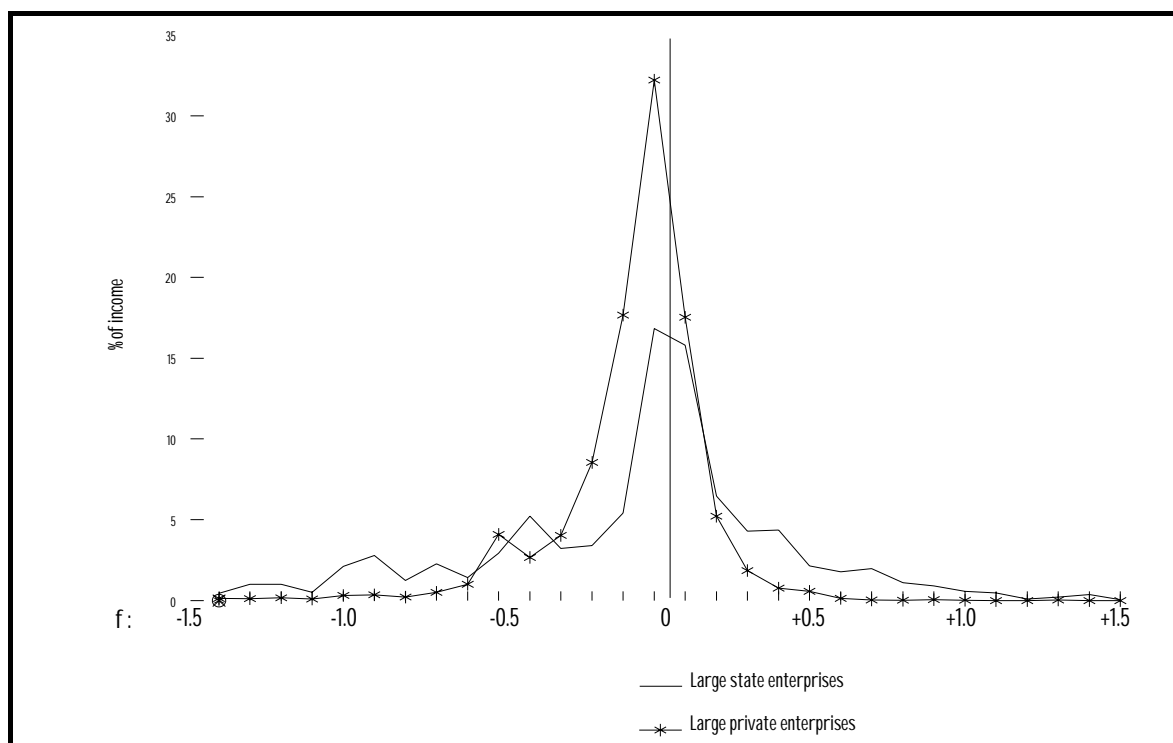


FIGURE 1 : Large State and Private Polish Enterprises : distribution of sales and other incomes, end September 1992.

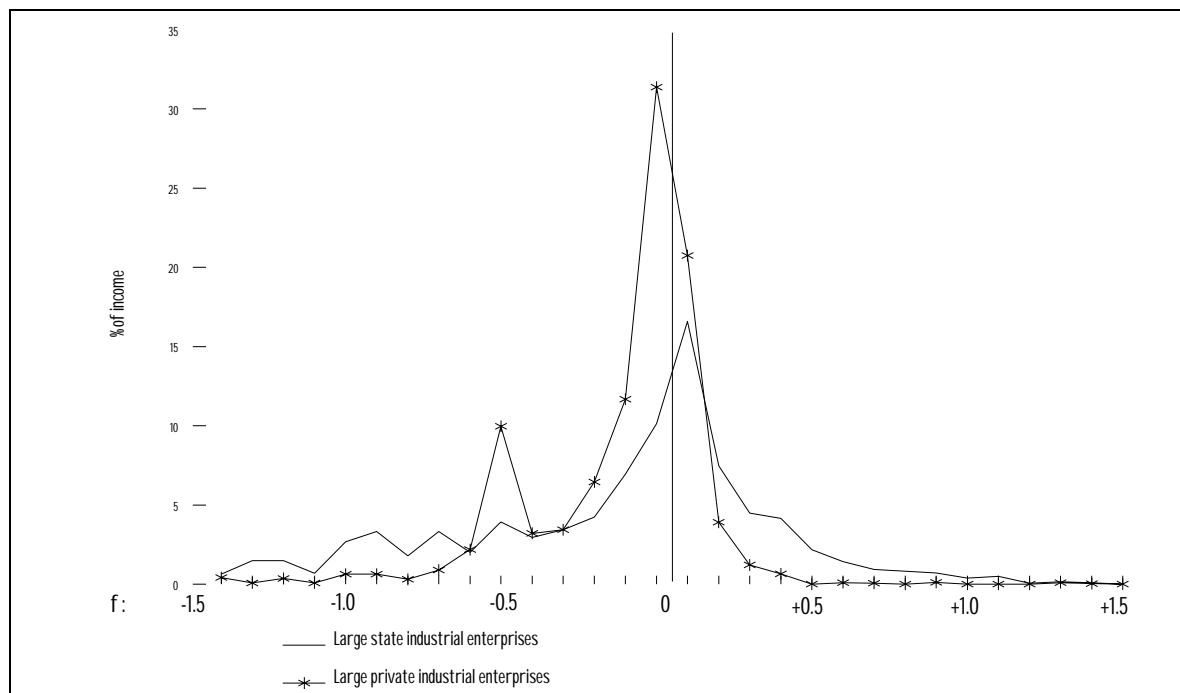


FIGURE 2 : Large State and Private Industrial Polish Enterprises distribution of sales and other incomes, end September 1992.

In turns out that the distribution, for this and any other of the five quarters investigated, is of the bell-shape type, with a heavy concentration of enterprises near  $f=0$ . Guided by this finding, and in order to facilitate analysis, we divide all enterprises into five groups according to their financial state as indicated by the ratio  $f$ :

- very bad, if  $f < -1.5$
- bad, if  $-1.5 < f < -0.5$
- satisfactory, if  $-0.5 < f < 0.5$
- good, if  $0.5 < f < 1.5$
- very good, if  $f > 1.5$ .

The choice of values of  $f$  separating these groups is essentially arbitrary. Nevertheless, the choice has been made to insure that the central group, one near  $f = 0$ , comprises enterprises accounting for about half of the gross income of the total population of our L enterprises. The division of the range of the variable  $f$  from  $-1.5$  to  $+1.5$  into three equal parts has enabled us to cut out such a central group. Two neighbouring groups have been thereby defined: of financially 'bad' and financially 'good' enterprises.

All enterprises which fall outside the range  $(-1.5,+1.5)$  are regarded as outliers. They form the remaining two groups. Of particular interest to us in this study are enterprises of the 'very bad' and 'bad' categories.



#### 4. L-type enterprises of the 'very bad' category, end 1992

Tables 2 to 5 give the distributions of all L-type enterprises by the end of 1992, in terms of the above five groups, by sector of activity and the type of ownership. Similar tables have been compiled for the three earlier quarters of 1992 and the 1<sup>st</sup> quarter of 1993. This sequence of tables enables us to monitor the movement in all these distributions in the course of time during that period.

The first interesting feature of these data is that very bad enterprises account for a smaller proportion of the total income of the enterprise sector than the proportion of the total number of enterprises. A typical very bad enterprise is thus smaller than the average. One of the main reasons may well be that poor financial situation has been forcing many of them to contract activity<sup>2</sup>.

However, the most interesting feature of the data is the unusually large concentration of net debt of each of the three categories: to banks, other enterprises and the government. In particular, the 'very bad' group accounted, by the end of 1992, for 61.6% of the bank debt of all the L-type enterprises. The group's combined net debt of all three categories equalled its gross income for about 13 months.

##### 4.1. The distribution of 'very bad' enterprises by financial result

We may now use the z indicator of financial situation to form a view about the viability of these 'very bad' enterprises. We also have data which indicate the extent to which bank credits remain not serviced.

The cost of financial operations (line 4 of Table 6) is nearly exclusively the interest due on most bank credits<sup>3</sup>. The bank credits of these very bad enterprises increased in the course of 1992 from about 100 trn zł to 115 trn zł. With interest rates typically in the range between 45% and 60%, the interest that would have been due under standard scheduling arrangements would probably have been about 60 trn zł. The interest actually due by the group was, in 1992, about 20

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<sup>2</sup> A primary example of this is a private company called "Art B", which at some point employed about 15 thousand people, but which now is a small business with bank debt outstanding of hundreds of millions of US dollars.

<sup>3</sup> It also includes: net purchases of stocks and securities, discounts on sold debts, the effects of changes in exchange rates, and interests on bonds.

trn, probably because of rescheduling arrangements. The interest actually paid would have been less still. Since the group's bank credit represented about 50% of the total enterprise bank credit, about 33% or more of the total was effectively unserviced. The total amount of bad (unserviced) debt is somewhat greater still, as unserviced debt is also a part of the remaining 50% of the credit (see section 7).

Table 6 also reveals that despite the large underpayment of interest, for most enterprises of the group the profitability indicator  $z$  was negative. It would thus appear that most of the 'very bad' enterprises cannot stay in business for long unless they continue failing to service their debt, and to accumulate tax obligations to the government and payments obligations to other enterprises. (In the case of housing cooperatives, continued survival depends largely on continued government subsidies; see also section 4.3).

#### 4.2. The distribution of 'very bad' enterprises by sector of activity and type of ownership

It follows from Table 3 that about half of the financially 'very bad' enterprises were industrial. The sector 'other' includes housing cooperatives, most of which belong to our first group. The two sectors account also for the bulk of the bank credit of the group (Table 4).

The distribution of the 'very bad' enterprises by the type of ownership reveals in turn that, of their total bank credit, nearly half was owned by state enterprises and an additional 30% by cooperatives.

#### 4.3. Bank credit, enterprise size and investment

This section is based on data pertaining to 3<sup>rd</sup> quarter, 1992. Of the 2725 'very bad' enterprises, we select the largest 150 bank debtors. Their combined debt represented, by end of September 1992, 62.5% of the group's total debt. This suggests a considerable degree of concentration of bank debt within the 'very bad' category. We divide this group of 150 into three subgroups: (a) the top debtor, now nearly extinct; (b) 58 housing cooperatives and (c) the remaining 91 enterprises. We wish to find out how much variation in bank debt can be explained by variation in size, measured by  $S$ , and the level of investment activity in the first three quarters of 1992. The results are as follows (subscript  $i$  numbers enterprises,  $u_i$  is the error term and in the parenthesis are the standard errors).

Subgroups (b) and (c) combined:

$$D_i = 0.156 + 0.876 S_i + 0.804 I_i + u_i \quad (3)$$

$(0.092) \quad (0.084)$

$R^2 = 0.904$ , the number of observations  $N = 149$ .

Subgroup (b):

$$D_i = 0.104 + 0.464 S_i + 1.019 I_i + u_i \quad (4)$$

(0.579) (0.207)

$R^2 = 0.374, N = 58.$

Subgroup (c):

$$D_i = 0.191 + 0.783 S_i + 0.871 I_i + u_i \quad (5)$$

(0.125) (0.111)

$R^2 = 0.908, N = 91.$

In the case of housing cooperatives (subgroup (b)), sales income is small and weakly correlated with bank debt. But these cooperatives have been parabadgetory units rather than typical enterprises. Hence the linear correlation (5) is more interesting. The relationship turns out to be exceptionally strong and the confidence intervals for the correlation coefficients to be quite tight. The relationship would be encouraging if not for the fact that the magnitude of the constant term in (5) is large.

## 5. L-type enterprises of the 'bad' category

The number and gross income of these enterprises are similar to those of the 'very bad' category. However, their net financial debt equals approximately only a fourth of that for the latter group. Table 3 shows that about 1/3 of these enterprises were industrial. State industrial enterprises tend to be large and they accounted, in 1992, for most of the group's bank debt.

Using data for 3<sup>rd</sup> quarter, 1992, we select 150 enterprises with largest bank debt. The subgroup accounted for 68% of the group's total bank debt, confirming high concentration of the debt within the group. We may then test the power of the variables S and I in explaining debt. The correlation is as follows:

$$D_i = 0.061 + 0.254 S_i - 0.093 I_i + u_i \quad (6)$$

(0.022) (0.165)

$R^2 = 0.520, N = 150$

This time the correlation between D and I breaks down.

As before, we may also in this case use the z indicator of financial situation to form a view about the viability of these enterprises. We should also like to know the extent to which bank credits remain not serviced.

Since Z stands for gross financial result (profit) augmented by the depreciation allowance, a negative z indicates the potential for cash-flow problem. Lines 1 and 2 of the Table 7 show that the proportions of enterprises, in terms of N and S, which were in that financially extremely poor position, are quite large.

Another potential problem is the serviceability of bank debt. The interest due in 1992 was probably about 15 trn, which is quite close to the cost of financial operations showed (line 4). We may conclude therefore that most of the bank debt was and possibly remains serviced by the group. In this respect there is thus a large difference between this group and enterprises of the 'very bad' category.

## 6. Changes in the financial situation of L-type enterprises over time

In this section we compare key enterprise financial data for end of March, 1992 with those of end of March, 1993. The period between the two dates was also the first year of post-reform recovery. The results of the comparison are displayed in Table 8.

For most financial variables changes in the distribution of enterprises between our five groups were, during the year in question, relatively small. The size of both outlier groups, 'very bad' and 'very good', had increased. This may suggest the presence of a trend for increasing polarization in the fortunes of enterprises. Very good enterprises are free of bank debt and, although accounting for less than 2% of total sales, have accumulated nearly 20% of total cash deposits. Therefore these enterprises represent probably the top growth area of the economy. Most existing members of the 'very bad' group would be doing the opposite: contracting activity and, at some point, ceasing operations. The group is however constantly resupplied by failures from the bad and satisfactory groups. Consequently it may also expand, as it did in the period in question.

It may also be useful to compare the distributions of the 'very bad' enterprises alone on these two dates in terms of our z indicator (Table 9).

## 7. The f distribution of M-type enterprises

To recall, M-type enterprises are those which employ between 6 and 50 in industry and construction and between 6 and 20 elsewhere. The data are for end of September 1992. As before we divide the whole sample of enterprises into 32 classes using the indicator f and calculate the proportion of sales and other gross income for each class (see Table 1). The resulting f distribution turns out to be also of the bell-shape type, with the average f equal to -0.38 and a high concentration of enterprises in the range of f between -0.3 and +0.3 (see Figure 3). We then form five f-categories of enterprises. Compared to those of L-type, the main significant difference is an even greater concentration of debt (to banks, enterprises and the government) in the 'very bad' category.

For example, in the case of bank debt, the category accounted for 74% of the total, as against 60% for the L-type group, on September 30, 1992. If 2/3 of this 74% is unserviced, such bad debt would amount to about 5% of the total bank credit to the economy. The combined bad

debt for both categories of enterprises, L and M-type, would therefore appear to be, by September 1992, about 38% of the total bank credit to the non-financial sector of the economy.

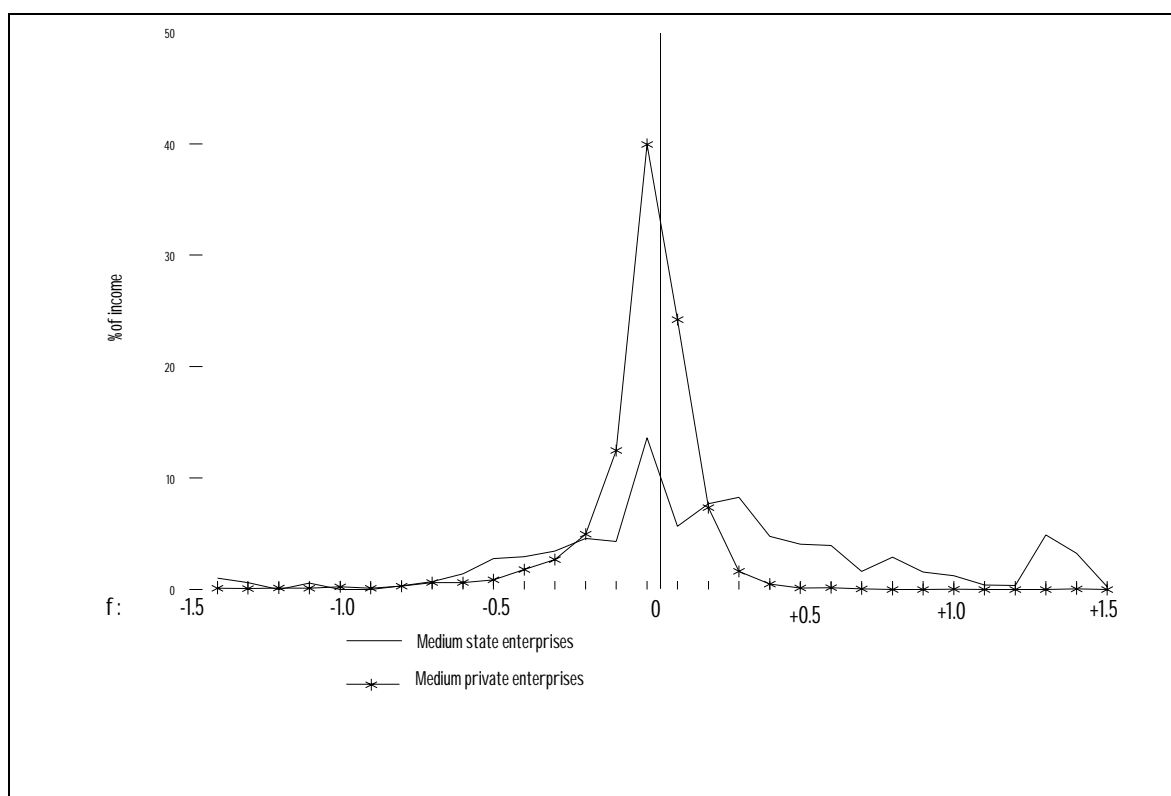


FIGURE 3: Medium State and Private Polish Enterprises: distribution of sales and other incomes, end September 1992.

To arrive at an estimate for the total stock of bad debt, one needs to know the quality of bank credits given to farms, both private and state, and to other small businesses employing up to 5 persons. This sector accounts for about 20% of the total bank credit. If the quality of that credit is not much different than that of the other 80%, the total bad debt was, in 1992 and probably continues to be in 1993, in the range between 45 and 50%. An early internal audit of nine state commercial banks found the share of bad debts, on 30.06.1991, to range between 9% and 79%, with 42% being the weighted average (*Poland's Ministry of Finance, June 1992, p.4*). Later audits have shown the shares to change little.

Aggregate NBP data on total capitalised interest (on directed credit according to set rules and as a result of rescheduling arrangements) and interest due but unpaid and not renegotiated show an increase during 1993 by about 30 trn zł. This is despite a direct budget subsidy to creditors of some 10 trn zł. The total midyear bank debt of non-financial economic units was 286 trn zł. These numbers allow one to come up with an estimate of the share of bad debts. Note that, given the market interest rates lying in the range 40 to 50 percent in 1993, the

interest payments due were in the range of 115 to 143 trn, the unpaid interests (40 trn zł) thus representing some 28 to 35 percent of the total payments. This range is on the low side of my estimate above. However, the interest rates offered by banks after re-negotiations may be lower than the market rates. Hence the NBP data may underestimate the size of the problem.

## 8. Implications for the fiscal and monetary policies

In view of the large size of bad bank debts, they appear to be a very serious problem for the banking sector. However, their heavy concentration in about a tenth of the enterprise sector means also that the remaining 90% of the enterprise sector is almost debt-free. This heavily pronounced financial duality has implications for economic policies of the government and the Central Bank, and the lending policy of commercial banks. It also has an influence on the pace of economic recovery.

The immediate effect is that banks have to maintain a large interest spread, thus increasing the cost of borrowing to good enterprises and the government. With the cost of servicing public debt higher, we have one or more of the following: (i) a higher budget deficit, (ii) cuts in other public expenditures, or (iii) higher taxation. Option (i) is welcome by banks, as it offers them an opportunity to improve the quality of their assets. However, such deficit also implies a higher inflation rate and, therefore, higher nominal interest rates and lower investment activity. The budget position is affected adversely also on the revenue side. The reason is poorer profits of banks, as provisions are made against bad debts. The provisions are built up gradually, and it could take - it will take in Poland - several years before they are adequate.

During such a period, therefore, there is a tendency for changing the composition of demand for new bank credit: away from the economy and in favour of the government. The real interest rates are in that period too high for most good enterprises and the access to credit is blocked by the now more cautious banks to most poor enterprises.

As the velocity of money tends to be, in transition economies, several times higher than it is in developed market economies, a given budget deficit which is financed by credit expansion is also several times more inflationary. High nominal and high real interest rates are the result. The problem of a large bad debt is therefore that it contributes to creating an economic environment which, while perhaps not a major threat, is not at all conducive to recovery.

One should of course separate out the debt issue as an inherited macroeconomic problem affecting adversely good enterprises and taxpayers from the question of future viability or otherwise of the debt-ridden enterprises. These enterprises need not be closed down, and those which would make a gross profit when not servicing the debt, should not be closed down.

The separation is best achieved by adopting a shock therapy: cancellation of all bad debt and the issue of government paper to banks in the same amount (*Begg and Portes, 1992*).

However, the therapy would have the effect of lifting the pressure off from our 'very bad' enterprises to meet at least some of the debt servicing cost. Even more importantly, it would reduce the disciplining function of bad debts for banks in their credit policy. The bad debt problem could then re-appear quickly.

Polish authorities also rejected the standard, less radical approach to the bank financial restructuring, one which was, according to senior Ministry of Finance officials, advocated for Poland by the international financial institutions (*Kawalec, et al, 1993*). It proposes to transfer bad loans to a specially created loan-recovery institution and to replace them with interest-bearing treasury bonds. In the circumstances of Central and Eastern Europe this second approach may however differ little from the first one. As *Kawalec et al (1993)* explain:

*".....we did not believe that a centralised, government-sponsored agency can vigorously and effectively recover bad debts. We did not believe in our ability to create, within a reasonable time period, a strong institution in terms of high quality of its staff and internal organisation. Neither did we believe in the possibility of devising an adequate incentive system that would ensure that institution's active approach toward the indebted enterprises. We also did not believe that such an institution could be made to resist the political pressure. ....By painlessly removing the burden of bad debt from the banks, the centralised approach creates a danger that the bad loan portfolio will re-emerge in a near future".*

An evolutionary strategy seems, in this case, more appropriate. The government may recapitalize banks with its paper, and possibly cash, by a large fraction but not full amount of the bad debt. The level of recapitalisation should be sufficient so that the banks are able to create just about adequate provisions against bad loans. But the banks should also be encouraged, through financial incentives and administrative means, to engage in drawing up financial and business restructuring plans for enterprises with bad debts. The Polish Law on Financial Restructuring of Enterprises and Banks envisages that conciliation procedures may take place between creditors holding at least 50% of the claims and debtors, leading to agreements about how to implement such plans. The agreements may imply a full or a partial recovery of the bank loan. They are supposed to be reached before March 1994. If they cannot, one of the following has to take place instead: bankruptcy is declared by the court, liquidation of the debtors business is initiated, or creditworthiness of the debtor is regained by servicing the debt for at least a three month period. The banks have also the options of selling the debt on the market for cash or swapping it for equity.

This decentralised approach to bad loans is expected to limit somewhat the magnitude of the direct call on state resources, while stimulating supply-side restructuring, privatisation and good banking management.

However, this present study suggests that the Polish authorities have probably underestimated the size of the bad debts and, therefore, the amount of recapitalisation needed. The cost to the budget of operating the so-called subsidiary government intervention to help important enterprises is also likely to be high. Tax losses resulting from the obligation for banks to make increased provisions against bad debt will probably be much higher than initially anticipated. In the circumstances the deadline of the end of March 1994 seems demanding,

probably unrealistic. It may have to be moved forward to avoid a serious bunching of bankruptcies and a large expenditure shock to the state budget.



## References

- AGHION, P. and O.J. BLANCHARD, "On the Speed of Transition in Eastern Europe", March 29, 1993.
- AGHION, P., O.Hart and J. MOORE, "The Economics of Bankruptcy Reform", *The Journal of Law, Economics and Organization*, vol.8(3):pp.523-546.
- BEGG, D. and PORTES, R., "Enterprise Debt and Economic Transformation: Financial Restructuring in Central and Eastern Europe", mimeo, 1992.
- KAWALEC, S., S. SIKORA and P. RYMASZEWSKI, "Dealing with Bad Debts: The Case of Poland", Th World Bank and IMF Conference on Building Sound Finance in Emerging Market Economies, Washington DC, 10-11 June 1993.
- LANE, T.D., "Reforming the Financial System, forthcoming in *The Economics of Transformation: Theory and Practice in the New Market Economics*", edited by Alfred Shilke and Alan M. Taylor, Berlin: Springer, 1993.
- POLAND'S Ministry of Finance, "Intended Actions to Implement the Programme of Financial Restructuring of Enterprises and Banks", March 19, 1993.
- POLAND, "Law on Financial Restructuring of Enterprises and Banks", Warsaw, 19 December 1992.
- POLAND'S Ministry of Finance, "Explanations and Justifications of the Proposed Law on Financial Restructuring of Enterprises and Banks", June 11, 1992.
- POLAND'S Ministry of Finance, "Data Concerning Underperforming Assets of the Nine Commercial Banks in 1991 and Early 1992", June 1992.
- ROSTOWSKI, J., "The Inter-enterprise Debt Explosion in the Former Soviet Union: Causes, Consequenses, Cures", LSE's Centre for Economic Performance, DP no 142, April 1993.
- SCHAFFER, M., "The Enterprise Sector in Transition Economies: Evaluating Russia in the Light of East European Experience", LSE Centre for Economic Performance, WP no 389. 1993.

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TABLE 1.

Polish enterprises, end September 1992.

Distribution (in %) of sales and other incomes in terms of  $f$  and various types of enterprises

	Large state	Large private	Large state industrial	Large private industrial	Medium state	Medium private
Number of enterprises	6281	3853	3151	1817	2640	32600
$f$ , range						
Less than -1.5 (average $f$ )	7,85 (-6.14)	1,56 (-5.73)	10,54 (-4.35)	1,44 (-3.85)	8,63 (-11.53)	0,81 (-3.77)
From -1.5 to -1.4	0,44	0,14	0,62	0,41	1,03	0,12
-1.4 to -1.3	1,01	0,11	1,48	0,07	0,63	0,08
-1.3 to -1.2	1,00	0,17	1,48	0,37	0,00	0,15
-1.2 to -1.1	0,51	0,09	0,69	0,08	0,57	0,12
-1.1 to -1.0	2,11	0,31	2,67	0,62	0,00	0,24
-1.0 to -0.9	2,78	0,35	3,33	0,62	0,00	0,11
-0.9 to -0.8	1,24	0,22	1,79	0,30	0,32	0,29
-0.8 to -0.7	2,27	0,50	3,33	0,89	0,72	0,62
-0.7 to -0.6	1,42	1,01	2,02	2,18	1,40	0,62
-0.6 to -0.5	2,92	4,10	3,93	9,96	2,76	0,86
-0.5 to -0.4	5,21	2,67	2,94	3,20	2,96	1,79
-0.4 to -0.3	3,21	4,03	3,44	3,43	3,45	2,69
-0.3 to -0.2	3,40	8,55	4,23	6,45	4,57	4,95
-0.2 to -0.1	5,42	17,67	6,94	11,68	4,32	12,47
-0.1 to 0.0	16,83	32,23	10,13	31,37	13,62	39,94
0.0 to 0.1	15,81	17,54	16,59	20,74	5,66	24,20
0.1 to 0.2	6,46	5,22	7,46	3,91	7,70	7,34
0.2 to 0.3	4,28	1,86	4,48	1,22	8,26	1,62
0.3 to 0.4	4,37	0,76	4,16	0,65	4,77	0,50
0.4 to 0.5	2,16	0,57	2,17	0,01	4,06	0,15
0.5 to 0.6	1,78	0,14	1,42	0,09	3,96	0,16
0.6 to 0.7	1,98	0,04	0,94	0,05	1,64	0,06
0.7 to 0.8	1,10	0,01	0,82	0,00	2,89	0,00
0.8 to 0.9	0,90	0,05	0,70	0,12	1,57	0,00
0.9 to 1.0	0,56	0,02	0,38	0,00	1,25	0,02
1.0 to 1.1	0,47	0,00	0,50	0,01	0,41	0,01
1.1 to 1.2	0,09	0,00	0,05	0,01	0,36	0,00
1.2 to 1.3	0,22	0,03	0,16	0,09	4,92	0,00
1.3 to 1.4	0,36	0,00	0,09	0,04	3,25	0,05
1.4 to 1.5	0,06	0,00	0,00	0,00	0,24	0,00
More than 1.5 (average $f$ )	1,76 (+2.10)	0,06 (+6.62)	0,52 (+1.94)	0,02 (+4.19)	4,08 (+6.18)	0,03 (+4.06)

**Table 2:**

**POLISH LARGE ENTERPRISES:**  
SUMMARY DATA, END OF 1992 (MONETARY TOTALS IN trn ZL)

	LEVELS	SHARES IN PERCENTS				
	TOTAL	Very bad f <= -1.5	Bad f(-1.5,-0.5]	Satisfactory f(-0.5,+0.5]	Good f(+0.5,+1.5]	Very Good f > + 1.5
1 Number of enterprises	21824	14.2	13.6	59.2	10.5	2.4
2 Revenue per quarter	461.3	10.8	13.6	65.9	7.9	1.8
3 Credits and loans	186.6	61.6	15.3	21.4	1.4	0.6
4 Payables-Receivables	109.3	98.2	31.4	-.03	-14.2	-15.4
5 Payables	410.7	38.0	18.4	33.2	7.1	3.3
6 Payables to Government	71.8	42.9	20.8	30.9	3.1	2.3
7 Receivables	301.5	16.1	13.7	45.3	14.8	10.1
8 Own Money	73.8	11.5	7.8	40.2	24.2	16.2
9 f = F/S	-.48	-4.29	-.91	-.03	.85	3.29

**Table 3:**  
 Polish large enterprises: end of 1992  
 Distribution in percent: N - number of enterprises; S - of the revenues

Type of activity	very bad $f < -1,5$		bad $-1,5 < f < -0,5$		satisfactory $-0,5 < f < 0,5$		good $0,5 < f < 1,5$		very good $f > 1,5$		total	
	N	S	N	S	N	S	N	S	N	S	N	S
Total	14,4%	10,9%	13,8%	13,9%	59,8%	65,7%	10,7%	7,9%	2,4%	1,8%	100,0%	100,0%
Industry	6,7%	8,2%	5,5%	10,0%	16,0%	27,9%	2,0%	2,0%	0,3%	0,2%	30,5%	48,3%
Construction	1,1%	0,2%	1,6%	0,7%	7,6%	3,2%	2,0%	1,0%	0,3%	0,1%	12,6%	5,2%
Agriculture services	0,9%	0,0%	1,1%	0,1%	4,9%	0,4%	1,2%	0,1%	0,2%	0,0%	8,3%	0,6%
Forestry	0,1%	0,0%	0,0%	0,0%	0,2%	0,5%	0,0%	0,1%	0,0%	0,0%	0,3%	0,5%
Transport	0,5%	0,7%	0,6%	0,1%	3,6%	3,3%	1,1%	0,3%	0,1%	0,1%	5,9%	4,6%
Communications	0,0%	0,0%	0,0%	0,0%	0,1%	1,0%	0,0%	0,0%	0,0%	0,0%	0,1%	1,4%
Communal services	0,1%	0,1%	0,2%	0,0%	3,1%	1,6%	1,3%	0,6%	0,2%	0,1%	4,9%	2,3%
Trade	1,8%	0,5%	3,5%	2,2%	17,9%	20,7%	0,7%	1,6%	0,3%	0,6%	24,2%	25,6%
Foreign trade	0,1%	0,1%	0,2%	0,3%	0,6%	5,3%	0,1%	1,0%	0,1%	0,5%	1,1%	7,2%
Other	3,1%	1,1%	1,1%	0,5%	5,8%	1,9%	2,3%	0,8%	0,9%	0,2%	13,2%	4,5%

**Table 4:****POLISH LARGE ENTERPRISES : END OF 1992**

Distribution of banking debt D by activity and f category

TYPE OF ACTIVITY	TOTAL		VERY BAD f <= -1.5		BAD f(-1.5,-.5]		SATISFACTORY f(-.5,+1.5]		GOOD f(+.5,+1.5]		VERY GOOD f > + 1.5		
	f	D	f	D	f	D	f	D	f	D	f	D	
1 TOTAL	-5	186.6	-4.3	115.0	-9	28.6	-0	39.4	.8	2.5	3.3	1.1	
2 Industry	-7	106.0	-3.7	62.1	-9	22.2	-0	20.6	.7	.8	3.2	.3	
3 Construction	.0	3.8	-3.0	.7	-9	1.0	.1	1.6	.8	.5	3.3	.1	
4 Agricultural services	-3	1.0	-3.8	.3	-9	.5	.0	.2	.8	.0	4.3	.0	
5 Forestry	-1	.7	-6.8	.4	-7	.0	.1	.3	.6	.0	.0	.0	
6 Transport	-3	5.7	-2.4	4.2	-8	.2	-2	1.2	.8	.0	2.3	.1	
7 Communications	-0	4.7	-7.4	.1	-6	.0	-5	4.5	1.1	.0	24.8	.0	
8 Communal services		.2	2.5	-3.8	1.3	-8	.1	.1	.7	.9	.5	2.5	.0
9 Trade	.0	18.4	-4.3	5.4	-8	2.7	-0	9.2	.9	.6	3.5	.6	
10 Foreign trade		.5	5.0	-3.6	1.1	-9	.4	.1	2.5	.9	.5	3.7	.5
11 Other	-2.0	43.7	-10.1	40.5		-8	1.9	.0	1.1	1.0	.1	3.2	.0

Note: D in trn zl.

**Table 5:**POLISH LARGE ENTERPRISES - END OF 1992

Distribution of N, S and D by type of ownership and f categories.  
(N and S in percents, D in trn zl.)

TYPE OF OWNERSHIP	TOTALS				VERY BAD f <= -1.5				BAD f(-1.5,-.5]					
	N	S	f	D	N	S	f	D	N	S	f	D		
1 TOTAL	100.0	100.0	-5	186.6	14.2	10.8	-4.3	115.0	13.6	13.6	-9	28.6		
2 State	32.9	66.5	-5	105.2	5.8	8.1	-3.6	54.6	4.6	9.4	-9	20.2		
3 Communal	4.4	1.5	.2	1.2	.2	.0	-4.6	.3	.3	.1	-8	.1		
4 Cooperatives	35.0	12.1	-1.0	40.9	4.5	1.2	-8.9	34.4	3.7	.8	-8	1.8		
5 Social organizations	.8	.1	.2	.0	.0	.0	-3.0	.0	.0	.0	-8	.0		
6 Foreign	1.9	1.3		-6	2.7	.3	.1	-4.2	1.7	.4		.4	-9	.8
7 Private Polish	18.4	8.9	-7	22.5	2.4	.8	-4.8	16.9	3.7	1.9	-8	2.3		
8 Mixed ownership	6.5	9.7	.1	14.0	.9	.5	-4.4	7.1	.9	1.1	-9	3.5		

TABLE 5 - continued

TYPE OF OWNERSHIP	SATISFACTORY f(-.5,+1.5]				GOOD f(+.5,+1.5]				VERY GOOD f > + 1.5				
	N	S	f	D	N	S	f	D	N	S	f	D	
1 TOTAL	59.2	65.9	-0	39.4	10.5	7.9	.8	2.5	2.4	1.8	3.3	1.1	
2 State	16.5	42.4	-0	28.6		4.9	5.4	.8	1.3	1.2	1.1	3.0	.5
3 Communal	2.8	1.0	.1	.4	.9	.3	.7	.4	.2	.0	2.1	.0	
4 Cooperatives	23.5	9.6	-1	4.6	2.9	.4	.8	.1	.5	.1	5.3	.0	
5 Social organizations	.4	.0	.0	.0	.2	.0	.9	.0	.1	.0	2.7	.0	
6 Foreign	1.0	.8	-1	.2	.2	.1	.7	.0	.0	.0	2.0	.0	
7 Private Polish	11.1	5.9	-1	3.2	1.0	.3	.8	.1	.2	.0	2.8	.0	
8 Mixed ownership	3.8	6.1	.1	2.3		.6	1.3	.9	.5	.3	.6	3.7	.5

## Note

S - average quarterly revenue in percents

N - number of enterprises in percents

D - bank credits in trn zł



Table 6:  
The breakdown of L-type enterprises with  $f < -1,5$  by profitability (1), end of 1992

Category	All	$z < -0,1$	$-0,1 < z < 0$	$0 < z < 0,1$	$z > 0,1$
N, in %	100,0%	58,2%	10,0%	24,9%	7,0%
S (2)	49,8	24,4	8,7	11,1	5,7
Z (3)	-8,3	-9,6	-0,5	0,4	1,3
Cost of financial operations (3)	19,2	13,4	1,8	2,5	1,5
D (4)	115,0	46,6	15,2	40,4	12,8
Average z (3)	-0,17	-0,40	-0,06	0,04	0,24
Average f (3)	-4,30	-4,20	-4,00	-5,40	-3,00
Receivables (4)	48,6	28,4	6,1	8,8	5,3
Payables (4)	156,0	86,1	26,7	31,8	11,3
Payables to government (4)	30,8	21,4	3,5	4,0	1,8

Notes:

(1) Except in rows 1, 6 & 7, the numbers denote trillions zł (1 trn = 1.000.000 millions).

(2) Average quarterly sales and other income in 1992.

(3) Annual, 1992.

(4) End of 1992.

N.B. At the average official rate in 1992, 1 trn zł equalled 63,4 mln USD. Official GDP in 1992 was, in current prices, 1.140 trn zł.

**Table 7:**  
The breakdown of L-type enterprises with  $-1,5 < f < -0,5$  by profitability (1), end of 1992

Category	All	$z < -0,1$	$-0,1 < z < 0$	$0 < z < 0,1$	$z > 0,1$
N, in %	100,0%	26,5%	27,1%	34,5%	11,9%
S (2)	62,9	7,6	14,7	27,0	13,6
Z (3)	2,0	-1,4	-0,6	1,3	2,6
Cost of financial operations (3)	13,7	1,3	4,0	5,0	3,4
D (4)	28,6	2,2	5,1	11,5	9,8
Average z (3)	0,03	-0,19	-0,04	0,05	0,19
Average f (3)	-0,90	-1,10	-0,90	-0,90	-0,90
Receivables (4)	41,3	5,80	9,90	16,40	9,20
Payables (4)	75,5	12,5	19,6	29,8	13,6
Payables to government (4)	15,0	3,5	2,7	6,1	2,7

Notes:

- (1) Except in rows 1, 6 & 7, the numbers denote trillions zł (1 trn = 1.000.000 millions).  
 (2) Average quarterly sales and other income in 1992.  
 (3) Annual, 1992.  
 (4) End of 1992.

N.B. At the average official rate in 1992, 1 trn zł equalled 63,4 mln USD. Official GDP in 1992 was, in current prices, 1.140 trn zł.

**Table 8:**

**Distributions of financial assets and liabilities of enterprises by f-category,  
end of March (A) 1992 and (B) 1993.**

Category	Total		Very Bad		Bad		Satisfactory		Good		Very Good	
	-----+-----+-----+-----+-----+-----											
	Absolute levels						In per cent					
	A	B	A	B	A	B	A	B	A	B	A	B
N	20130	18021	12.0	15.1	14.0	15.0	59.3	58.3	10.8	8.9	3.3	2.8
S	388.6	496.9	6.9	11.2	15.6	12.9	68.6	67.0	7.6	7.3	1.3	1.6
Bank Debt (D)	169.7	195.3	60.9	62.3	17.4	13.7	19.6	22.2	1.4	1.2	0.7	0.6
Own Cash (M)	53.6	67.1	13.3	10.3	11.3	7.8	38.7	40.6	21.7	23.5	14.9	17.7
Receivables (R)	275.1	310.2	10.7	17.2	16.1	12.6	47.9	49.1	16.7	11.6	8.5	9.5
Payables (P)	304.6	420.5	24.2	38.8	23.9	17.6	38.8	35.2	10.4	5.0	2.8	3.3
Payables to government (PG)	48.8	82.2	26.9	45.5	32.3	19.1	34.5	30.2	4.9	3.3	1.4	1.9
Average f	-0.4	-0.5	-5.3	-4.0	-0.9	-0.9	0.0	0.0	0.8	0.8	4.2	3.3

Notes. As before, S stands for average quarterly gross income from sales and other sources. The value unit of account is a trn zl. GDP in current prices was 1140 trn zl in 1992 and is expected to be about 1450 trn zl in 1993.

Table 9:

The breakdown of L-type enterprises with  $f < -1.5$  by profitability, end of March, (A) 1992 and (B) 1993.

Category	Total		$z < -0.1$		$-0.1 < z < 0$		$0 < z < 0.1$		$z > 0.1$			
	Absolute levels				In per cent							
	A	B	A	B	A	B	A	B	A	B		
N	2428	2716	57.9	50.1	10.5	14.2	22.2	28.7	9.4	7.0		
S	26.6	55.6	32.1	26.7	28.5	31.3	27.4	31.2	12.0	10.9		
Z	-3.4	-4.2	115	131	9.5	9.6	-6.0	-14.1	-18.4	-27.1		
D	103.3	121.6	20.5	34.0	14.2	21.2	58.0	32.3	7.3	12.5		
R	29.5	53.5	45.5	38.6	19.5	25.0	23.3	24.4	11.6	12.0		
P	73.6	163.2	46.1	38.8	26.2	24.1	18.8	28.7	8.9	8.4		
Payables to govern	13.1	37.4	58.0	43.8	18.3	16.2	15.2	32.1	8.5	7.9		
z	-0.13	-	0.08	-	-0.37	-	-0.04	0.02	0.03	0.03	0.20	0.19
f	-5.3	-4.0	-5.5	-3.6	-2.9	-	-8.5	-4.1	-3.2	-3.5	-	-