POLICY RESEARCH WORKING PAPER

Wage and Pension Pressure on the Polish Budget

Alain de Crombrugghe

Poland's current economic recovery should create jobs, not raise wages. Ensuring insuring equitable opportunities for all requires moderating the income claims of the best-protected groups — and reforming the pension system

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Summary findings

After Poland's remarkable stabilization and liberalization in 1990, the economy faced three related problems: high wage and pension claims, a rising number of pensioners and unemployed workers, and a budget crisis, especially in 1991 and 1992. De Crombrugghe studies the role that wage and pension pressures played in this crisis. He also explains the persistence of the high tax wedge that later helped overcome the budget crisis.

The positive effect on revenues of higher wages and higher tax rates could not compensate for both the inevitable loss in profit taxes and the excessive growth of spending on replacement income.

Counterfactuals constructed for revenue and spending show the rising number of social benefit earners (pensions, unemployment) to be responsible for much of the budgetary burden. But they also show that the better protection of social income (over other income) explains part of the burden.

Part of the employment loss and social spending can be ascribed to the excessive wage recovery of late 1990 and 1991. Insiders set wages ignoring the unemployed and exploiting the pension system in a context of uncertainty about profits and productivity, at a time when there was strong popular support for the protection of replacement income.

De Crombrugghe recommends pension reform and caution about wages: the current economic recovery should create jobs, not raise wages, he says, and ensuring equitable opportunities for all requires moderating the income claims of the best-protected groups.

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INTRODUCTION

The paper starts from the observation of three related facts about Poland after its successful 1990 stabilization and liberalization: .t faced high wage and pension claims, it was confronted with a rising number of unemployed workers and pensioners, and it experienced difficulties with its government budget, especially in 1991 and 1992. The objective of this paper is to identify and measure the effects of such developments on the government budget. These effects are then judged in light of the objectives of the economic transformation of Poland: equitable and sustainable growth in a market economy.

The idea that labor market disequilibria created an excessive burden for public finances must be understood correctly. It has many aspects, each of which is analyzed by comparing actual outcomes with counterfactual simulations.

The first section of the paper outlines the disequilibria in the labor market. Section 2 studies their implications in terms of the government's revenue gains and losses. Section 3 is devoted to workers' pensions, looking both at the number of beneficiaries and at the benefits. Section 4 shows the evolution of wages and other income-related expenditures in government spending.

The budgetary pressures to the high income claims of workers and pensioners an evaluated in section 5. Alternative policy options are also sketched there. Section 6 then evaluates quantitatively the redistributive activities of the government budget. A summary table shows that the reforms have brought only slow and marginal reductions in the budget deficit, total expenditure, or the tax burden. Efficiency gains in the Polish economy must be sought in the different composition of revenue and expenditure, or in other aspects of reform. Section 7 concludes.

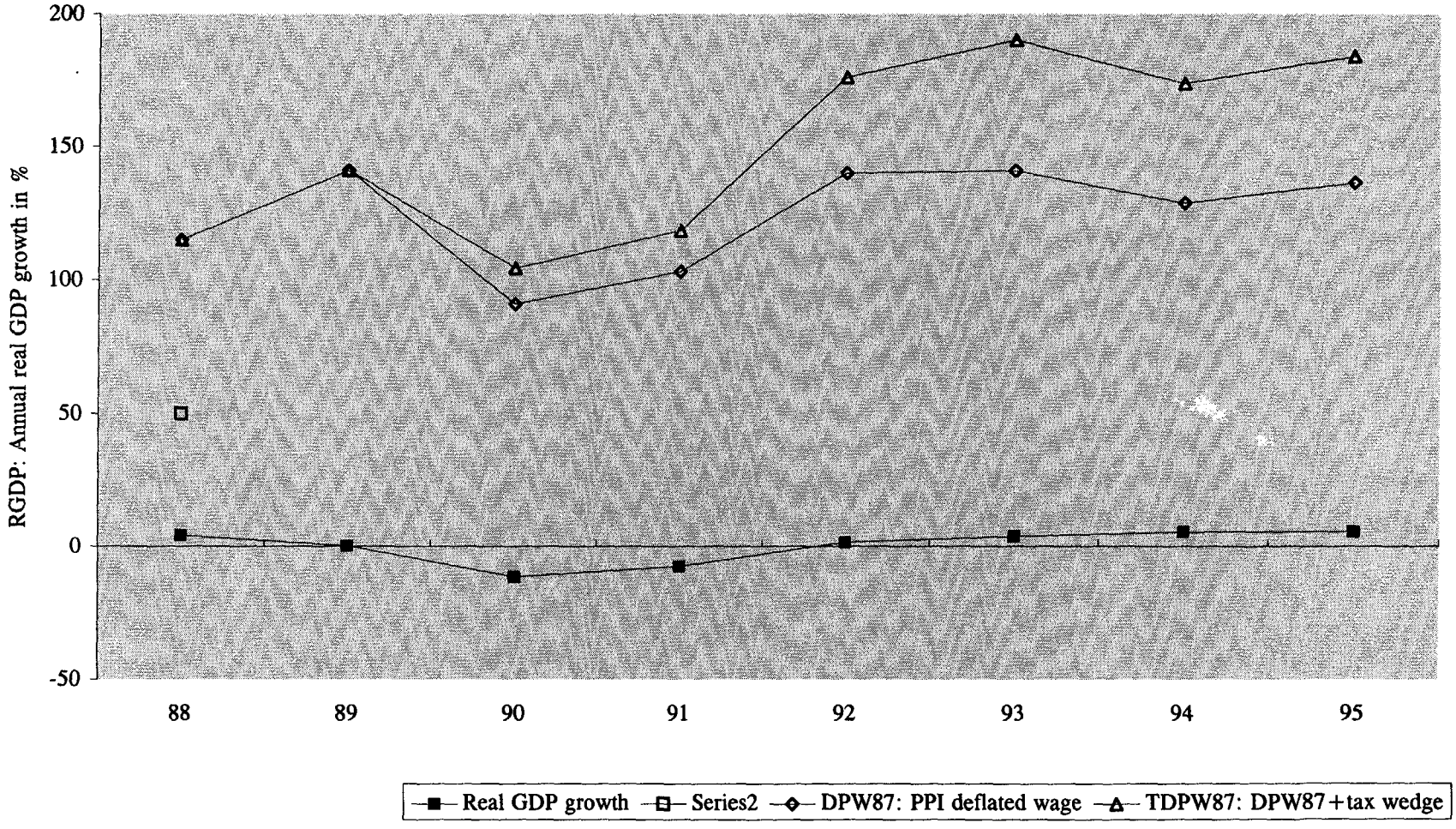
1. DISEQUILIBRIUM IN WAGES, PENSIONS, AND EMPLOYMENT

Before quantifying the revenue and expenditure effects of the high income claims, it is useful to describe briefly the disequilibrium in the labor market. The rise of the "producer" wage in Poland is striking after the 1990 stabilization; converting nominal wages at the official exchange rate would give the same picture (figure 1). The "consumer" wage (the producer wage deflated by the consumer price index, see table 5), however, remained basically constant after the 1990 stabilization. The divergent evolution of the consumer wage reflects the huge price distortion inherited by the Polish economy, as well as major changes in the tax system. Figure 1 shows clearly the too early growth of producer price-deflated wages relative to GDP growth, and the growing payroll tax wedge required to finance the ensuing unemployment and retirement of workers.

The evolution of wages can be judged only on the basis of productivity changes and changes in the opportunity cost of labor. Productivity fell in 1990 and 1991 because output declined faster than employment. Productivity rose again after 1992, and employment had to wait until 1994 to stop falling. These productivity changes do not seem to justify the timing of the wage increases in late 1990 and of 1991. The cost of labor was affected not only by rising nominal wages and the slower increase of the producer price index, but it was also affected by a sharp increase in social security contributions in 1990 and 1992.

The huge difference between available labor and employed labor since 1991 indicates that labor was paid above its opportunity cost. Early retirees and unemployed workers together amount to more than 4 million people (figure 2). This figure can hardly be explained by mismatch, frictional job search, or the excessive cost of retraining, while rejecting high wages. Actually, most studies of

Figure 1: GDP Growth, Producer wage, New taxes



the labor market conclude that insider power cannot be rejected as a determinant of the high wage settlements.

New entries kept the size of the labor force constant. Entering outsiders maintained some effective pressure on insiders, despite the fact that some unemployed outsiders sank into long-term unemployment. Another piece of evidence showing that labor was paid more than its opportunity cost in many state firms is the difference between average wages in the economy and in the private sector (table 1).

The Central Statistical Office, *Glowny Urzad Statystyczny* (GUS) reports that employment (*zatrudnienie*) fell from 12 million in 1989 to 9 million in 1993. Thanks to self-employment, labor income earners outside of private agriculture (*pracujacy*) fell only from 12.5 million to 11 million. Productivity gains at such an employment cost indicate that some labor is paid above its opportunity cost. The economy has not become more productive, rather income is distributed differently: employed workers earn larger gross wages and pay more taxes. The others earn benefits.

Table 1: Average private sector wages relative to average wages in the economy, 1993-95 (percent)

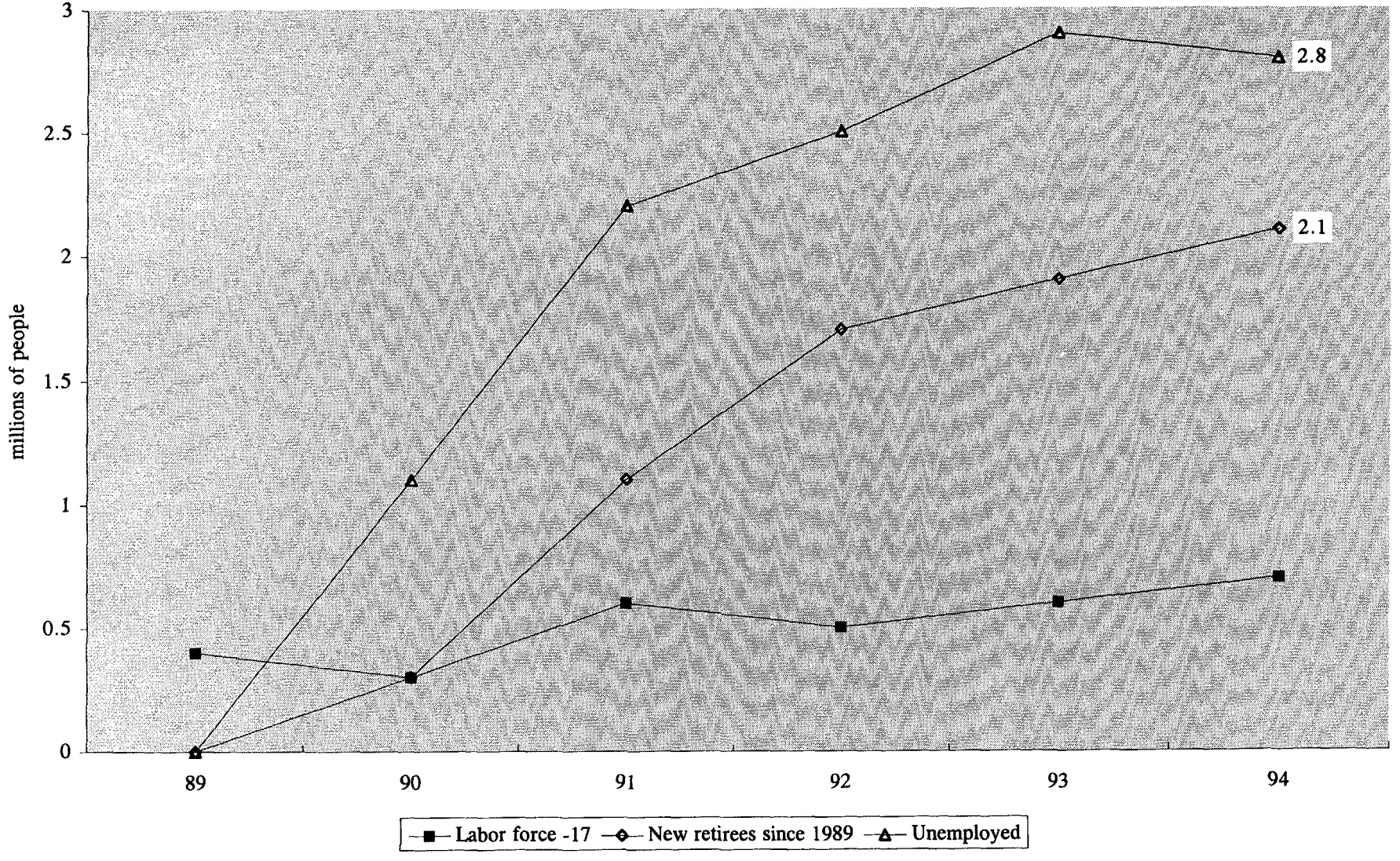
Relative Average Gross Wage in Private Firms	1993[a]	1993[b]	1994[b]	1994[c]	1995[c]
All sectors	87.8	94.4	92.6	92.5	94.5
Industrial workers	82.4	88.0	83.3	84.3	86.0

Note: Figures one for average monthly gross wages.

a Covers all workers.
b Covers only the workers employed in reporting enterprises.
c Same as b, but 9-month averages (Jan.-Sept.).

Sources: GUS Monthly statistical bulletin, various issues.

Figure 2: Labor force, Unemployment and Retirement



The unsustainability of the wage path becomes even clearer when the trade shock rising from the Collapse of the Council for Mutual Economic Assistance (CMEA) is taken into account. The negative aggregate demand impact of this shock could have reduced both prices and output, while the negative aggregate supply effect, deriving from more expensive raw materials, should have reduced real wages. That the nominal and real producer wage per worker continued to rise in 1991 is thus remarkable. Polish exports, admittedly, did not fall much from their high 1990 level between 1991 and 1994—and then started to rise again. Imports, however, rose continuously in price and quantity. The CMEA collapse can be seen as an aggregate supply shock, worsened in some sectors (textiles especially) by a sectoral demand shock.

2. THE BUDGET REVENUE EFFECT OF WAGE INCREASES

High wages have several effects on budget revenue. The first effect is a revenue gain from applying the same rates (or higher ones in case of progressive taxation) to higher wages, assuming constant employment. The second effect, which attracted a lot of attention, is the loss of profit taxes because of declining profits. The third, and most important effect is the reduction in total employment, and hence the reduction in the size of the tax-paying labor force. The final effect is the needed increase in tax rates to collect enough revenue.

2.1. Effects at constant employment.

We first compare the direct effect of wage increases on budget revenue, assuming constant employment, with the indirect profit tax loss. The net effect can be positive or negative, depending on the relative taxation of wages and profits, and their relative enforcement. Based on a comparison of statutory rates, both Schaffer (1993) and de Crombrugghe (1994a) conclude that the net effect may have been positive (at constant employment).

Schaffer (1993) estimates the effect in the following way. Assuming

t_1 = the tax rate on gross profits,

t_2 = the combined tax rate on net wages,

R = total revenue from wage and profit taxes,

P = profits [= Sales - $(1+t_2)$ wL]

L = employment,

wL = net wage.

Government revenue is:

$$R = t_1P + t_2wL$$

and the total derivative of R with respect to the wage bill wL, taking into account that it is net of taxes, gives

$$dR = d(wL)*(t_2-t_1t_2-t_1).$$

This is positive if

$$t_2 > t_1/(1-t_1)$$

where the right side can be called the "comparable profit tax." Following this methodology, table 2 reports comparable tax rates for various years of the transition.

Schaffer corrected the statutory tax rates to come closer to effective rates. For 1990 he used a profit tax rate of 37 percent, which corresponds to the effective rate paid by profit-reporting enterprises. This gives a comparable profit tax rate of 59 percent, which corresponds to his effective payroll tax rate, ignoring the excess wage tax.[1] For 1991 he used an effective profit tax rate of 30

[1] On the excess wage tax (called PPWW or popiwek) see Coricelli and Revenga (1992) and de Crombrugghe and de Walque (1996).

percent, hence a "comparable profit tax" of 43 percent and an unchanged effective net payroll tax rate of 59 percent. He then estimated that dR=d(wL)*0.11, thus a net revenue gain from wage increases.[2]

Table 2: Gross Profit Tax Rates and Net Total Payroll Tax Rates, 1988-93 (percent)

	1988	1989	1990	1991	1992	1993
Gross profit tax rate (t_1)	65	40	40	40	40	40
Comparable profit tax rate ($t_1/(1 - t_1)$)	**186**	**67**	**67**	**67**	**67**	**67**
Overall net payroll tax rate (t_2)	**58**	**58**	**67**	**67**	**76**	**78**
Payroll tax	20	20	20	20	0	0
Average personal tax	0	0	0	0	20	21
Contribution to ZUS	38	38	43	43	54	54
Contribution to FP	0	2	2	2	2	3

Note: ZUS = Zaklad Ubezpiecien Socialnych; FP = Fundusz Pracy.
Statutory rates in percent, converted into rates on net wages after 1991.
De Crombrugghe (1994a) grossed up the payroll tax rates before 1992 and came to the same conclusions.

The use of an effective profit tax rate can be debated, especially in 1991. It transforms a neutral tax revenue effect into a positive one. Shaffer's low effective profit tax rate is not consequence of a political decision to increase the number of deductibles or exemptions. Rather, it is a consequence of the fact that profit taxes are earned on only some of the enterprises. These are not exogenous, though. Some enterprises may be loss-making precisely because they raised wages. Other enterprises may have no incentive to earn profits because they have no internal claimant for these profits. In that case their profits go to zero, and the effective profit tax rate becomes zero as well.

[2] Schaffer observes that gross losses were between one-fourth and one-third of gross profits in 1991. So he takes as the marginal tax rate 0.5*37 percent + 0.5(1/3*0 percent+2/3*37 percent)=30 percent. Hence for 1991 the wage revenue effect $(t_2-t_1t_2-t_1)=(0.59-(0.3*0.59)-0.3)=0.11$.

Since 1992 the fiscal treatment of profits $[t_1/(1-t_1)]$ has been more favorable than that of wages (t_2) (table 2). The incentive to make profits is higher, if profits can be distributed to a residual claimant (for example, the workers) and not be taxed at the highest marginal personal income tax rate. The tax revenue effect of wage increases is unambiguously positive.

2.2. The effect at constant employment, counterfactual approach

Given the difficulty of assessing the tax revenue effect of the wage increases of late 1990 and 1991, another approach is to look directly at the actual tax revenue from wages. This revenue must then be adjusted to maintain the (counterfactual) assumption of constant employment. One way to make this adjustment is to multiply actual revenue (as a share of GDP) by the ratio of 1989 employment to actual employment. It is also necessary to multiply the 1989 revenue by any tax rate change that occurred between the years. The comparison of these two counterfactual observations gives the maximum revenue gain from wage increases.[3]

The counterfactual payroll tax revenue at constant employment and constant tax rate jumped to 14.9 in 1991 from 10.8 in 1990, or from 11.7 in 1989 (table 3). This jump is a consequence of wage increases, or, more exactly, of the larger share of (higher) wages in (a lower) GDP. The correction coefficients ensure constant employment and constant tax rates.[4] Thus the payroll tax's revenue gain from higher wages in 1991 was 3.2 of GDP over the 1989 level, or 4.1 percent compared with 1990. This gain has to be compared with the corresponding loss in profit taxes (at constant profit tax rates).

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[3] In table 3, instead, the counterfactual is obtained by dividing the revenue of the current year by the ratio of the current tax rate to that of 1989 (and by the ratio of current employment to 1989 employment).

[4] An alternative would be to divide the 1989 actual payroll tax by the correction coefficients for 1991. For Zaklad Ubezpiecien Socalnych (ZUS), this gives (8.4/1.07/0.88)=8.2, for wage taxes (3.3/1.22)=2.7. The counterfactual obtained in this way should then be compared with the actual revenue of 1991. The difference would reflect the effect of the wage changes at 1991 employment. It is a gain of (11.4-8.2)=3.2 for ZUS. The profit tax was 9.7 percent in 1989 and 6.5 percent in 1991—thus a loss of 3.2 percent of GDP, possibly due in part to other than—wages, like inflation.

The profit tax rate had already changed by 1989, so there is no need for a correction to compare later years with 1989. The profit tax revenue was 9.7 percent of GDP in 1989, rose to 14 percent in 1990, and fell to 6.5 percent in 1991. Thus the revenue loss in 1991 was 3.2 percent of GDP compared with that in 1989, and 7.5 percent compared with that in 1990. The conclusion for 1991 is that the profit tax loss wiped out the gain from higher wages at constant employment: thus a neutral effect in net.

A comparison of profit taxes between 1988 and 1992 is also interesting. It is much less sensitive to the distribution of the inflation bias on profits between 1989 and 1991. In 1988 profit taxes were 12.9 percent of GDP, while 1992's counterfactual is 7.3 percent of GDP. Thus more than 4 percent of GDP was lost on profit taxes for reasons other than temporary changes in inflation (1989-91), or permanent changes in tax rates or rules.

In subsequent years profits continued to decline, and profit taxes declined even more (see 1994, despite the small recovery in profits) while wages became basically stable in 1992. This pattern suggests that the explanation for the profit decline has to be sought elsewhere than in the wage changes (see section 5).

2.3. Employment effect

The revenue effect of the wage change did not arise at constant employment and constant tax rates: employment fell and tax rates rose. A vertical reading of table 3 reveals the importance of these two effects in any given year. If the counterfactual is higher than the actual revenue, it

Table 3: Tax. Revenue
(percent of GDP)

	1988	1989	1990	1991	1992	1993	1994
Payment Tax Revenue at Baseline Employment							
Actual payroll tax revenue of which:	11.9	11.7	11.2	14.6	19.6	21.4	21.6
Wage tax or PIT[a]	3.5	3.3	3.0	2.6	6.3	7.7	8.2
ZUS[b]	8.4	8.4	8.0	11.4	12.9	12.9	12.6
FP[c]	0.0	0.0	0.2	0.6	0.6	0.7	0.8
Correction Coneficients							
Constant employment coefficient[d]	-	1.0	1.07	1.17	1.27	1.33	1.34
for wage tax.[e]	-	1.0	1.09	1.22	n.a.	n.a.	n.a.
Constant PIT coverage coefficient[f]	-	n.a.	n.a.	n.a.	0.38	0.38	-
Constant tax rate coefficient[g]	-	1.0	0.87	0.87	0.76	0.74	-
For ZUS only	-	1.0	0.88	0.88	0.70	0.70	0.7
Counterfactual Tax Revenue							
Counterfactual 1989 revenue of which:	-	11.7	10.8	14.9	14.8	15.9	-
Wage tax or PIT	-	3.3	3.3	3.2	3.3	3.9	-
ZUS rate	-	8.4	7.0	10.0	9.0	9.0	8.8
ZUS	-	8.4	7.5	11.7	11.5	12.0	11.8
Profit Tax							
Actual profit tax	12.9	9.7	14.0	6.5	4.4	4.1	3.2
Correction for profit tax with amortization[h]	1.0	1.63	1.63	1.67	1.7	1.7	-
Counterfactual profit tax	12.9	15.8	22.8	10.9	7.3	6.8	-
Actual Temporary Taxes							
Dywidenda	n.a.	1.7	2.1	1.4	0.6	0.5	0.2
Popiwek	0.7	1.7	1.4	3.3	1.5	0.6	0.2

Note: The data are not consolidated, that is, they include social security contributions with respect to government employees, and since 1992 include personal income taxes paid by government employees and pensioners on their grossed up earnings.

n.a.: Not applicable; —: Not available.

a. PIT = Personal Income Tax introduced in 1992, replaces the wage tax.

b. ZUS = Zaklad Ubezpiecien Socialnych, own revenue from contributions.

c. FP = Fundusz Pracy, own revenue from contributions.

d. Rocznik 1994, p. 120, tab. 12. and 1995, p. 122, tab. 9 [see also number of contributors to ZUS, rocznik 1995, p. LVI, line 31, table 8 and 9.

e. For the wage tax, government employees are subtracted (they were exempt).

f. 1993: /non-gov. empl. 10/[labor force 17.7 + pensioners 8.7] =1/2.64

g. Table 2.

h. Table 2 and Schaffer's 4 percent effect of amortization on profits; 1988 for comparability without inflation bias.

means that the higher tax rate and average wage base do not compensate for the employment loss.

The opposite is true if the counterfactual is lower than the actual revenue. Thus in 1990 there was a gain, and in 1991 there was a loss.

In 1992 and 1993 the actual payroll tax revenue (total or ZUS social contributions) was higher than the counterfactual (total or ZUS contributions): the gain from higher tax rates again dominated the reduction of the tax base because of employment loss, more so in 1992 than in 1993. Wage claims were also more moderate in these two years than in 1991.[5]

The contributions to the social security administration, ZUS which administers the Fundusz Ubezpiecien Socialnych (FUS), illustrate best the response of the tax revenue to wage and tax-rate changes. Tax rates changed in 1990 and in 1992. The revenue gain from each change was larger in the year of change than in subsequent years. Nevertheless, the contribution rate increase of 1992 was not entirely undone by the fall in employment in subsequent years. The wage level played a role. In 1991 wages rose too fast, while they rose only moderatly after 1992. As long as the workers were willing to abandon net wage growth for social contributions, a small revenue gain seemed possible.

Figure 3 gives a decomposition of the contributions to ZUS. It shows actual revenue, counterfactual revenue and constant tax rate revenue. Comparing the evolution of the counterfactual with the 1989 level gives the wage effect at constant employment and tax rates: negative in 1990, positive thereafter. The difference between line 4 (CFUS) and 3 (TFUS) of the counterfactual is lost employment. The difference between actual revenue and the counterfactual can be called the "residual" tax rate effect: it is insufficient to compensate for employment loss in 1991, but is positive afterward. The difference between actual revenue in 1989 and the constant tax rate counterfactural can be called the "residual" wage effect, that is, it accounts for the fall in employment and ignores the

[5] The product of the constant employment coefficient by the constant tax rate coefficient gives the "apparent" elasticity of employment to the payroll tax (base 1989). It is 0.93 in 1990 1.02 in 1991, 0.97 in 1992 and 0.98 in 1993. The elasticity is higher than 1 only in 1991, the year in which wages rose most. But, wages and employment moved simultaneously for reasons other than changes in the tax wedge. The true tax elasticity could thus be obtained only from multivariate regression estimates.

higher tax rates. It is indeed deeply negative in 1990, positive thereafter, and highest in 1991 (tax rates and employment play a larger role after 1992).[6]

Since 1992 the personal income tax has added a lot of tax revenue. A large part of it (more than 2 percent of GDP) is not a net gain. It comes from personal income taxes on pensions and government wages, which have been grossed up for this purpose.[7]

Summing up, it appears that by 1993 the overall revenue from payroll, profit, and related taxes had recovered to its pre-1989 level of about 25 percent of GDP. But the composition of this revenue changed drastically. Without the huge increases in social security contribution rates and personal income tax base,[8] revenue would have fallen to below 20 percent of GDP, even if employment had remained constant. The new composition of this revenue is in line with what is observed in most OECD economies, and the shift to lower profit tax rates and higher payroll tax rates was fully justified in a context of liberalization where the distribution of income would inevitably have shifted from profits to wages. The problems are that the new payroll tax rates create a large wedge between net and gross labor income, and that these taxes are still insufficient to cover the government's wage and social benefit expenditures.

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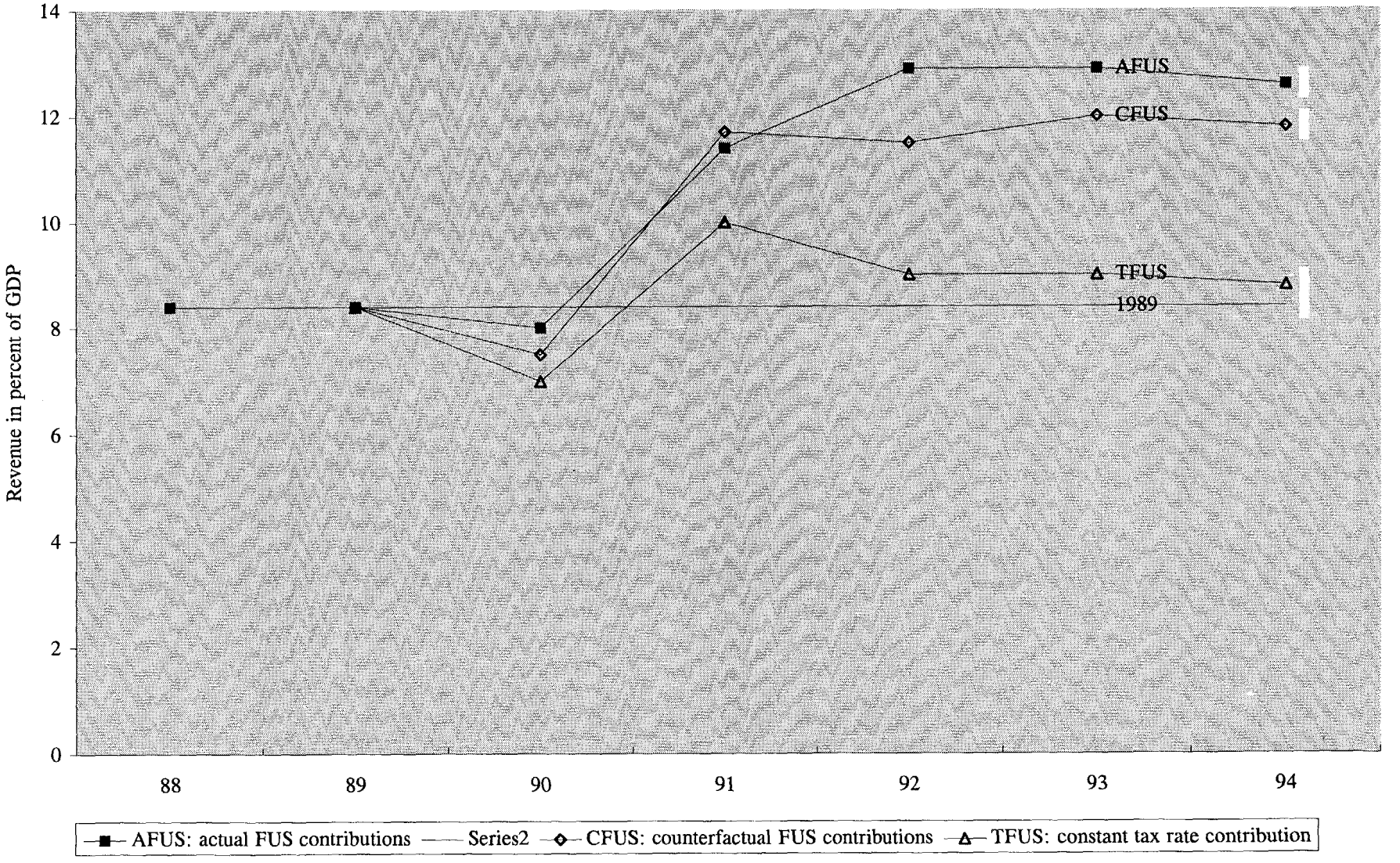
[6] In 1990 both wages and employment fell. The fall in employment cannot be ascribed entirely to the insufficient adjustment of wages to a new sustainable path. Part of it was rematching (supply side adjustment), part cyclical (lower demand), part structural (finding a new equilibrium unemployment rate above the planned economy level of zero).

[7] Table 3 gives total personal income tax revenue. Table 10 (below, section 6) gives personal income tax revenue net of withholdings on pensions (table 4) and on government wages (table 6).

[8] Note that a large part of personal income tax revenue vanishes in the consolidated accounts, as it comes from taxes on pensions and government wages (see table 3, the difference between actual and counterfactual PIT).

Figure 3: A decomposition of FUS contribution revenue



3. THE PENSION SPENDING EFFECT OF HIGH WAGE AND PENSION CLAIMS

A key to the 1991-92 budget deficits and subsequent increases in the tax wedge can be sought in pension expenditures (this section), possibly adding other income-related expenditures (section 4). Because of the entitlement nature of the social security system, it cannot be disconnected from the evolution of wages. There can also be, and there were, spending pressures coming from autonomous changes in pension claims of the population.

The first link between pensions and wages is through labor shedding. Higher wages imply less employment for a given labor demand. First, enterprises and workers try to avoid putting too many people on the dole, instead exploiting first the pension system. Second, people who enter the pension system with a higher reference wage earn higher pensions. Third, pensions and government wages are, by Polish law, indexed to the wages in enterprises. Fourth, high wages attract new entrants into the labor force, most of whom first spend some time as registered benefit-earning unemployed.

Table 4 shows counterfactual pension spending data to quantify the effects of the main determinants of pension spending. Line 1 of the counterfactual ZUS expenditure eliminates the effect of the personal income tax on pensions from 1992 onward. The two main causes of the rising net pension expenditure are the number of pensioners (line 2) and average pensions (lines 3, 4 and 5).

3.1. The pensions of 1989 pensioners

The counterfactuals can be read horizontally or vertically. Horizontal comparisons are made according to the 1989 benchmark. Vertical comparisons show the effect of the various correction coefficients in a given year. It is useful to start from net pension spending (line 1). Line 2 then gives

Table 4 : Pension Expenditure and its Components

	1988	1989	1990	1991	1992	1993	1994
Actual ZUS Expenditure	percentage of GDP						
Social insurance fund ZUS[a]	8.4	9.7	8.5	14.0	16.3	15.8	16.1
Corecction coefficients	ratio to 1989						
ZUS beneficiaries[b]	0.98	1.00	1.02	1.12	1.19	1.23	1.25
Real net earnings[c]	0.99	1.00	0.85	0.97	0.91	0.90	0.93
Personal income tax[d]	1.00	1.00	1.00	1.00	1.17	1.19	1.20
Counterfactual ZUS expenditure	percentage of GDP						
1 = Net pension spending (a/d)	—	**9.7**	**8.5**	**14.0**	**13.9**	**13.3**	**13.4**
2 = Net pension spending implicitly coming to the 1989 pensioners [(a/(b*d)]	—	**9.7**	**8.3**	**12.5**	**11.6**	**10.8**	**10.7**
3 = Giving the 1989 pensioners their real net pension of 1989 with y GDP [a/(b*d*c)]	—	9.7	9.8	12.9	12.7	12.0	11.5
4 = Giving all pensioners their real net pension of 1989 with y GDP [a/(c*d)]	—	9.7	10.0	14.4	15.3	14.8	14.4
5 = Giving per pensioner the same net share of each 1989 GDP as in 1989 [ZUS 1989*b]	—	9.7	9.9	10.9	11.5	11.9	12.1
RELATIVE INCOME GAIN of all the pensioners compared with 1989 (1-5)	—	**0.0**	**-1.4**	**3.1**	**2.4**	**1.4**	**1.3**

Note: 1989 is the peak year for real pensions and real wages.
— not available
a: Rocznik, various issues, and appendix tables.
b: Rocznik 1992, p.203, 1994, p.226, 1995, p.156.
c: Rocznik 1994, p.228, tab. 5, 1995, p.158, use a group-specific price index, own cumulation.
d: Rocznik 1994, p.226, 1995, p.156, gross to net average monthly pension.

net pension spending in a given year on the number of pensioners in 1989. This figure can be compared with net pension spending in 1989. The comparison shows how pensions were affected by he general income decline. In 1990 pension spending fell to 8.3 percent of GDP (close to the 1988

level), down from 9.7 percent of GDP in 1989. In 1990, then, 1.4 percent of GDP was saved on pensions in addition to the fall in GDP. In 1991 GDP continued to decline, but 1989 retirees still managed to obtain 12.5 percent of 1991 GDP, a jump of 2.8 points compared with 1989 and 4.2 points compared with 1990.

Line 3 shows that giving the 1989 retirees the same real (that is consumer-price-deflated) pension that they earned in 1989 would have required 12.9 percent of GDP in 1991 (line 3). This amount is 0.4 percentage points more than the 12.5 that they actually received (line 2). Pensioners thus participated little in the 1991 general income decline. They participated less than proportionately, since the share of GDP going to 1989 pensioners rose.

Another way to look at pensioners' relative income gains and losses is to compare real pensions and real wages. This is done in table 5, but without distinguishing the 1989 pensioners

Table 5: Net Real Wages and Pensions

	1988	1989	1990	1991	1992	1993	1994
	Percentage of 1989, group specific consumption index						
a. ZUS real pensions	99.0	100	84.9	97.2	90.9	90.3	92.9
b. Average monthly wage	91.7	100	75.6	75.4	73.4	71.2	71.6
	Percentage of monthly wage						
c. Relative monthly pension	**51.2**	**50.6**	**56.8**	**65.3**	**62.7**	**62.1**	**64.0**
d. Relative monthly retirement	57.3	53.2	65.0	76.2	72.5	72.8	73.9
	Percentage of worker's household per capita spending						
e. Pensioners relative spending	100	89	99	105	103	113	113
	Gini coefficient						
f. Pension inequality	**0.16**	**0.19**	**0.21**	**0.25**	**0.26**	**0.21**	—

—- not available
a: Rocznik 1994, p.228, tab.5. own cumulation, does not include farmers.
b: Rocznik 1994, p.212, tab.4, own cumulation.
c: 1990-93:Rocznik 1994, p.226, tab.3., 1989 own extrapolation.
1992-93: gross to gross instead of net to net.
d: Rocznik 1991, p.238; 1994, p.227 and lxviii.
e: GUS Bulletin, table I, various issues (new definition of pensioners since 1993).
f: computed on an "Excel" spreadsheet from brackets given in Rocznik (for example 1994, p.230. tab.8), using the middle of the bracket as the average income in this bracket.

from later entrants. In 1990 and 1991 pensions grew relative to wages and in 1992 the reverse happened (line c, table 5). In 1993 both followed a smilar path. In 1994 the pension base went up

from 91 to 93 percent of the average wage. During the whole period, and again in October 1995, new annual rules were set for the timing and the amount of the indexation of pensions, making it possible to deviate from the reference formula (pension base = 100 percent of average wage). Since 1993 pensions have stabilized at about 90 percent of their 1989 level and at about 62 percent of the average wage. Since 1991, however, per capita consumption in a pensioner's household has been nevertheless higher than that in a worker's household. The relative income gain of pensioners is probably a result of their relatively low starting point, at least for some pensions.

3.2. New entrants and their pensions

Line 4 of table 4 shows that had all pensioners in 1991 been given their real 1989 income the bill would have risen to 14.4 percent of GDP. The actual expenditure was 14 percent of GDP (line a). The 0.4 percentage point saved were actually saved on the people who had retired by 1989 (lines 2 and 3, as explained in the previous paragraph). Thus the new pensioners entered receiving more favorable pensions than did the existing sample. The method of table 4 underestimates the benefits of the new entrants and underestimates the loss of past retirees. It uses the average real pension, which is computed on the current sample of pensioners and thus includes the new entrants each year.

The effect of the new entrants on pensions also appears in the rising inequality in the distribution of pension income, as shown by the Gini coefficient in table 5. The effect of new entrants on average pensions and on spreads between pensions was first noted by Maret and Schwartz (1993). The appendix reports how pensions have been computed, before and after the law of 17 October 1991. Table 5 shows replacement rates of more than 60 percent for all pensions and more than 70 percent for retirement pensions.

Line 5 in table 4 shows the effect of the rising number of pensioners on pension spending, assuming that the share of GDP given to each pensioner remains at its 1989 level.

3.3. Adding the three effects

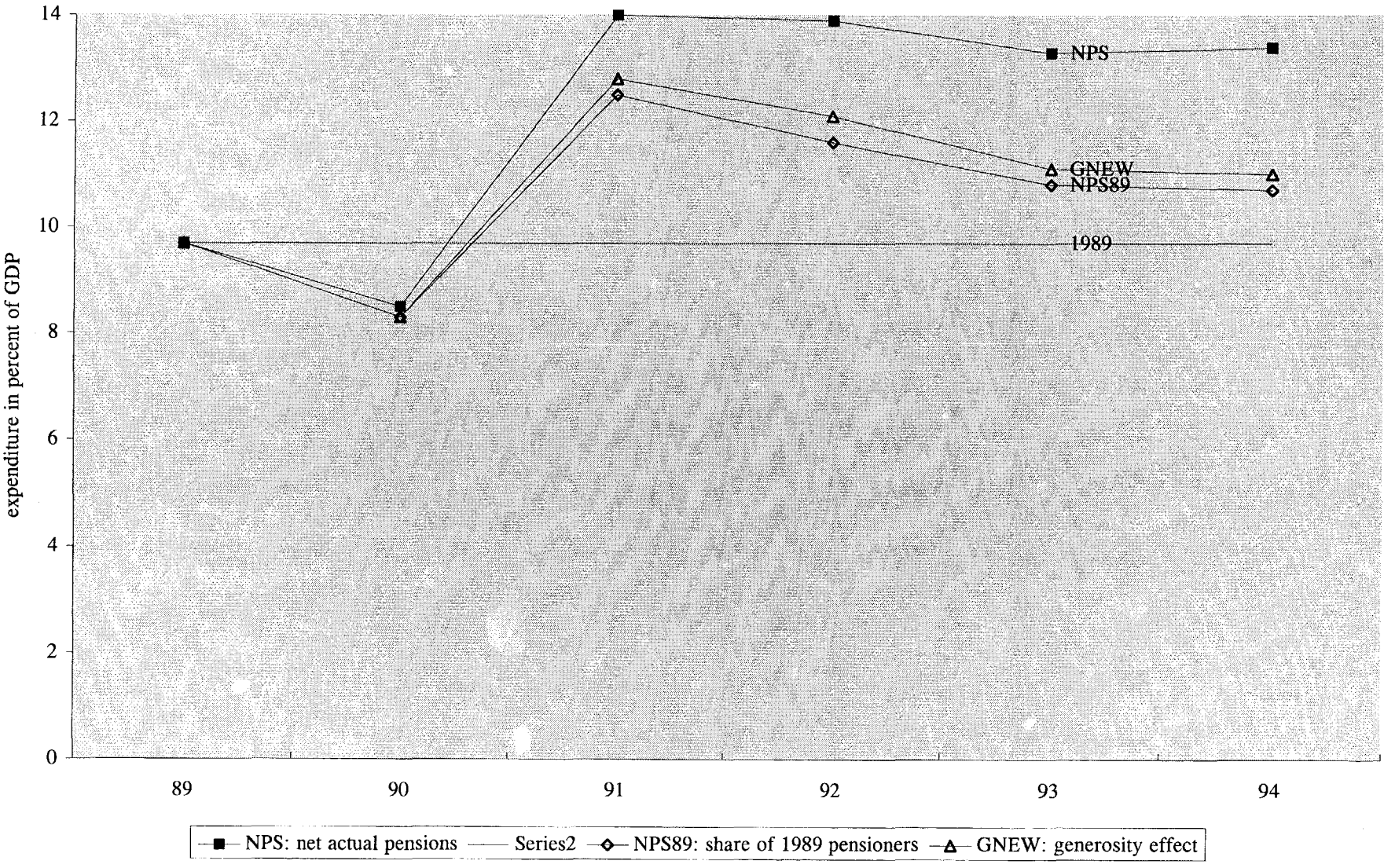
Figure 4 presents a synthesis of the three pension expenditure effects analyzed in table 4: the number of retirees, the benefits of pre-1989 retirees, and the benefits of post-1989 retirees. The figure gives a clear decomposition of pension expenditure: the difference between net pension spending (NPS) and the generosity effect (GNEW) is the "number effect", the difference between GNEW and the share of GDP spent on 1989 pensions (NPS89) is the "generosity effect" toward the post-1989 pensioners, and the difference between NPS89 and the 1989 benchmark is the "generosity effect" toward the 1989 pensioners. In terms of their share of GDP, pensioners lost in 1990, and gained in all subsequent years compared to 1989. Most of the gain was obtained in 1991—the difference between NPS and the 1989 benchmark remains positive, but declines after 1991.

Aside from 1991, another key year in table 4 seems to be 1993. GDP increased, and real average pensions stabilized, while entries slowed. The situation thus started to improve. The contribution of the real income of the 1989 group stabilized to 1.2 percent of GDP (12 percent -10.8 percent, rows 3-2 for 1993), and that of the post-1989 group stabilized to 0.3 percent (14.8 percent - 13.3 percent -1.2 percent, rows 4-1-(3-2) for 1993).[9] One should realize how small this decline is compared with the unsustainable crisis situation of 1989.

To conclude on pension expenditure, let us return to its relation with wages. There is evidence on three counts (labor shedding, reference wages, and indexation) that wage increases

[9] The 1.2 percentage points must be divided by 6.8 million pensioners (table 9) to give an individual contribution of 0.18 point per million. The 0.3 percentage points of the additional two million pensioners is worth 0.15 point per million.

Figure 4: Sources of pension expenditure



contributed to pension increases. In addition, pensioners faced a milder adjustment than workers in 1990 and 1991, and this also helped drive up pension expenditures.

4. OTHER INCOME-RELATED EXPENDITURES

4.1. Wages in government

Government employment was basically stable over 1988-94. Government wages, however, were subject to fluctuations similar to those of pensions. As for pensions, there were two issues. The first one was the relation to be established between average wages in government and average wages elsewhere in the economy. The idea in 1988 and 1989, confirmed at the Round Table, was to raise government wages over a few years from their actual level in 1988 —less than 73 percent of industry wages—to more than 100 percent of industry wages. The second issue was the indexation of government wages to changes in industry wages, regardless of their relative level. These two issues resurface each year on the budgetary agenda.

In addition to aggregate targets, the issue of relative wages within the government sector becomes more and more important as relative wages within the private sector become more differentiated according to education and responsibilities. The opportunity cost of labor should slowly become the key determinant of government wages (in a broad sense, including job security, fringe benefits, and so on). Since 1994 the government has attempted to move from a scale system to a bargaining system. This is in line with the attempt to have enterprise wages set by tri-partite bargaining (employers, unions and government as well).

Table 6 reveals two major jumps in net government wages: one in 1989 and one in 1991. Both correspond to attempts to bring government wages closer to enterprise wages. In 1989 the catch-up is independent of the wage behavior in enterprises. It is mainly due to an attempt to make up for the lack of indexation in the 1980s. In 1991 the jump can be traced partly to rising enterprise

wages (chasing a moving target) and partly to the better protection of civil servants' real wages compared with that of other groups since the start of the 1990 stabilization.

Table 6: Actual Government Wage Expenditures and its Components
(percentage of GDP)

	1988	1989	1990	1991	1992	1993	1994
Net Government wages	3.0	4.3	4.1	6.0	5.3	5.3	5.2
Gross Government wages	n.a.	n.a.	n.a.	n.a.	6.7	6.7	6.7
Government wage cost	4.0	6.0	5.7	8.0	9.1	9.1	9.0
Wedge between wage costs and net wages	**1.0**	**1.7**	**1.6**	**2.0**	**3.8**	**3.8**	**3.8**

n.a. not applicable
All wage data include central and local government expenditures. Wage cost includes contributions to ZUS.

In 1992 net government wages stabilized at around 91 percent of enterprise wages, and rose slightly in 1994. The stabilization of government employees' (net of tax) share of GDP after 1992 still implies a slight improvement of their purchasing power since GDP started to grow again in 1992.

There is no clear evidence that there are too many government employees or that they are overpaid. Government employment was apparently (and fortunately) not used as an unemployment-fighting (or hiding) device. Education, however, may have suffered from too many teachers per pupil: about 1 million teachers for about 11 million people under age 18 (not all of them enrolled in school).

For the purpose of this paper the main focus here is the government wage explosion in 1991, linked to the general wage explosion in the economy. In addition, it should be noted that— like pensioners—civil servants managed to protect or even raise their wages better than many other groups (admittedly, though, from a low level).

4.2. Unemployment costs

Unemployment expenditures are directly related to the high-wage hypothesis of this paper. It is paid by the Unemployment Fund, Fundusz Pracy (FP), which also collects the contributions. It totaled around 2 percent of GDP in 1991-94. Registered unemployment rose from zero to 2.8 million between 1989 and 1993. The labor force remained roughly constant throughout 1989-1994, while the number of pensioners rose by 2 million (see table 9 in section 8); thus new entries exactly matched retirement. Self-employment rose by 0.5 million, compensating for part of the 3.3 million employment decline. People between 15 and 24 years old represent more than 40 percent of the unemployed and the unemployment rate of the age group 18-24 was 32 percent in 1994, compared with 14 percent for the whole active population (GUS, Aktwynosc zawodowa i bezrobocie w Polsce, March 1995).

Given that many of the workers affected by economic restructuring were absorbed by the pension system, and given the large share of young unemployed, also in the low-unemployment vojvodships (see GUS: Bezrobocie rejestrowane w Polsce, quarterly), a lot of good evidence would have to be provided to reject the hypothesis that insider wage-setting cost at least half of

Table 7: Other Social Expenditure

	1989	1990	1991	1992	1993	1994
	percentage of GDP					
Social insurance—farmers	1.0	1.3	1.9	2.1	2.1	2.4
Unemployment fund	0.1	0.6	1.6	2.2	2.0	2.1
	percent of ZUS expenditure					
Family allowances in ZUS	16.7	16.0	14.6	15.3	15.4	15.8

Source: Budgetary data and GUS Rocznik 1994, p. 227, 1991, p. 239.

unemployment expenditures, that is, 1 percent of GDP. The rest may be ascribed to the inevitable restructuring of economic activity and normal market frictions.

In addition to the budgetary cost of unemployment benefits, the lost (registered) employment represented a net loss of revenue. The lost social security contributions and personal income taxes were shown in table 3. Table 3 does not distinguish between labor shed through retirement and unemployment. Moreover, it does not include outsiders who were kept out of employment. The lost taxes on and contributions from the unemployed are of the order of 1 or 2 percent of GDP (10 percent of the population is not contributing to sources of income worth roughly 20 percent of GDP).

4.3. Peasant pensions

Peasant pensions went up from 1 to 2.4 percent of GDP between 1989 and 1994. They are paid by the social insurance fund of farmers—Fundusz Ubezpiecien Socialnych Rolnikow (FUSR).[10] These pensions are not high, the peasants are often old and were the social group hardest hit by the price liberalization, after an initial gain in 1989. Retired peasants usually keep other sources of income, and their pensions actually offer a good return on contributions that were very small. This source of expenditures can hardly grow, given that the existing pool of peasants will only shrink further. The taxation and social protection of farmers can be modernized. The budgetary difficulties of 1991 and the high burden of total public expenditures on the economy cannot be traced back to farmer's pensions, and only to a very limited extent to credit subsidies and price supports to agriculture (another 2 percent of GDP).

[10] This fund has also been called Fundusz Ubezpiecien Emeritalno-rentownych.

4.4. Family allowances

Finally, family allowances are a small percentage of GDP and fall mainly outside the scope of this study. The relevant facts are the following. A large part of family allowances go to old people, as an additional form of income support rather than in proportion to the number of children they raise. A number of studies of income distribution in Poland and in Central Europe show that financial hardship is more frequent among young households with children than any other population group (see Grootaert 1995). The share of family allowances in total social spending and the ratio of the average family allowance to the average pension have declined slightly. They reached their lowest level in 1991, when wages and pensions peaked. This suggests either a diversion of spending in favor of more powerful groups or inefficient rules for allocating social spending.

5. POLICY EVALUATION AND IMPLICATIONS

5.1. From profit taxes and subsidies to payroll taxes and benefits

The above analysis of government revenue and expenditure suggests that a structural shift occurred in the distribution of tax revenue—away from profit taxes and into payroll taxes—and in the distribution of income—away from profits into wages. It may even be tempting to claim that by taxing these higher wages at a higher rate, it was also possible to shift part of the labor force away from earning labor income, and toward earning benefits. This change could facilitate the enterprise restructuring initiated by the elimination of most subsidies.

In this context the economic transformation can be seen as a change of social contract. The old contract was between firms and the government. It basically implied that profit taxes financed subsides, which in turn justified that firms were in charge of full employment and some benefits. The new contract is between workers and the government. It implies that payroll taxes finance replacement income. The government stops intervening in most production decisions, and it stops

giving firms monopoly positions. But it guarantees the replacement income of workers with the general budget if contributions are not sufficient. This explanation of the fall in enterprise profits and in profit tax revenue is not limited to a substitution of wages for profits. It includes a reorganization of the economy, in which subsidies vanish, competition increases, and distortions on production are significantly reduced. Also, labor market distortions may rise but in a nonarbitrary way.

In practice, the budgetary adjustment was not easy. The old contract was already in deficit, despite its discretionary nature (subsidies could be changed product by product) and hence its potential flexibility. The new contract is not discretionary. It is composed of entitlements and hence is harder to keep within the bounds of available means.

The reduction of enterprise subsidies went further than that of profit taxes, and there was a small net gain (1 percent of GDP) for the budget in net transfers from enterprises. The explanation of Barbone and Marchetti (1995) is that price liberalization reduced the terms of trade of the profitable (tax-paying) sectors and improved the terms of trade of the unprofitable (formerly subsidized) sectors. In practice, a large number of firms reported losses, gambling to various extents with the long-term budget constraint.

A further implication of the change in income allocation is that part of the savings that used to be retained by the firms will now be allocated by the workers. In addition to housing, productive investment will compete for these savings. Pension funds could be a useful intermediary for efficiently allocating these savings.

Since 1994 profits have recovered. That year the government assigned industrial policy objectives to the profit tax (through deductions and exemptions), often at the expense of the revenue-raising objective.

5.2. The importance of pensions during the transition

High pension expenditures could be justified by the need for restructuring and for eliminating the excess employment forced by the old regime. This would explain part of the high number of retirees. The easy eligibility to early retirement should be a transitory feature of pension regulation, not a permanent one.

Tables 4 and 5 show that the better deal received by pensioners—not just their numbers—also fueled the cost of pensions. An argument in favor of the pattern followed by Polish pensions is that relatively stable pensions played a positive role as automatic aggregate demand stabilizers (and, indeed, by 1992 per capita spending in pensioners' household became higher than in workers' households, table 5).

In addition, high pensions may also have contributed to the social acceptability of reforms. If reforms were successful, workers could expect higher future labor incomes. Moreover, because old people had no opportunity to accumulate savings in the past, better treatment of the prereform retiree were justified on equity grounds. Such treatment should be phased out quickly. The working-age population should adjust to a new pension system, which must be clearly preannounced. Unfortunately, no new pension system has been so announced. Meanwhile, tables 4 and 5 and figure 4 suggest that new pensions are on average more generous than old ones, a feature that will be hard to sustain on equity grounds and with pay-as-you go financing.

5.3. The benefits

The issue of benefits concerns their level, variance, and rate of change. In Poland all pensions used to be computed on a single base with various adjustments for the years of service, past earnings, or occupations. The aim set at the 1989 Round Table was to equate the base with the

average wage, and index it monthly to this wage. The law of 17 October 1991 modified the formulas in use and abolished bonuses above a certain level. A summary is given in appendix 1.

The debate over wage versus price indexation is a difficult one.[11] The indexation of pensions to prices instead of wages is usually recommended in a growing economy: it gives the budget some breathing space when productivity gains increase wages faster than prices. The position of pensioners then deteriorates relative to workers, but not relative to past and extrapolated (expected) earnings. Further pension increases can then be decided if the equity gain seems to exceed the efficiency cost of the transfer. In a transition or adjustment period, however, real wages fall from unsustainable heights. It can be argued that pensions should also contribute some real adjustment, depending their initial level. It appears from table 5 that wage indexation may have been less costly in 1990 and 1991 than price indexation, or even than the adjustments that were actually made.

In transition an important issue concerning benefits is that of default on unwarranted social obligations. Default in 1991—on all pensions by budgetary emergency in the summer, and on high pensions by law in October—was not acceptable to the Constitutional Court. The compensation for this default will take the form of privatization vouchers, but this solution has not yet been worked out. The uncertainty created by the outright default in 1991 may, however, have had more damaging political effects than the income loss of some pensioners.

Outright default could have been avoided by using a less optimistic definition of the pension base and longer indexation intervals, while still raising real pensions compared with 1990. This way of softening pension expenditures was used in each budget since 1992. Unfortunately, the 1991 budget was prepared in the context of a presidential election, rising wages, and a misguided impression that the 1990 stabilization had gone too far in reducing consumption and creating a budget

[11] In Poland wage indexation of pensions can mean two different things. One is to let pensions (whatever their level) grow at the same rate as wages grow. The second is to equalize the base used in the pension formula to the average wage. This base is currently 93 percent of the average wage.

surplus. As a longer-term alternative to an annual definition of pension benefits, funding could have been phased in faster, even for past obligations (Topinski and Wisniewski 1991). The transformation of the entitlements of the old system into shares in new capitalized pension funds can be made on a voluntary basis or provided the risk and return modifications are perceived as socially fair. Future obligations can be built on new bases—the sooner the better.

An additional issue is the taxation of pension benefits. As noted in de Crombrugghe (1994a), taxation makes it possible to reduce the net cost of rising benefits. It can also reduce after-tax pension inequality. It introduces some "active" targeting (favoring those in need) in a system that mainly works with "passive" targeting (ensuring noone is left out). Moreover, it seems that a large number of people can continue to work while earning a pension (see section 5.4). Including pensions in taxable income is in accordance with the ability to pay principle. Poland included pensions in taxable personal income in 1992.

5.4. Retirement eligibility

Thanks to the current economic recovery following the massive early retirement in 1991 and 1992, retirement has slowed since 1993 (table 8), as has pension spending (see table 4). This recent trend could create a dangerous illusion of sustainability of the current system, as it did after the 1980-82 crisis (table 9).

The evolution of the retirement and employment numbers in the 1989-94 (table 8) is this far not so different than those of 1980-85 (table 9). Fortunately, we can hope that the current recovery in GDP will be stronger and last longer than the one that followed the deep depression of 1980-82.

Table 8: Population
(31 December, millions)

	1989	1990	1991	1992	1993	1994
1.a. Labor force	17.4	17.3	17.6	17.5	17.6	17.7
1.b. Employed and others	12.6	11.2	10.2	9.6	9.3	—
1.c. Self-employed	5.0	5.3	5.7	5.9	—	—
1.d. Unemployed	0.0	1.1	2.2	2.5	2.9	2.8
2.a. Pension earners*	6.8	7.1	7.9	8.5	8.7	8.9
2.b. of which: invalids	(2.2)	(2.2)	2.3	2.4	2.5	2.6
2.c. farmers	(1.4)	(1.5)	1.8	2.0	2.0	2.0
3. Contributors to ZUS*	14.7	14.1	13.6	13.3	12.7	12.6
4. Farmers (self-empl.)	4.0	—	—	—	3.4	—
5. Benef.-earn. unempl.	0.0	0.9	1.7	1.3	—	—
Total population	38.0	38.2	38.3	38.4	38.5	38.6
Young < 18	11.4	11.3	11.3	11.2	11.0	10.9
Working age**	22.8	23.0	23.0	23.2	23.4	23.5
Old > 65	3.8	3.9	4.0	4.0	4.1	4.2

— not available
* annual average (not 31 December)
** aged between 18 and 64, there is another definition next page of Rocznik

Note: New definition of all labor force data: Individual farmers were overestimated by GUS from 1989 to 1993 (GUS Bulletin 1994, 7, p. 11 et 40, GUS Rocznik 1994, p.115, note 3). GUS data on subgroups of the labor force add up to less than the total: the residual is in 1b (employed and others).

Sources: GUS Rocznik 1992, p.42, 203 et 1993, p. 47, 109, 111, 122, 215.
1994, p.49, 117, 227
GUS Bulletin 1994,6: p.37, 40, 49; 1995,2: p.42, 51

The current recovery is expected to originate in sounder economic and market bases than the previous one. Nevertheless, at the next downturn it will be harder for the economy to "grow out" of a new

retirement burden. Indeed, the potential for fast "catch-up" growth may be reduced, the possibility to raise contribution rates will be exhausted, and the relative number of contributors will start to fall as Polish demography begins to look like the Western one: fewer births and longer life expectancy. Moreover, the number of unemployed—still held to zero in the 1980s—now adds to the number of retirees as a burden for the budget and a loss of productive capacity.

The distribution of early retirement by age is difficult to assess. There is a lack of data disaggregated by age. Labor force participation is of the order of 65 percent for the age group 45-54 and 25 percent for the age group older than 55 (GUS, Rocznik 1994, p.49, table 4 and p.113, table 5). The average retirement age was estimated to be 55 years, while the statutory rate was 65 for men and 60 for women. It should be safe to tighten the rules. Limiting access is more efficient and possibly more equitable than reducing pensions, especially the low ones. Cross-country comparisons made by Fakin and de Crombrugghe (1996) suggest that pension expenditure is affected by the generosity of pensions, but that the number of pensioners is not. Accessibility rules are then a more important determinant of the number of people involved than the attractiveness of the benefits, which may then be higher if the number is low.

Information on the number of pensioners (retirees or invalids) earning labor income in addition to their pensions is also very scarce. The number of people involved may be relatively large, however. A comparison of a labor force survey (GUS "Aktywnosc Zawodowa i Bezrobocie w Polsce" 12/1993 p. 142) with data on registered pensioners (GUS Rocznik Statystyczny), in 1993, showed 1 million more registered pension earners (8,730 thousand) than persons out of the labor force who had worked previously (7,729 thousand).

Table 9: The 1981 Economic and Pension Crisis

	1980	1981	1982	1983	1984	1985	1986	1987
	percentage of net wage							
a. Contribution rate	15.5	25	33	33	33	33	43	38
	millions of persons							
b. Number of pensioners	4.5	4.8	5.3	5.8	6.1	6.2	6.3	6.5
c. Active population	17.3	17.4	17.0	17.0	17.0	17.1	17.2	17.1
d. ZUS contributors	14.0	14.1	13.7	13.7	13.9	14.0	14.3	14.5
	previous year = 100							
e. Real prod. income	94.0	88.0	94.5	106.0	105.6	103.4	104.9	102.0

Source: a. Wiktorow (1994),. p.5, the 38 percent rate applied in 1987-89.
b. GUS Rocznik 1991, p. XXVI, line 6.
c,d,e. GUS Rocznik 1991, p. XXIV, lines 15, 25, and 27.

5.5. Financing and cost

There are three ways to finance pensions: through taxes, debt, or savings. The first two have been used, and the third one has often been mentioned.

There are interesting theoretical arguments in favor of debt and taxes (pay-as-you-go) in fast growing economies. Uncertainties about the long-run sustainability of the promised benefits, future productivity and population growth, the rate of return on capital, and the current opportunity cost of funds call for caution. In addition, taxes cause distortions that have to be weighed against the benefits of raising revenue.

A funded pillar in the pension system is always a useful complement—especially so in transition countries for two reasons. First, it should be relatively easy to start in transition countries.

State assets could be used to create the initial capital. It can even be argued that part of current pensions (especially the bonuses) could be serviced from such funds, since the underlying assets were accumulated "in the name of the people." Second, the reallocation of savings to new productive investment is essential for the long-run growth of these economies. Pension funds can play an important role in financial intermediation.

Financing future rights to pensions in a credible and sustainable way is the key to successful pension reform. It can even be argued that current obligations can be partly debt-financed if future obligations are perceived to be safely funded and to generate enough surplus to service any transitional debt. The only remaining issue with such a strategy is whether it is equitable to shift the burden of current obligations onto future generations. But it is most probably doable. Failing to reform future pension rights, Poland has been obliged to modify current ones to solve budgetary problems and has created uncertainty and discontent among retirees and the active population.

5.6. The role of wages

The key issue is still wages. The wage explosion of late 1990 and 1991 proved very costly in employment terms and brought almost no purchasing power to the workers: taxes and price adjustments ate it all up.

An economic restructuring argument for high wages and easy pensions could work if the economy as a whole were limited to a deal between workers and pensioners. But in addition to these "insiders," there are a number of "outsiders." High wages and high benefits have kept the outsiders from employment at an additional cost. The unemployed are mainly young. They could be productive and become tax payers. Unemployment benefits and farmer pensions in 1993, compared with the pre-1989 situation, claimed an additional 3 percent of GDP.

The 1991 pension spending and government wage crisis is due to an attempt to chase a moving target: rising average wages raised benefits and the number of beneficiaries. The ensuing default had high political costs. High wages created less revenue than they destroyed social security contributions by destroying employment. In subsequent years revenue from contributions rose because of higher contribution rates, slower wage growth, and slower employment destruction. Yet inflation remained stubbornly above 20 percent, the tax wedge rose, and uncertainties about taxation, inflation, and government policies in general pushed various groups to claim preemptive income gains, which indirectly refueled inflation. Keeping wages lower could have reduced the unemployment and pension costs of the transition. The productivity gains recorded by paying people better and by retiring the least productive workers do not justify the wages reached. The private sector grew quickly, while keeping its average wages lower than those in the state sector. The Czech Republic, for example, waited much longer into the transition process before letting wages grow.

6. INCOME CLAIMS AND STRUCTURAL DEFICITS

The paper has studied the budgetary revenue and expenditure effect of the income claims of various groups: firms (profits and subsidies), workers (wages and payroll taxes), pensioners, and other social-benefit earners. The effect of their claims are summarized in table 10, which should be compared with Appendix 2. The last two rows of the table are the most interesting for our conclusions. Row r shows the evolution of the structural deficit due to income claims. This deficit does not improve until 1993. The gain comes from the near-complete elimination of subsidies (line b), which dominates the loss in profit taxes (line c). Pensions minus contributions (line k) and other net personal income expenditures and revenue (line q) are still in deficit in 1993. Improvements come from the personal income tax (line p) and income claims in GDP (line h) that were lower in 1992 and 1993 compred with1991 (GDP recovery), but still higher than before reform.

The total burden (line s) of this major part of the total budget has fallen by only 2.5 percent of GDP between the prereform period and 1993. It took a reduction of subsidies by 12.3 percent of GDP (line b, last column) to achieve this reduction of fiscal distortions. The gain

Table 10: Summary of Budgetary Changes due to Income Claims

	1987-89	1991	diff. of 1987-89	1992	diff. of 1987-89 and 1992	1993	diff. of 1987-89 and 1993
	percentage of GDP						
a. Profit tax	12	6.5	-5.5	4.4	-7.6	4.0	-8.0
b. Subsidies (all)	(15)	(3.8)	(-11.3)	(3.4)	(-11.6)	(2.7)	(12.3)
c. Net (a-b)	3	+2.8	+5.8	+1.0	+4.0	+1.3	+4.3
d. FUS contribution	8.5	11.4	+2.9	12.9	+4.4	12.9	+4.4
e. Contribution rate			+1.3		+3.9		+3.9
f. Employment			-1.7		-2.4		-3.0
g. Wage (d-e-f)			+3.3		+2.9		+3.5
h. Net FUS pensions	(8.5)	(14.0)	(+5.5)	(13.9)	(+5.4)	(13.3)	(+4.8)
i. Entitlements			+1.5		+2.2		+2.5
j. Benefit (h-i)			+4.0		+3.2		+2.3
k. Net (d-h)	0.0	-2.6	-2.6	-1.0	-1.0	-0.4	-0.4
l. FUSR pensions	(0.9)	(1.9)	(+1.0)	(2.1)	(+1.2)	(2.1)	(+1.2)
m. Unemployment benefits	(0.0)	(1.6)	(+1.6)	(2.2)	(+2.2)	(2.0)	(+2.0)
n. Unemployment contributions	0.0	0.6	+0.6	0.6	+0.6	0.8	+0.8
o. Net government wages	(3.5)	(6.0)	(+2.5)	(5.3)	(+1.8)	(5.3)	(+1.8)
p. PIT (excl. gov.)	3.5	2.6	-0.9	3.3	-0.2	4.0	+0.5
q. Net (p-l-m+n-o)	-0.9	-6.3	-5.4	-5.7	-4.8	-4.6	-3.7
r. Net total (c+k+q)	**-3.9**	**-6.1**	**-2.2**	**-5.7**	**-1.8**	**-3.7**	**+0.2**
s. Total spending	27.9	27.2	-0.7	26.9	-1.0	25.4	-2.5

Note: Numbers in () are expenditure, which enter negatively in sums except in total spending.
e=(d*coeff h table 3)-d
f=(e/coeff e table 3)-e
i=h-(h/coeff b table 4)
p=personal income tax excluding taxes on government wages and on pensions.
s=sum of all expenditure (or expenditure changes). It measures total burden.
Source: Tables in text.

disappears if we add the personal income tax on government wages and on pensions as well as the social security contributions on government wages (6.3 percent of GDP)[12] in internal government accounts.

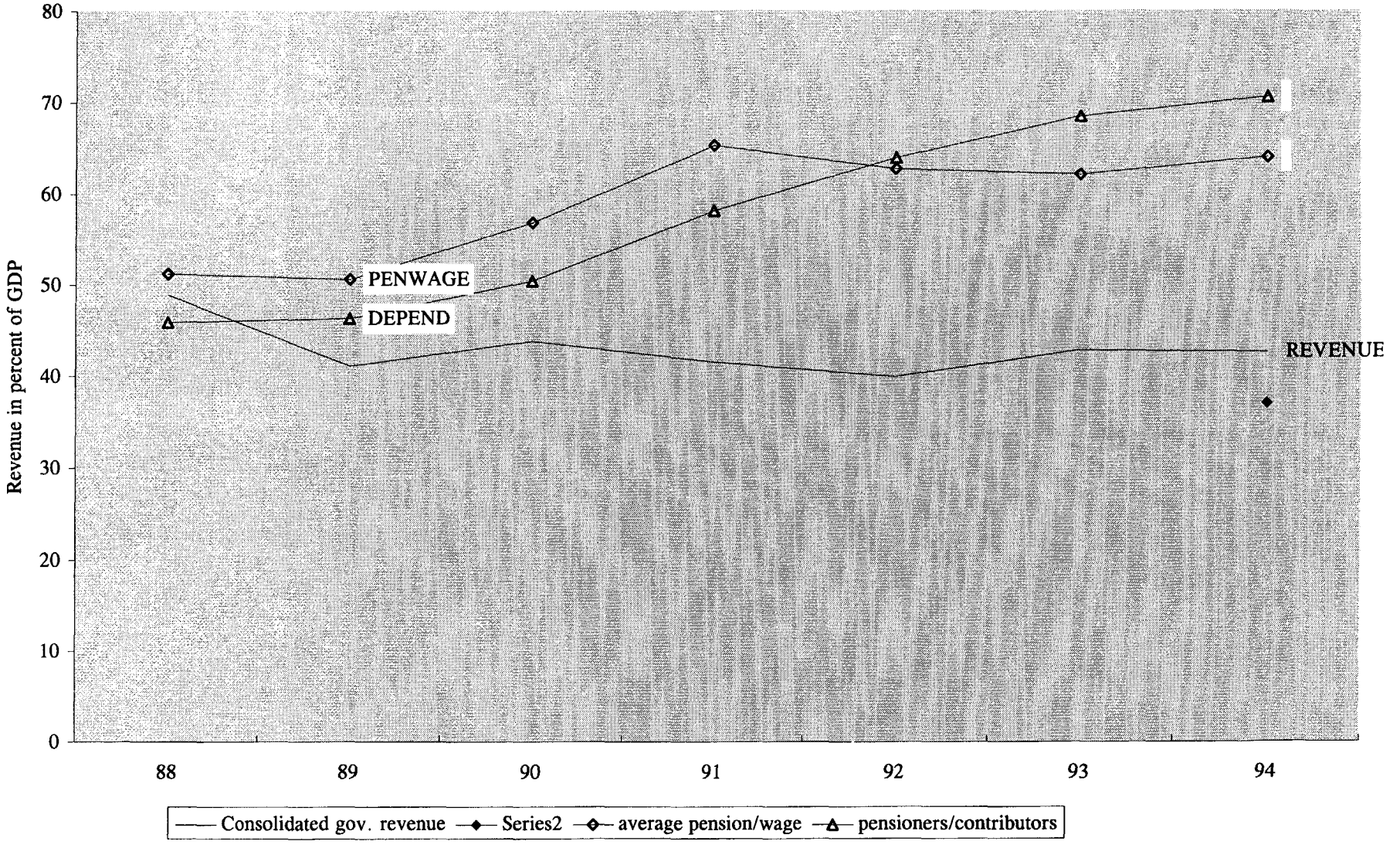
The economic gain is fortunately larger than the 2.5 percent at the end of line s. One can hope that the current labor market distortions hurt allocative efficiency less than the former product and capital market distortions. Nevertheless, the employment cost is large. This employment cost is unfortunate for productive reasons, as well as for equity and political reasons.

Figure 5 summarizes the message of table 10, showing the two main causes of the persisting budget deficit (line r) and the total tax burden.[13] The ratio of the average pension to the average wage was unsustainably high in 1991. The ratio of the number of pensioners per worker contributing to ZUS is still rising and may now be the main cause of trouble. Both effects caused a large deficit in 1991-92 and then drove the tax burden upward.

[12] This 6.3 percent of GDP is the sum of the following items. In table 6, personal income tax on government wages in 1993: 1.4, social security contributions 2.4. In table 4, personal income tax on pensions 2.5.

[13] The tax burden is measured by the fully consolidated government revenue (data in appendix instead of table 12). This includes sources of income like indirect taxes, which played a major role in the recovery of revenue since 1992, as suggested in de Crombrugghe (1994a).

Figure 5: Structural Burdens



7. CONCLUSION

The hypothesis that the unwarranted wage recovery of late 1990 and 1991 destabilized the budget is supported in this analysis. The main channel has not through the reduction in enterprises profits and profit taxes (profits may have had to fall anyway), but the explosion of pension and unemployment expenditures. This channel has two parts. One is the large number of people involved; the second is the protection of social income.

Liberalization of the economy enabled the insiders in firms to bargain wages above the level that was warranted by the productivity of the total labor force in an economy that was hit by a systemic transformation in 1990 and a major trade shock in 1991. The generous pension system encouraged the retirement of enough people at the state's expense to raise the wages of those remaining in firms, while new entrants to the labor force remained unemployed longer. The process was facilitated by economic restructuring, the general uncertainty about the worker productivity, mounting unemployment, and the social status and income protection enjoyed by retirees. The best-protected pensions were those of a few specific groups and those of the most recent entrants, who indeed benefitted from the wage increases of 1990-91. Pension inequality rose.

The pension problem was tackled, on the one hand, by raising contribution rates. Pension expenditures then became less of a cause of budget deficits since 1992, but more of a wedge between net wages and wage costs. Wage increases now translate into higher gains in payroll tax revenue than losses in profit taxes at constant employment (table 2). Employment, however, was declining for most of the period (table 3). There is nevertheless a chance that payroll tax increases produced more revenue than base destruction (table 3 and figure 3, except 1991), since wage growth started to slow slightly in 1992.

The pension problem was tackled, on the second hand, by limiting the indexation of pensions each year since 1992, taking into account the available budgetary means. The share of net pensions

GDP declined in 1993, thanks to resumed GDP growth. There is no long-term mechanism that ensures that this trend will continue, that the share of pensions in GDP will eventually stabilize, or that future benefits will be linked to accumulated funds.

Caution is still needed with respect to current pensions, and future provision rights should be reformed. The next employment crisis could correspond to a decline in the contributing labor force (the population under18 is steadily declining). A renewed explosion of the cost of pensions through early retirement and high benefits for some groups could be difficult to finance. In the meantime, the government could reconsider the burden of pensions on the economy. Indeed, official data claim that per capita consumption in a worker's household is less than that in a pensioner's household, the tax wedge is 44 percent of the average gross wage, and investment resources are needed for growth. Poland could look at some interesting innovations with pension systems that have been successfully tested in other countries.

Caution is also still needed with wages. The current economic recovery should create jobs, not raise wages. The 1991 crisis following the high profits and budget surplus of 1990 is a warning. A temporary use of the retirement mechanism could have been justified by economic restructuring, but the permanent nature of the current system is a continuous threat to the budget and the labor market. Private firms now contribute to keep wages closer to equilibrium and to create employment opportunities. In the critical early transition years the dividend tax and the tax on excess wages were useful revenue raisers and wage moderators. Maintaining an efficient labor market, hard budget constraints, and sound and credible fiscal and monetary policies are keys to wise income policy.

Employment and general economic growth, financial stability, and equitable opportunities for all people require a moderation of the income claims of the best protected groups.

APPENDIX 1
Pension rules

1. Indexation and revalorization

A key point to understand the computation of pensions in Poland is the reference to the average wage in the economy (originally in industry or in enterprises). The objective, at least since 1989, is to compute pensions as percentages of this average wage. In practice, because of the high cost of the pension formulas based on the average wage, this wage has been replaced each year by a pension basis. The numerous "revalorizations" of pensions in the past five years were related to this pension basis. It had to be indexed to wage changes (equal rate of growth) and also to be brought closer to the effective average wage (level adjustment). Savings were made by lengthening the intervals between indexations and by keeping the basis to 91 percent of the average wage instead of 100 percent. In 1994 the relative improvement in public finances prompted a 2 point gain in the basis: to 93 percent of the average wage.

2. The main formula before the law of 17 October 1991

The law of 17 October 1991 was the main attempt at reforming pensions. Before the law, the following formula was mainly in use (Rutkowski 1991):

$$P = 0.55 \times eW + 0.01 \times (T\text{-}20) \times eW$$

P = monthly pension,
e = average monthly earnings from three consecutive years
as a percentage of the average wage in these years,
W = average wage or base for pensions,
T = total years of service

An individual with 40 (30) years of service could thus obtain 75 (65) percent of his previous best wage.

3. The main formula in the law of October 17, 1991

After the law of October 17, 1991, the main formula in use for pensions became:

$$P = 0.24 \times W + (0.013\ T + 0.007\ N) \times eB$$

P = monthly pension,
e = average monthly reference earnings
as a percentage of the average wage in these years,

W = average wage or minimum base for pensions,
B = average wage or individual base for pension or W,
T = total years of contributions,
N = other eligible years.

An individual with 40 (30) years of contributions and earning the average wage for his best reference years could thus obtain 76 (63) percent of his best previous wage (and of the average wage). An individual contributing the same amount of time but earning less than the average wage would have a replacement ratio above 76 percent, while an individual earning more would have a replacement ratio below 76 percent. The system thus became more redistributive. In addition, the law limited the individual base (eB) of pensions to 250 percent of the average wage and created a minimum pension of 35 percent of the average wage.

The law of 17 October 1991 turned out to be a financial time bomb, not a political success. The better protection of low pensions and the greater attractiveness of pensions for low-wage earners could have contributed to (and can still contribute to) a rising cost per person and to a larger number of retirees. It is unsure, however, that these effects were dominant in explaining pension spending, especially not the attractiveness effect.

The lack of political success came from the default on old high pensions that the formula and its cap included. A reform that could have redressed the inequities of the old regime was instead perceived as creating insecurity. Combined with the financial problems of 1991, it gave the impression that pensions would not be guaranteed in the future. The law was successfully challenged in the Constitutional Court (April 1992), which ordered the full payment of the pensions committed in the past. The government can, however, decide how it will pay and considers using privatization vouchers.

APPENDIX 2

Budget Tables: General Government and Extrabudgetary Funds

1. 1987-1990 General Budget in percent of GDP

	1987	1988	1989	1990
Central Budget Revenue	**34.3**	**35.6**	**29.7**	**32.5**
of which:				
Turnover, Tariffs, VAT	13.0	12.9	8.8	7.1
Profits, Dividends	12.0	13.4	12.1	17.7
Wage, Excess Wage Taxes	3.9	4.2	5.0	4.4
Personal Income Tax	x	x	x	x
Others:Tax, Non-tax	5.4	5.1	3.8	3.3
Central Budget Spending	**37.8**	**37.0**	**35.7**	**31.9**
of which:				
Investment	5.6	5.3	4.1	3.6
Subsidies	15.9	16.0	12.5	7.1
Social Funds	1.5	1.5	2.3	3.3
Wage Costs	4.2	4.0	6.0	5.7
Goods, Sv, others (resid.)	10.6	10.2	10.8	12.2
Interest	..	..	..	..
Central Budget Balance	**-3.5**	**-1.4**	**-6.0**	**0.6**
Local Revenue	**x**	**x**	**x**	**x**
Local Spending	**x**	**x**	**x**	**x**
Local Balance	**x**	**x**	**x**	**x**
Extrabudgetary Revenue*	**18.6**	**17.9**	**18.1**	**18.9**
Extrabudgetary Spending	**15.9**	**16.5**	**19.3**	**16.8**
Extrabudgetary Balance	**2.7**	**1.4**	**-1.2**	**2.1**
General Government (fully consolidated)				
Revenue	**48.0**	**48.9**	**41.1**	**43.8**
Expenditure	**48.8**	**49.0**	**48.3**	**41.1**
Balance	-0.8	-0.1	-7.1	2.7
Memorandum Items:				
GDP	17	30	100	607
CPI average	..	160	351	685
CPI Dec/Dec	..	174	740	350

2. 1991-1996 General Budget in percent of GDP

	1991	1992	1993	1994	1995 Prelim.	1996 Bud.
Central Budget Revenue	**25.6**	**27.2**	**29.5**	**30.0**	**31.3**	**29.6**
of which:						
Turnover, Tariffs, VAT	9.5	11.3	14.1	13.8	14.6	..
Profits, Dividends	7.9	4.9	4.2	3.4	..	..
Wage, Excess Wage Taxes	5.9	1.5	0.6	0.2	x	x
Personal Income Tax	x	6.3	7.8	8.2	8.5	8.7
Others:Tax, Non-tax	2.3	3.2	2.6	4.3	..	..
Central Budget Spending	**29.3**	**33.4**	**32.2**	**32.8**	**34.6**	**32.4**
of which:						
Investment	1.9	1.7	1.6	1.5	1.5	1.4
Subsidies	3.8	3.4	2.7	2.4	..	..
Social Funds	5.2	7.7	7.5	7.5	8.4	6.3
Wage Costs	7.3	7.9	7.8	6.9	7.5	7.5
Goods, Sv, others (res.)	9.9	9.7	9.0	10.0	..	..
Interest	1.2	2.9	3.6	4.4	5.9	5.2
Central Budget Balance	**-3.8**	**-6.1**	**-2.8**	**-2.6**	**-3.3**	**-2.8**
Local Revenue	**6.1**	**5.6**	**6.2**	**7.0**	**6.8**	**7.7**
Local Spending	**5.4**	**5.6**	**6.1**	**7.1**	**6.8**	**7.7**
Local Balance	**0.6**	**-0.0**	**+0.0**	**-0.0**	**+0.0**	**+0.0**
Extrabudgetary Revenue*	**19.6**	**23.2**	**23.1**	**22.1**	..	..
Extrabudgetary Spending	**19.3**	**22.0**	**21.5**	**21.4**	..	..
Extrabudgetary Balance	**0.3**	**1.2**	**1.6**	**0.7**	..	..
General Government (fully consolidated)						
Revenue	**41.5**	**39.9**	**42.8**	**42.6**	..	..
Expenditure	**44.4**	**44.9**	**44.0**	**44.7**	..	..
Balance	-2.9	-5.0	-1.2	-2.2	..	..
Memorandum Items:						
GDP	824	1149	1558	2104	2633	3446
CPI average	170	143	135	132	123	120
CPI Dec/Dec	160	144	138	129	117	117

3. Extrabudgetary Funds : 1987-1990 Data in percent in GDP

EXTRABUDGETARY FUNDS AND UNITS	1987	1988	1989	1990
REVENUE (funds, gross)	**16.9**	**16.6**	**16.9**	**17.9**
o.w. FROM CENTRAL BUDGET	3.0	3.2	4.8	5.8
Social Insurance Fund [1]	**10.1**	**9.1**	**9.7**	**9.5**
o.w. from Budget	0.7	0.7	1.3	1.5
Soc.Insurance Fund Farmers[2]	**0.9**	**0.9**	**1.1**	**1.4**
o.w. from Budget	0.7	0.7	1.0	1.2
Employment Fund [3]	**0.1**	**0.1**	**0.1**	**0.8**
o.w. from Budget	0.1	0.1	0.1	0.6
Other (Itemized Social) [4]	**x**	**x**	**x**	**x**
o.w. from Budget	x	x	x	x
Other (Residual)	**5.8**	**6.5**	**6.0**	**6.2**
o.w. from Budget	1.5	1.7	2.5	2.5
EXPENDITURE	**14.2**	**15.2**	**18.1**	**15.8**
Social Insurance Fund	8.3	8.4	9.7	8.5
Soc. Insurance Fund Farmers	0.9	0.9	1.0	1.3
Employment Fund	0.1	0.1	0.1	0.6
Other (Itemized Social)	x	x	x	x
Other	4.9	5.9	7.3	5.5
BALANCE	**2.7**	**1.4**	**-1.2**	**2.1**
Social Insurance Fund	1.9	0.7	-0.1	1.0
Social Insurance Farmers	0.0	-0.0	0.1	0.1
Employment Fund	0.0	0.0	0.0	0.2
Other (Itemized Social)	x	x	x	x
Other (Residual)	0.8	0.7	-1.5	0.7
Internal Consolidation Item:				
Transfers among Funds(FUS-FP)	..	..	..	..
Overall Consolidation Item:				
Income Tax on Social Security	x	x	x	x
EXTRABUDGETARY BORROWING				
Bad Debt Restructuring*	0.0	0.0	1.4	0.9
EXTRABUDGETARY UNITS				
Revenue	**1.7**	**1.3**	**1.2**	**1.2**
o.w. from Budget(Con.It.)	0.7	0.4	0.2	0.2
Expenditure	**1.7**	**1.3**	**1.1**	**1.2**
Balance	0.0	-0.0	0.1	0.0

4. Extrabudgetary funds: 1991-1996 Data in percent in GDP

EXTRABUDGETARY FUNDS AND UNITS	1991	1992	1993	1994	1995 Prelim.	1996 Budget
REVENUE (funds, gross)	**18.3**	**22.5**	**22.2**	**21.3**	..	..
o.w. FROM CENTRAL BUDGET	5.4	7.8	7.7	7.6	..	..
Social Insurance Fund [1]	**14.1**	**17.2**	**17.1**	**16.5**	**16.7**	**14.8**
o.w. from Budget	2.7	4.3	4.2	3.9	5.1	3.4
Soc.Insurance Fund Farmers[2]	**1.8**	**2.1**	**2.2**	**2.4**	**2.6**	**2.3**
o.w. from Budget	1.7	2.0	2.0	2.2	2.4	2.2
Employment Fund [3]	**1.5**	**2.0**	**2.1**	**2.2**	**2.3**	**2.0**
o.w. from Budget	0.9	1.4	1.3	1.4	1.6	1.2
Other (Itemized Social) [4]	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**
o.w. from Budget	0.1	0.1	0.1	0.1	0.2	0.2
Other (Residual)	**0.8**	**0.9**	**0.6**	**0.0**	..	..
o.w. from Budget	0.0	0.0	0.1	0.0	..	..
EXPENDITURE	**18.1**	**21.3**	**20.6**	**20.7**	..	..
Social Insurance Fund	14.0	16.3	15.8	16.1	16.6	14.9
Soc. Insurance Fund Farmers	1.9	2.1	2.1	2.4	2.6	2.3
Employment Fund	1.6	2.2	2.0	2.1	2.3	2.0
Other (Itemized Social)	0.1	0.1	0.1	0.2	0.2	0.2
Other	0.5	0.6	0.4	0.0	.	..
BALANCE	**0.3**	**1.2**	**1.7**	**0.6**	..	..
Social Insurance Fund	0.2	0.9	1.3	0.4	0.1	-0.0
Social Insurance Farmers	-0.0	0.1	0.0	0.0	-0.0	0.0
Employment Fund	-0.2	-0.1	0.1	0.1	0.0	0.0
Other (Itemized Social)	0.1	0.1	0.1	0.1	-0.0	-0.0
Other (Residual)	0.2	0.2	0.1	0.0	-0.0	-0.0
Internal Consolidation Item:						
Transfers among Funds(FUS-FP)	0.4	0.6	0.6	0.7	0.7	0.6
Overall Consolidation Item:						
Income Tax on Social Security	x	2.4	2.5	2.7	..	..
EXTRABUDGETARY BORROWING						
Bad Debt Restructuring**	0.0	0.0	1.4	0.9	..	..
EXTRABUDGETARY UNITS						
Revenue	**1.7**	**1.3**	**1.5**	**1.4**	**1.2**	**1.2**
o.w. from Budget(Con.It.)	0.7	0.4	0.2	0.2	0.1	0.1
Expenditure	**1.7**	**1.3**	**1.5**	**1.3**	**1.1**	**1.1**
Balance	0.0	-0.0	0.0	0.1	0.1	0.1

Notes to Tables 1 to 4 (Appendix 2)

Source: Ministry of Finance, Budgetary Documents for the Parliament & GUS Rocznik Statystyczny 1992 and 1993 for 1991 and 1992.

x not applicable, irrelevant

.. not available

* internally consolidated
** in the banking system, not included in Table 1
o.w.: of which.

[1] - Fundusz Ubespieczen Spolecznych
[2] - till 1991: Fundusz Ubezpieczen Spolecznych Rolnikow; from 1992: Fundusz Emerytalno-Rentowy
[3] - Fundusz Pracy
[4] - Fundusz Alimentacyjny + Panstwowy Fundusz Kombatantow

Note: In 1991, local government budgets were separated from general government. The data are not strictly comparable.

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