

Firm Behavior and the Labor Market in the Hungarian Transition

Simon Commander

Janos Kollo

Cecilia Ugaz

Employment losses in Hungary have been large since the start of the transition. Yet there is evidence of continuing wage rigidity and a weak, if not absent, playback of unemployment to wages.



Summary findings

Commander, Kollo, and Ugaz describe the main changes in the Hungarian labor market since 1989. They focus especially on changes in behavior in state and privatized firms, since the shedding and restructuring of labor are at the heart of the transition. They describe five types of firms:

- State firms (often in bad shape and/or natural monopolies).
- New or privatized firms with significant foreign direct investment.
- Firms privatized by insiders.
- Firms privatized by outside (but domestic) investors.
- New small-scale ("de novo") private firms.

The state and de novo firms are increasingly outside the tax system — the state firms by de facto tax exemptions, the de novo firms through tax evasion. As the de novo sector grows, the effective tax yield will tend to fall, shifting the tax burden to the other three types of firms.

Subsidizing the growth of the private sector may have been desirable initially, but it is dynamically undesirable. It is important to change the distribution of the tax

burden, while setting tax rates that enhance the growth of labor. The type of growth seen in the last four years is probably not sustainable.

With tax evasion high, average payroll taxes in the taxable sector have until recently risen sharply. Social insurance spending and other labor taxes represented about 34 percent of hourly compensation costs in 1992 — significantly more proportionately than in OECD and most transition economies. And high contribution rates together with apparent real wage rigidity have depressed the rate of job creation in the taxed sectors.

Wage levels are lower than in neighboring countries but higher than in other transition economies. Despite adverse shocks to output and employment, consumption wages have risen slightly and unit labor costs have clearly increased.

Commander, Kollo, and Ugaz emphasize the continuing loss of employment and its changing distribution in terms of ownership, sector, and taxation — as well as associated changes in unemployment that have resulted from the asymmetric paths of the state and private sectors.

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Firm Behavior and the Labor Market in the Hungarian Transition

Simon Commander

Janos Kollo

Cecilia Ugaz¹

World Bank and Institute of Economics, Budapest

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Introduction

This paper is an attempt to lay out the main changes in the Hungarian labor market since 1989. Our coverage includes a discussion of the firm sector, with particular attention paid to the behavior of state and privatized firms. Their behavior is clearly at the heart of transition, given the importance of labor shedding and restructuring. Throughout we emphasize a central feature of the transition; the continuing loss of employment and its changing distribution in terms of ownership, sector and taxation, as well as the associated evolution of unemployment that has resulted from the asymmetric paths of state and private sectors.

Employment changes

Hungarian firms relative to other Eastern European comparators cut employment -- often by involuntary means -- early in the transition and in large magnitudes. Figure 1 indicates that a decline in employment of over 33% since 1989 with an even larger decline in the firm sector. This appears to have continued through 1993. Between 1992.4 and 1993.4 employment declined by over 230,000, with over 100,000 accounted for by industry, so that between 1990 and 1994 the domestic economy has lost over 900,000 jobs. Most of these job losses have been in the state sector. For the period 1990-1993, the ratio of state sector job losses to private sector job gains was 1.7; but this likely underestimates the growth in self employment.

Relating the change in unemployment to the negative of the change in employment over the period January 1990 to January 1993 gives us a ratio of 0.6. If this ratio had been unity, the decline in employment would have translated completely into unemployment. That it has not suggests quite powerful out of the labor force effects and these are likely to increase as tighter eligibility rules for unemployment benefits work through.

A further feature of the changes in employment has been the very rapid growth in the number of firms operating in the domestic economy, as Table 1 indicates these multiplied by over six times between end-1989 and end-1993. The proliferation in firms -- and a sharp increase in firm turnover rates -- has also been accompanied by a powerful reduction in average firm size; a reduction that has occurred across sectors. By 1993 nearly 50% of legal entities employed eleven or fewer workers. In sum, average firm size in terms of employment has changed radically, as the large integrated units characteristic of the socialist period have either been closed or split up.

The decline in employment has clearly driven by shocks to output; since 1989 these

Table 1: Number of legal entities and employment size characteristics; 1989-1993 (end-period) as shares

| Year | -----No. of employees----- | | | | Number |
|------|----------------------------|-------|--------|------|--------|
| | 1-20 | 21-50 | 51-300 | >300 | |
| 1989 | 38 | 18 | 25 | 19 | 13568 |
| 1990 | 59 | 15 | 16 | 10 | 27662 |
| 1991 | 72 | 12 | 11 | 5 | 50746 |
| 1992 | 78 | 10 | 9 | 3 | 67505 |
| 1993 | 82 | 9 | 7 | 2 | 83535 |

Source: Statisztikai Havi Kozlemenyek

Table 2: Employment equation
Employment (end93/end92)

| | | T stat |
|------------|-------|--------|
| dW93 | -0.71 | -2.3 |
| dREVS93 | 0.77 | 12.0 |
| Investment | 8.37 | 6.6 |
| Bankruptcy | -37.7 | -12.8 |
| Bad Debt | -6.9 | -5.4 |
| Constant | 100.3 | 3.4 |

F 141.9

R² .23

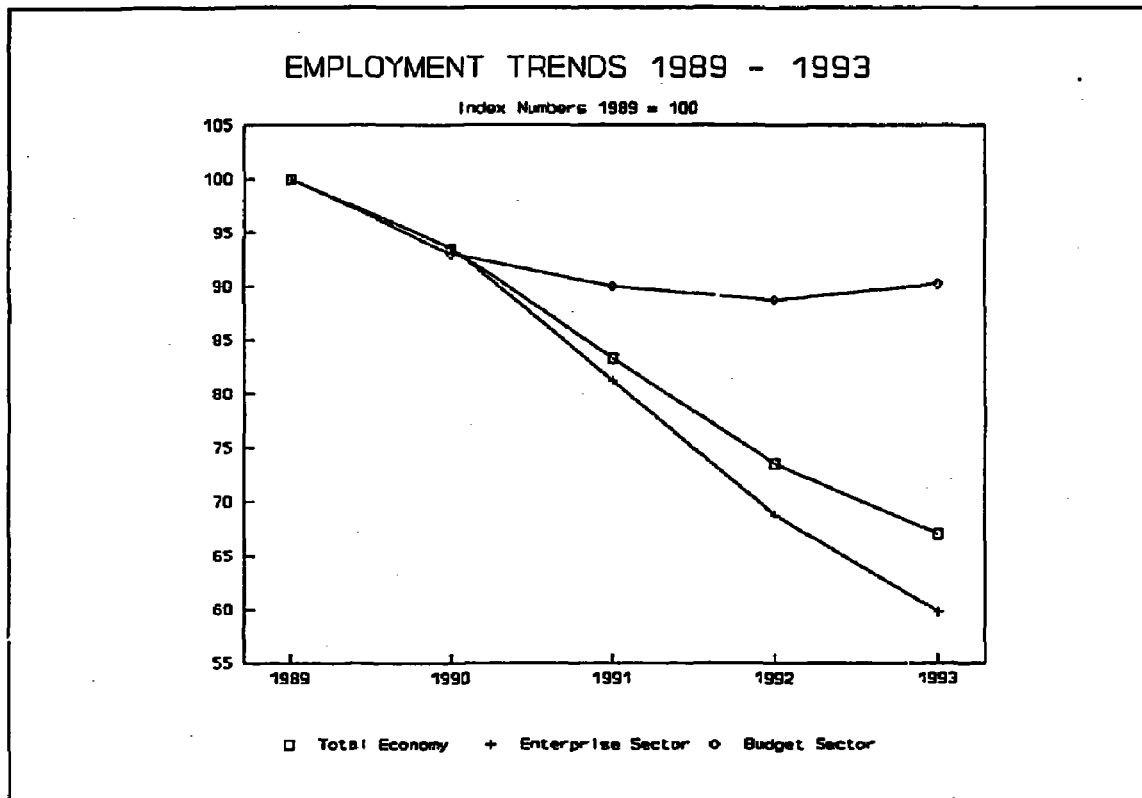
Sample: LMFS (without agriculture, budgetary sphere and firms being privatized (N=3235)
dW93=Average wage end93/end92; dREVS93= Revenues 93.4/92.4; Investment: New installed capacity; Bankruptcy= process under way June 93 -June 94; Bad Debt = Firm's bad debt

Table 3: Characteristics of 'strategic firms', 1989-1993
(1993 constant prices: HUF bn)

| Year | Net Sales | Exports | Profit before tax | Assets | Equity | Employm. |
|------|-----------|---------|----------------------|--------|--------|----------|
| 1989 | 578007 | 232273 | 41759 | 383275 | 239727 | 103422 |
| 1993 | 230977 | 108037 | (-8547) | 256560 | 136012 | 58111 |

Source: Ministry of Finance

Figure 1



have indeed been large and the channels diverse. By early 1994 industrial sector output was at least 25% down over end-1989 levels, though with some signs of recovery in 1993. The fall in output was initially fairly common across sectors; only later do we pick up greater variation in changes across branches.

However, it is as well to think of Hungarian firms entering transition with very significant labor hoarding. This implied that major changes to the level of employment were required to bring employment closer to competitive levels. Figures 2-7 provide scatters of output on employment changes for each year from 1989. Because these look at variations rather than levels, it is of course only one measure of the dynamic adjustment; proportional change could still be consistent with an employment bias. They are based on CSO data disaggregated to the 3 digit level and cover 68 branches of industry. The scatters are further disaggregated in terms of branch exposure to ruble or CMEA trade in 1989. Clearly, given what we know about the size of the CMEA shock to Hungary ², we would expect the shock to output to have been larger for CMEA-exposed firms. This is indeed the case. By 1992 the bulk of CMEA-exposed branches registered output declines in the region of 40-60%; branches with lower CMEA exposure had generally experienced declines of 30-40%. Employment declines were also of similarly higher magnitudes in CMEA-exposed branches. And this seems to hold through 1993 as well ³.

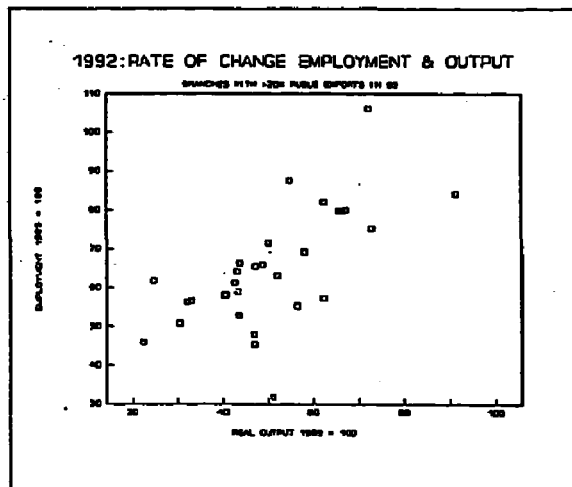
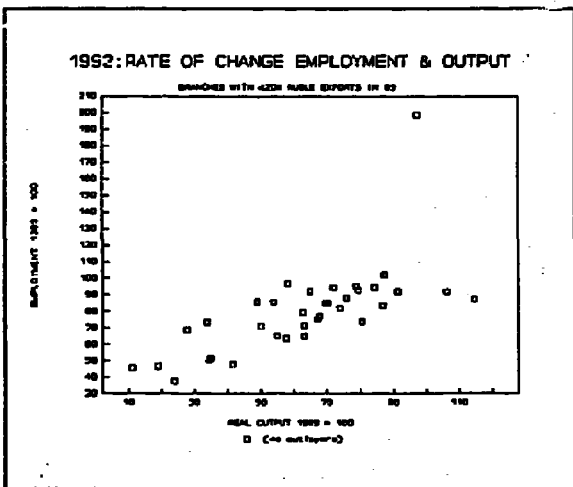
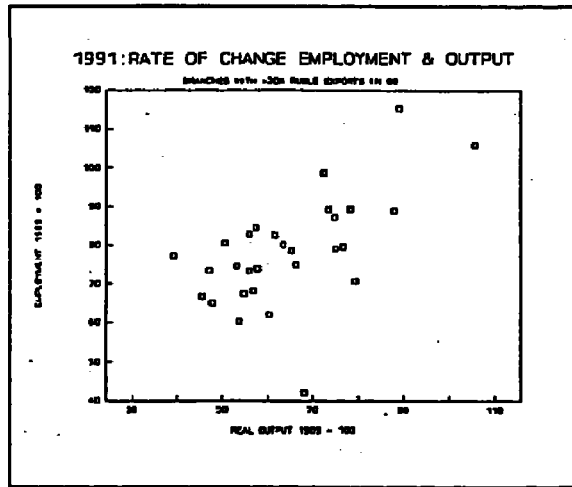
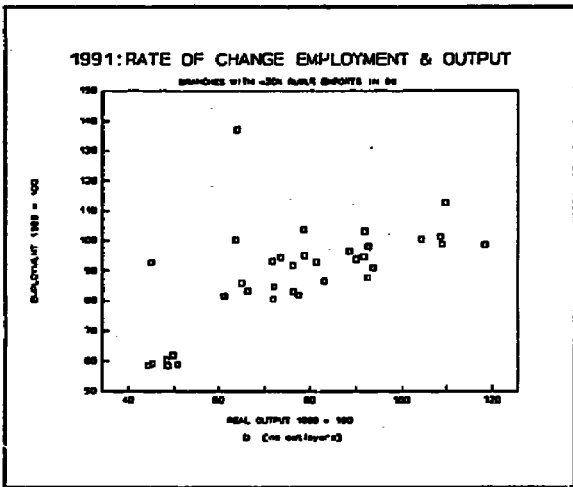
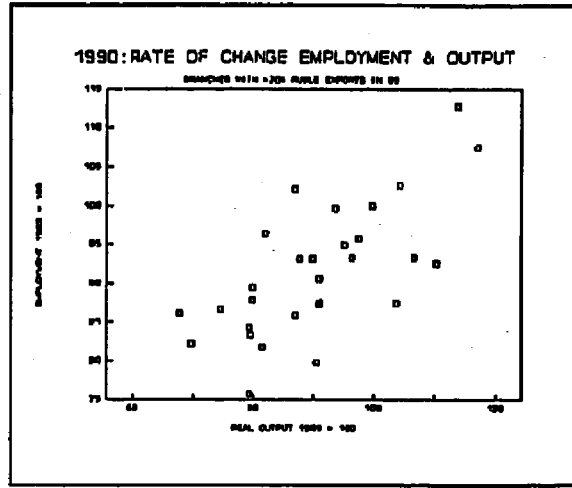
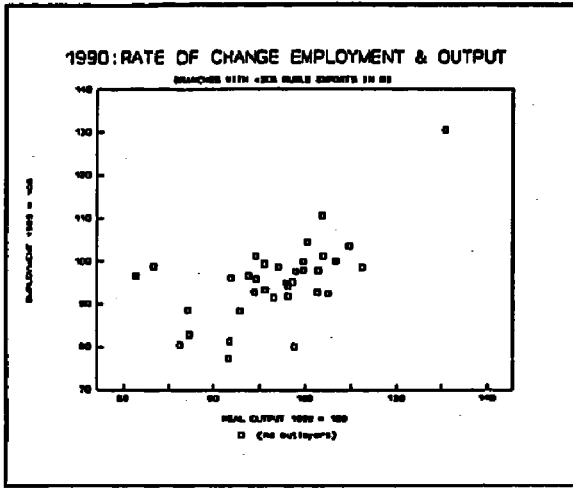
The adjustment of employment in the face of these output losses has several dimensions. First, it is clear that both CMEA-exposed and other branches adjusted employment rapidly and almost equivalently to the output change in 1990. Most changes are close to a 45 degree line for 1990. For 1991 and 1992 the story is somewhat different. For both sets, most observations shift to the left of the 45 degree line, indicating an elasticity of employment to output changes significantly below unity. The number of observations and the distance leftwards from the 45 degree line are larger in the case of CMEA-exposed branches.

Official data indicate that employment in industry was down c7.5% in 1993 which,

² See Commander and Coricelli (1993).

³ Due to reclassification of branches and changes in size coverage by the Central Statistical Office, the 1993 data are not strictly comparable with the earlier periods.

Figures 2-7



given the small output recovery, led to a 10/11% improvement in productivity. Variation in employment changes over branches increased in 1993 and there has continued to be large intra-branch variation. This can probably be interpreted as a measure of reallocation shocks, as structural shocks come finally to dominate aggregate effects.

Since 1993 with increasing title transformation, more recent job losses have been concentrated not only in the remaining state sector but also in privatized firms, though the bulk of layoffs in the latter appear to precede privatization. The latter outcome in part arises because privatization agreements normally include employment; hence making it difficult to fire after title change.

Despite the fact that the labor demand estimation reported in Table 2 has quite conventional properties, including wages negatively signed and significant; revenues and/or sales positively signed and significant ⁴, it is nevertheless clear that there are a major bloc of firms -- both state and private -- that continue to hoard labor and use this as a major bargaining chip with government and the banking system.

This is confirmed for 1992 where a crude estimate of the total number of employees retained in chronic loss making units is of the order of 170,000 ⁵. These loss makers -- principally the 41 huge loss makers -- likely face continuing and major employment restructuring but at present continue to attract 'soft' financing partly because -- in employment terms -- they are seen as too large to fail.

Nevertheless, it is important to note that major loss-makers have already initiated large scale employment adjustments. One measure of this is that those firms now classed by the government as strategic, reduced employment by nearly 50% between 1989 and 1993, as indicated in Table 3. This suggests two things. First, labor shedding has already occurred; restructuring now implies going beyond this. Second, the reluctance to enforce closure can partly be linked to monopsony in local labor markets. Excluding MAV (Railways), it looks as if roughly half of current employment is in firms that are in spatial terms equivalent to

⁴ Whether using CSO 3 digit data (as in Commander, Kollo, Ugaz and Vilagi 1994) or the Forecast Survey, as in Table 2.

⁵ These numbers and the discussion that follows are based on balance sheet information.

monopsonists.

We do not know the 1993 picture yet, but for 1992 large loss-making firms accounted for around 8% of employment in the enterprise sector (as measured by those submitting tax returns) and total loss-makers for nearly 40% of employment (or c22% of aggregate employment). These numbers are large. But 'exit' rules, as we indicate in more detail below, are still protracted and there appears to be a major bottleneck in the courts' ability to handle bankruptcies. The average lag between filing and conclusion of legal process appears to be in excess of two years.

What accounts for the losses ? There are several possibilities; the first is a possible negative relative price shock-cum-technological shock. Further, many of the major loss-makers appear to have very high prior exposure to CMEA markets; this appears to hold for a significant proportion of the strategic companies, indicated in Table 3, where export revenues averaged over 40% of total sales in 1989. The second can be attributed to the high cost of borrowing facing firms. There appears to be little long term credit made available to firms by banks while short term borrowing is at real interest rates currently between 15-20%, deflating by producer prices. These problems are magnified of course in cases where firms entered the transition under-capitalized. Viable firms appear to have started borrowing abroad.

The firm sector, losses and financing

What follows is largely based on the 1992 balance sheet data, whose quality remains suspect. Nevertheless, aggregate numbers appear to be meaningful. What is more complex concerns the apparent separation of legal entities from productive units. Given that the dataset is primarily a tax record, this reflects the dissociation of assets and liabilities and is part of the shell game that significant numbers of firms play with the tax authorities and with the banking system. As such, the phenomenon can be seen as part of the broader question of the erosion of the tax base. The employment implications are rather more opaque.

For 1992 we find that nearly 50% of firms filing tax returns registered losses in excess of 0.1 billion forints; the sum of those losses accounted for 13% of GDP (HUF380 billion). The distributions are very similar for state firms and private ones; 50% make losses; roughly 50% of their respective employments are in loss makers. Losses swamp the profitable entities. In short, at first inspection there seems to be little that separates out state from privatized firms.

However, 96% of loss makers lost under 0.05 billion forints and they accounted for 23% of total losses and 49% of loss-makers' employment. So clearly there is a tight association between loss making and firm size. A significant proportion (>75%) remain on the books of either the State Privatization Agency (AVU) or State Holding Company (AVRt).

The collapse in profits characterizes not only ownership types but also sectors. After tax profits of legal entities ⁶ outside of agriculture shifted from 190 billion HUF in 1990 to losses of near 300 billion HUF in 1992 or roughly 9/10% of respective GDPs. There has been a clear reduction in the average profit rate as well as contraction in the distribution of profits, particularly in the upper tail of the distribution. The collapse in profits characterizes all sectors.

How were these losses financed ? Looking at the structure of debt, we find that short term liabilities dominate massively (82%) for the total sample of loss-makers but note that only 32% of liabilities were bank debt. These shares are reasonably stable across debt-size categories. Around a quarter of total liabilities are attributable to government; equivalent to over 10% of GDP in 1992. Assuming that all liabilities to government of the worst loss-makers were write-offs, this amounted to around 3.5% of GDP. In sum, the size of the attributed losses to government were roughly equivalent to half the fiscal deficit in 1992. Thus, even as explicit subsidies to the firm sector have declined -- from 3.2% of GDP in 1990 to 0.6/0.7% in 1993 and 1994 -- the real exposure of the government to the firm sector has been quite different and much larger. At this point, we need consider in some more detail the implications of financial losses in the firm sector.

Exits: bankruptcy and liquidation

Procedures for the exit of firms and their enforcement are obviously key to inducing any shift to hard budget constraints. Without a credible threat, it is unlikely that the regime of soft budget constraints can be broken. The Bankruptcy Law that came into operation in January 1992 (and subsequent changes in late 1993) provides a coherent framework and was associated with a rapid filing of cases, either for bankruptcy -- here implying restructuring and/or privatization -- as well as liquidation or closure.

⁶ At end 1992 these comprised over 57,000 units employing over 2.2 million people.

Table 4 gives a breakdown for both bankruptcies and liquidations since 1992. Several features stand out. It appears that roughly 7/8% of legal entities have passed into bankruptcy or liquidation in 1992/93. However, the rate of bankruptcy filings has decelerated sharply since 1992 and liquidation filings have also decreased. There is a significant lag between the time of filing and actual disposal of the case. For the period 1992-1994.2 only 27% of bankruptcy cases were administratively closed and just over 10% of liquidations were completed. In both processes, in-court or out-of-court settlements have been quite important. The average time for court proceedings appears to be around two years with a further two years for conclusion of any liquidation process.

Despite this significant lag, the employment implications are likely to be quite major. In 1992 nearly 8% of employees -- or 172,000 people -- in firms submitting balance sheets were in bankruptcy and, of those, 131,000 were in firms that had filed and completed the bankruptcy process by mid-1993. This crudely suggests that the direct employment effect of bankruptcy or restructuring has not been that large. The implications are likely to be far more serious in the case of liquidations, where over 400,000 employees were involved in 1992. Most of this employment (for both bankruptcies and liquidations) has been concentrated in manufacturing and agriculture ⁷. However, because of lags in filing and disposal of cases, only 47,000 jobs had been directly affected by mid 1993 so that the adverse employment effects have still largely to pass through.

Figures 8-10 provide some corroborative evidence on the relationship between bankruptcy or liquidation status and staff reductions. The scatters indicate quite clearly that almost all firms in the LMFS population actually had separations in 1992 and 1993. In addition, these staff reductions were more or less proportionate to firm size. But for 1992 with

⁷ 77% of employment for bankruptcy cases and 61% for liquidations.

Table 4: Bankruptcies and Liquidations: 1992-1994.2

| | 1992 | 1993 | 1994.1-2 | Cumulative |
|-------------------------|------|------|----------|------------|
| Bankruptcies | | | | |
| Total | 4169 | 987 | 40 | 5196 |
| of which; | | | | |
| self-filed (%) | 25% | 14% | 57% | 23% |
| mandatory (%) | 75% | 86% | 43% | 77% |
| Court announced | | | | 66% |
| No proceedings | | | | 41% |
| Settled out-of-court | | | | 25% |
| Administratively closed | | | | 27% |
| Liquidations | | | | |
| Filed at court | 9891 | 7242 | 917 | 18050 |
| by creditors (%) | 82% | 81% | 50% | 80% |
| by debtors (%) | 18% | 19% | 50% | 20% |
| Court announced | | | | 29% |
| Administratively closed | | | | 50% |
| Completed | | | | 10% |

Source: Ministry of Finance

Table 5: Firms in bankruptcy/liquidation (loss-makers over 0.1 bnHUF): 1992

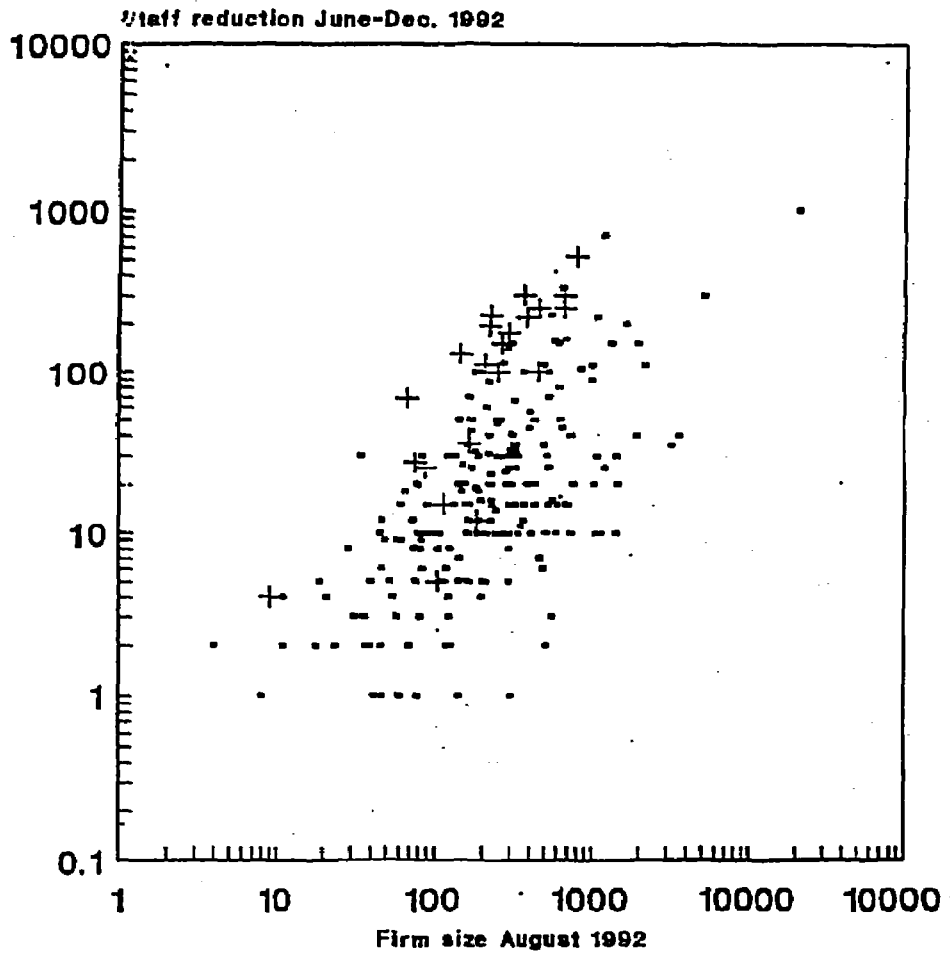
| Type | Number | In Bankruptcy/Liquidation | Share |
|---------------------------|--------|---------------------------|-------|
| Value | 113 | 60 | 53% |
| Subtractors | | | |
| Near Value | 242 | 140 | 58% |
| Subtractors | | | |
| Negative operating profit | 189 | 83 | 44% |

Source: Ministry of Finance and World Bank

Figure 8

Staff reduction by firm size 1992

firms under bankruptcy procedure (+)
other firms (.)



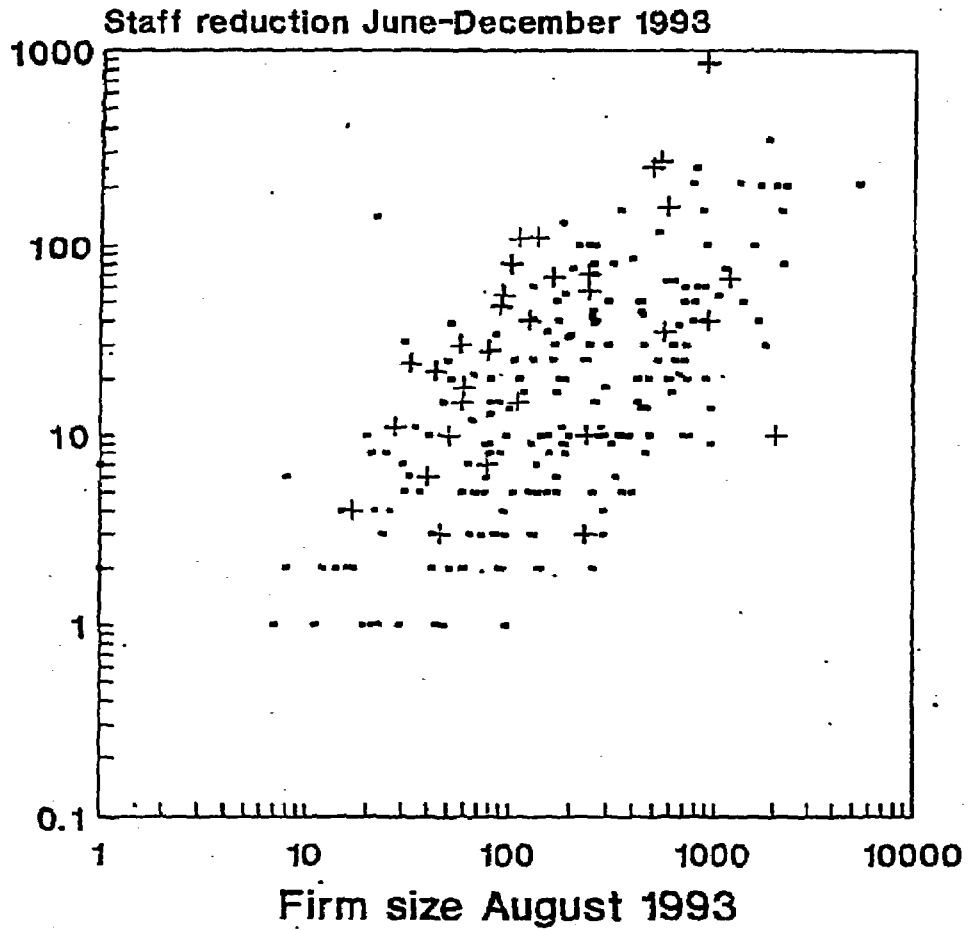
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.MFS wave 2/1992. Budget and agriculture excluded. Log scales.

Figure 9

Staff reduction by firm size 1993

Firms under bankruptcy procedure: (+)
Other firms : (.)

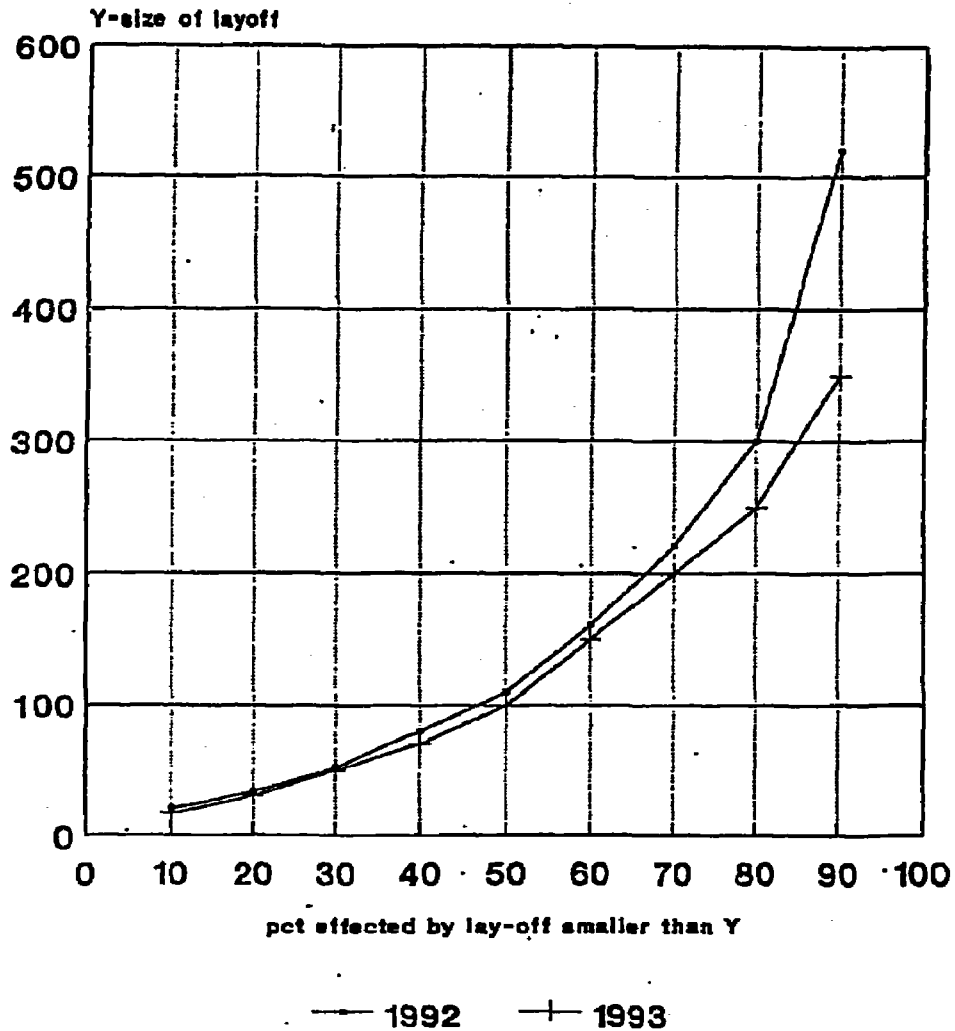


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Notes: Source LMFS wave 2/1993. Budget and agriculture excluded. Log scales.

Figure 10

The distribution of workers by the size of staff reduction they were effected by (June-Dec. 1992 and 1993)



LMFS waves 2/1992 and 2/1993. Restricted to firms reducing their staff.

the first wave of bankruptcies, firms under this process evidently had higher separations than those outside. This no longer seems to hold for 1993; firms under bankruptcy procedure did not separate more than others.

What about the exit of the larger loss-makers ? For this category (firms with losses >0.1 bnHUF) 292 out of the 603 were in bankruptcy or liquidation but only 5 out of the 41 largest loss-makers. In other words, the bulk of bankruptcies/liquidations were concentrated among relatively small loss-makers.

We can go a bit further with this and disaggregate in terms of (i) value subtractors (where sales < material costs), (ii) near value subtractors (sales < material + labor costs) and (iii) firms in which sales were greater than material and labor costs combined. Table 5 shows that at mid-1993, 355 firms in category (i) or (ii) firms were in bankruptcy or liquidation and this accounted for firms making around 50% of total 1992 losses for loss-makers with >HUF 0.1 bn losses.

Using these categories, we can also derive a crude employment decision rule. All employment in value subtracting firms represents an outright loss to society; we assume that this is also pretty much true for category (ii). This sums to 144,000 workers in 1992 or 6.5% of the firm sector. Very crudely (and, probably inappropriately, assuming that none of these jobs could be saved (but ignoring downstream losses) an instantaneous pass-through into unemployment would have jumped the unemployment rate by over 20% at end-1992. As it is, by mid-1993 Table 7 shows that roughly 55% of category (i) and (ii) firms were in either bankruptcy or liquidation procedure. In employment terms, this translates into approximately 73,000 workers; an implicit jump to the unemployment rate of between 10/11%. Continuing our crude line of thinking, we still have an 'employment overhang' from categories (i) and (ii) of c70,000 employees ⁸.

Several tentative conclusions can be drawn at this stage. In the first place, despite a broadly adequate legal framework, there are large lags in enforcement and these are unlikely to be reduced in the short term. Second, the bankruptcy and liquidation data confirm the impression -- indicated earlier -- of quite significant turnover of firms, as well as of jobs. In

⁸ This is all very crude, as we ignore any effects via restructuring.

Table 6: Employment Profile of Loss-makers: 1992

| | -----Size of Loss----- | | |
|-----------------------|------------------------|--------------|----------|
| | >1 bn HUF | 0.1-1 bn HUF | Combined |
| Majority State | | | |
| Firms | | | |
| Number | 25 | 281 | 306 |
| Employment (000s) | 149 | 172 | 321 |
| Av. Employment | 5960 | 612 | 1049 |
| Other | | | |
| Number | 16 | 281 | 297 |
| Employment (000s) | 21 | 91 | 112 |
| Av. Employment | 1313 | 324 | 377 |
| Total | | | |
| Number | 41 | 562 | 603 |
| Employment (000s) | 170 | 263 | 433 |
| Av. Employment | 4146 | 468 | 718 |

Source: Ministry of Finance and World Bank

Table 7: Types of Loss-makers, Employment and Bankruptcy/Liquidation

| Category | Total Number | Total Employment | No. in Bankrp/Liqdt | Employment |
|----------|-----------------|---------------------|------------------------|------------|
| (i) | 113 | 16,400 | 60 | 10,100 |
| (ii) | 242 | 127,800 | 140 | 62,900 |
| (iii) | 189 | 107,500 | 83 | 51,200 |
| (iv) | 58 | 81,000 | 9 | 11,500 |

[Note: (iv) includes firms that were profitable before deducting interest or depreciation]

Source: Ministry of Finance and World Bank

any recent year around 8% of firms have been either restructuring under bankruptcy or else being closed down. The available evidence suggests that much of this action is concentrated among smaller firms; at least half the larger loss-making enterprises had managed by mid-1993 to avoid any form of procedure and this was particularly true for the largest loss-makers. There is clear asymmetry in the implementation of the bankruptcy/liquidation rules. Third, there is some evidence that liquidation proceedings are quite commonly initiated from within the firm. While Table 4 has shown creditor filing dominating in the case of liquidations, a sample of firms taken by the Ministry of Finance in 1993 found that in over 40% of cases, self-filing had initiated the process with 15% initiated by suppliers and a further 20% by either the tax or social security office. Commercial banks were the filing agency in under 10% of cases, suggesting some passivity on their part. It is yet unclear whether the dominance of manager initiated liquidation carries implications for the balance over closure or restructuring. Finally, restructuring decisions that go beyond labor shedding, and can be associated with the bankruptcy procedure, have to face high financing costs -- exacerbated by the large wedge between consumer and producer prices -- and uncertainty.

The new private sector

The above is the gloomier side of the canvas; looking at private sector job creation has brighter spots. De novo private firms now likely account for around 30% of total employment and by 1992 self-employed, partnerships and fully private firms accounted for nearly 75% of private employment. Most of these firms are stock-adjusters in trade and services and there is high turnover. The stock adjustment is probably largely complete (services account for 55-60% of employment) and this may explain relative employment losses in trade and services emerging in 1993. We should probably not expect too much more deepening, save perhaps at the top end with the financial sector. The gap fillers are largely self or curb financed with small exposure to the banking system. The size of their operations may not -- at least in the medium term -- make credit rationing from the banking system too negative.

From the government perspective, this type of private sector growth is fiscally damaging, as most firms avoid any tax obligations, leaving indirect tax revenues as the only draw-off by the fisc. In sum, since transition started in earnest the growth of the private sector has been accelerated by its tax advantages; in effect private sector growth being subsidized by

state and other firms in the taxed economy or put differently, non-tradables subsidized by tradables producers. Future growth will likely need a more diversified and taxable base.

Wages and labor costs

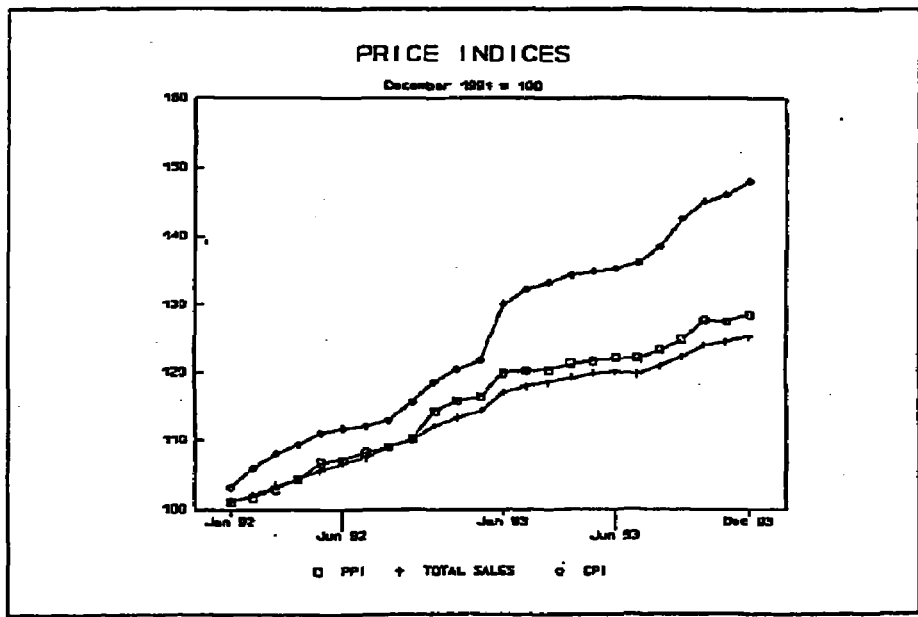
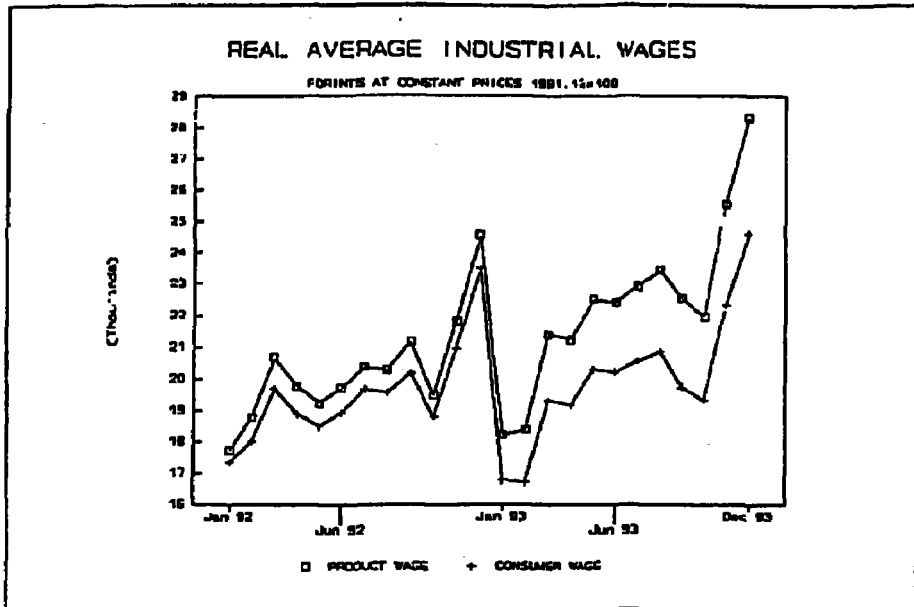
Clearly the level of employment will be sensitive not only to firm decisions on labor shedding, and hence to the underlying institutional and other constraints, but also the choice over wages and employment picked by managers and workers. This section takes a look at the wage path and setting.

Real consumption wages in industry declined by fairly small magnitudes in 1990, 1991 and 1992, but rose in 1993 (Fig.11). At end 1993, they were down about 4% over 1989. But given the large wedge between consumer and producer price changes in all years (fig. 12)⁹, which has only been part offset by the fall in consumption wages and increase in labor productivity, we observe significant increases in unit labor costs. The latter rose 7% in 1990, 8% in 1991, 1% in 1992 and 4% in 1993; a cumulative rise of over 20% since 1989. What is not obvious is that wage pressure, associated with aggressive wage bargaining by workers and unions, is driving a cost squeeze. Rather, as we indicate below, the bargaining structure itself may over-determine the wage decision and converge both average wage settlements in the economy as well as wages to prices.

A more inclusive measure of the evolution of real compensation costs (incorporating non-wage labor costs as well as wages) indicates a 10% increase in forint terms for industry between 1989-1992 when deflating by producer prices. Using consumer prices gives a 6% decline over the same period. Most of the increase is loaded into 1992 and is likely to have been magnified in 1993. Factoring in the exchange rate, Godfrey (1993) shows that the US\$ labor cost per unit of output in manufacturing rose by 27% over the same period, but much of this is accounted for by the increase in non-wage costs, rather than by wages. As such, we find that non-wage labor costs comprised nearly 45% of total labor costs in 1992. Social insurance and unemployment fund contributions alone account for nearly 30% of total labor costs. Employers thus pay contributions of over 50% to these funds; up from 40% in 1986. Using current exchange rates, this implied that hourly dollar compensation costs in Hungary

⁹ The wedge is projected to be around 5/6% in 1994.

Figures 11-12



in 1992 were between 40-80% higher than in Poland and the Czech Republic.

The effective marginal tax rate on labor income (at >70%) is high both with respect to other transition economies and to Western European comparators ¹⁰. Similarly, the effective tax rate on capital income is near the top of the distribution (>80%). The disincentive effects are two fold; affecting labor supply and investment as well as the propensity for tax evasion. In the present context, we can think of the work disincentive primarily in terms of the diversion of effort from the taxed part of the economy to the non-taxed component. We return to this below.

At a more disaggregated level, how have wages behaved ? Until 1992, we observe surprisingly little dispersion in wage changes across branches. But in both 1992 and 1993 it seems that beneath this, there is larger intra-branch wage dispersion. Figures 13-18 give scatters relating the change in wages, deflated by consumer prices, to the change in sales since 1989 at the 3 digit level. Again, a distinction is made over branches with and without sizeable export exposure in 1989 to CMEA markets. The scatters are quite clear in showing some heterogeneity; branches with high CMEA exposure exhibit a fairly consistent disjuncture in changes to sales and real wages through 1992. And information for 1993 -- which is not strictly comparable -- indicates that this continued into that year. Thus, despite large declines in real sales, wages exhibit surprising real stability and no apparently robust association with changes to sales. The picture that thus emerges is one in which wages appear to be governed by factors exogenous to the branch and branch sales. Branches with above average increases to real sales do not appear to transmit these to wages; inversely, larger than average declines in sales have no significant on wages.

We now explore in some detail wage changes in 1993, using more disaggregated information from the Labor Market Forecast Survey. Table 8 reports our wage estimation. It shows that firm wages were positively and significantly related to sales, investment and bad debts to the firm, as well as to size. Wages were negatively associated with bankruptcy. In terms of firm size, it looks as if small firms have a normal distribution and a reasonably tight wage-revenues association. By contrast, large firms (with >2000 employees) have very

¹⁰ See EBRD (1993) for the calculations of marginal rates on labor and capital income.

Figures 13-18

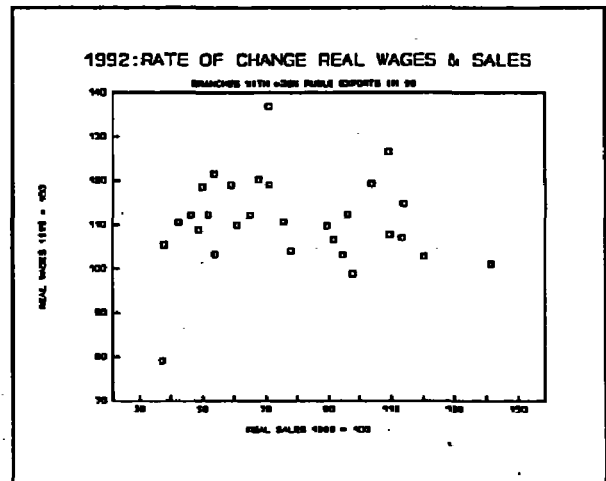
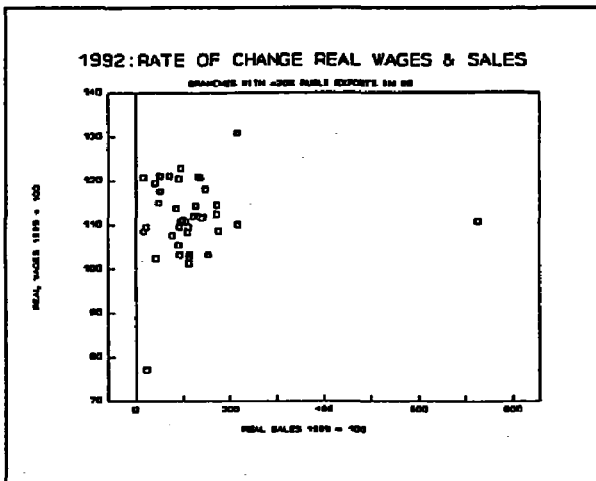
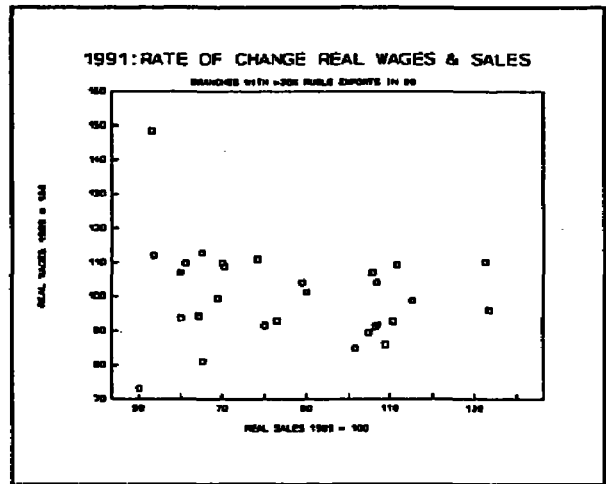
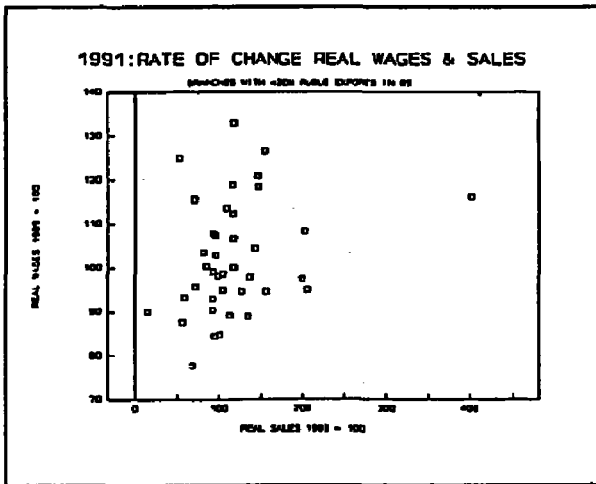
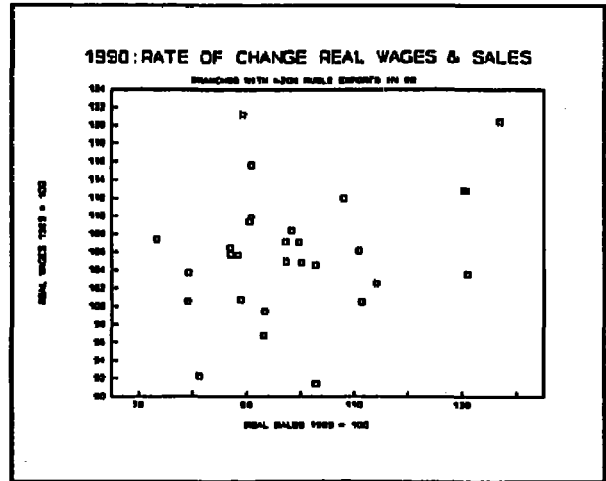
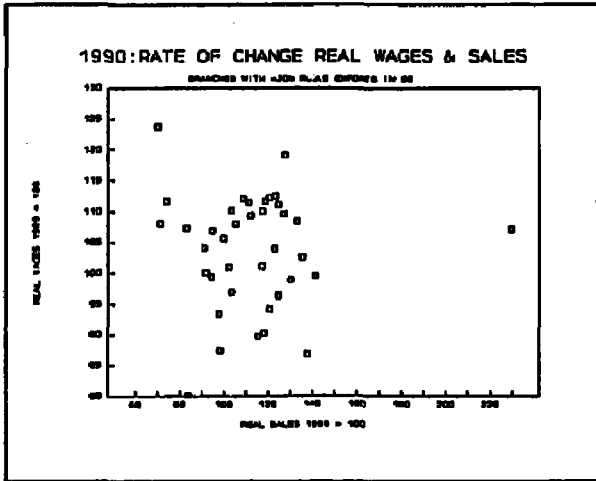


Table 8: Wage equation [LMFS N=3887]

Dependent variable: dW93 (average wage end 1993/end 1992)

| Variable | B | T | B | T |
|-----------------|---------|------|---------|------|
| dRevenues | .1367 | 10.8 | .1376 | 10.9 |
| Bankruptcy | -4.4983 | -5.5 | -4.51 | -5.5 |
| Bad debt | .7779 | 2.1 | .8044 | 2.2 |
| Investment | 1.6115 | 4.6 | 1.6242 | 4.7 |
| dU | .0095 | -2.8 | | |
| U (93.I) | | | .0438 | 2.1 |
| Size 500+ | 2.2516 | 4.8 | 2.3114 | 4.9 |
| Size <50 | -3.1939 | -9.2 | -3.2381 | -9.3 |
| (Constant) | 99.2246 | 70.8 | 97.3369 | 70.8 |
| aR ² | .1223 | | .1212 | |
| F | 60.67 | | 60.03 | |

Variables: dRevenues= revenues end 1993/end 1992; Bankruptcy= in process June-December 1993; Investment= new capacity installed; Bad Debt= debt to other firms; U level= January 1993, rates for 176 regions; dU= change in unemployment, September 1993/January 1993; Size 500= >500 employees; Size <50= less than 50 employees

Source: HHP

Table 9: Average wage and bonus change in 1992 by size and financial status

| Size | Wage | | Bonuses | | | |
|-----------|------|-----|---------|------|--------|------|
| | Wage | cv | Profit | Loss | Profit | Loss |
| <10 | 18.2 | .55 | 23.5 | 12.3 | 22.2 | 9.9 |
| 11-20 | 19.4 | .37 | 15.8 | 23.6 | 12.0 | 10.5 |
| 21-50 | 20.3 | .33 | 20.7 | 19.6 | 13.1 | 8.6 |
| 51-200 | 22.7 | .22 | 22.8 | 22.7 | 7.0 | 4.6 |
| 201-300 | 20.5 | .15 | 25.8 | 17.8 | 4.0 | 4.6 |
| >300 | 18.2 | .15 | 22.2 | 14.7 | 3.6 | 4.0 |
| All firms | | | 21.8 | 18.3 | 13.5 | 6.9 |

Source: Ministry of Finance and World Bank

convergent wage changes and far weaker correlation with revenues ¹¹. This distinction may explain the lack of association, using 3 digit level data, between wages and sales that we report above. The two specifications reported below also indicate little or no feedback to wages from unemployment. An increase in the rate of unemployment has a negative impact on the change in the wage (dW) while a high rate has no or a slight positive effect.

To what extent are wage settlements government by firm-specific financial conditions or ability to pay ? Here, it is useful to distinguish between changes to wages and wage inclusive of bonuses. The latter are generally paid in the last two months of any year and are reasonably sizable; for 1993 nominal industrial wages at end-year jumped over 25% as a result of bonus payments. The wage-revenue association pinned down in the wage equation reported in Table 8 using the LMFS dataset is confirmed by the Ministry of Finance dataset. Table 9 provides information on both the average wage increase and bonuses in 1992 in terms of both firm size and profit or loss-making status. The conclusions are evident. The change in wages does not vary very much by firm size but the variation increases dramatically in inverse association to size. (Wage levels are also far more dispersed among small firms.) Further, while for most size classes the change in wages in 1992 disaggregated over profit and loss makers suggests that the latter sanctioned lower wage increases, the gap is not that large. In short, using this dataset, it does not appear that small firms tie wages that much more closely to revenues. But introducing bonuses tells a somewhat different story. The latter are far larger among small firms and are clearly and positively correlated with firm profitability, particularly among smaller firms. This can probably be related to the presence of co-ownership or partnerships among the smaller units.

The presence of partnerships among the small firms may explain the fact that labor costs tend if anything to be higher in this group. As Table 10 shows, part of this can be attributed to the effect of bonus payments but it holds true when excluding bonuses. This is not inconsistent with the fact of higher wage increases in 1993 in large firms, as indicated by

¹¹ Note that in the MoF dataset, for the largest loss makers in 1992, wages as a share of total costs were around 33% (the share is highest for large SOE loss-makers); as against 16-19% for other loss-making categories and 11/12% wage shares in the economy as a whole. This smacks of decapitalization.

Table 10: Labor Cost by firm size, ownership and components (000HUF per worker per month): 1992

| Firm size | -----Components----- | | | | -----Ownership----- | | |
|-----------|----------------------|-------|-------|------------|---------------------|-----------|-------|
| | wage | taxes | bonus | labor cost | fully priv | part priv | state |
| <10 | 32.4 | 13.4 | 18.1 | 63.9 | 53.7 | 64.5 | 112.3 |
| 11-20 | 29.3 | 12.7 | 11.6 | 53.6 | 48.0 | 60.0 | 59.2 |
| 21-50 | 29.3 | 12.6 | 11.3 | 53.2 | 47.7 | 64.9 | 51.0 |
| 51-200 | 19.4 | 8.7 | 5.6 | 33.7 | 33.8 | 38.3 | 31.7 |
| 201-300 | 16.6 | 7.5 | 4.1 | 28.2 | 28.2 | 26.6 | 28.7 |
| >300 | 18.9 | 8.6 | 3.9 | 31.4 | 30.2 | 31.3 | 31.7 |

Source: Ministry of Finance

Table 11: Wage and employment changes for value subtracting and other firms, 1992

| | -----Firms with:----- | | -----Firms with----- | |
|-----------------------------|-----------------------|----------------|----------------------|-------|
| | Other Sales | Material Costs | Other Sales | Wages |
| Employment change (dL92) | 89.3 | 42.1 | 87.6 | 52.9 |
| Wage change (dw92) | 119.4 | 133.0 | 122.7 | 172.4 |
| Bonuses (000 HUF per month) | | 9.9 13.5 | 9.9 | 14.2 |

[Note: firms with sales<material costs comprise 9.4% of the sample; firms with sales<wages 6.5%]

Source: Ministry of Finance and World Bank

the LMFS nor with roughly equal wages in the private and state sectors ¹². The very high labor costs among small state firms may possibly be explained by the use of shell entities, already alluded to above.

Ability to pay is clearly important, at least in governing the bonus component of wage income. However, given the size and distribution of loss-makers, what evidence, if any, exists for predatory wage setting? Value subtracting firms are not only numerous (c.6000 in 1992) but -- see Table 11 -- also appear to experience above average wage and bonus increases. The reductions in employment are large for both categories of value subtractors -- between 47-58% declines for 1992 over 1991, but very striking, is the large margin in wage increases over other better-performing firms. For firms with sales below wage costs, nominal wages increased by over 70% on average as against around 20% for other firms. Further, bonuses relative to wages are high. For firms with sales below wages, the average wage bill was roughly equal to sales, while bonuses were about 80% of both variables ¹³. Appendix 1 concentrates on wage and employment decisions in firms held by the AVRt and further indicates the very weak or absent association of wage changes to measures of financial performance.

On relative skill wages, the picture is of a decompression of the inherited wage arrangement. At an economy-wide level, for example, white collar wages grew by 31% while blue collar wages only grew by 23% in 1992. And the earnings functions reported below (Table 12) using the Hungarian Household Panel yield not only a conventional set of returns to education but also a clear increase in returns to education for 1993 over 1992. The result is robust and statistically significant across wages, earnings and income measures and points to non-trivial changes to relativities and the likely growing inequality in the wage and income distribution. It is striking that the coefficients on the education variables are both larger and more significant than either sector or ownership variables.

With respect to relative branch wages, 2 digit industry level data show small variation in wage changes in 1993 (but this may, as noted above, camouflage quite large intra-branch variation). The stability of relative branch wages cannot be laid at the door of an incomes

¹² As reported in Commander et al (1994).

¹³ Part of this may be severance payments to workers but this can account for the general pattern.

Table 12: Earnings functions: 1992 & 1993

| Variable | Wage in 1992 | | Wage in 1993 | |
|--------------|--------------|--------|--------------|--------|
| | | T stat | | T stat |
| Female | -.31 | -14.8 | -.25 | -11.5 |
| Age | .04 | 8.3 | .04 | 6.4 |
| Age squared | -.001 | -7.7 | -.004 | -5.3 |
| Primary | .10 | 1.4 | .16 | 1.8 |
| Apprentice | .17 | 2.4 | .26 | 3.0 |
| Secondary | .41 | 6.0 | .46 | 5.2 |
| Higher | .71 | 10.0 | .81 | 9.0 |
| Industry | .003 | 1.1 | .05 | 1.8 |
| Services | .07 | 2.3 | .08 | 2.4 |
| Semi-private | .09 | 2.7 | .10 | 2.9 |
| Private | .04 | 1.7 | .04 | 1.5 |
| Constant | 8375 | 70.2 | 8715 | 61.7 |

| | | |
|----------------|------|------|
| R ² | .36 | .30 |
| F | 69.8 | 61.5 |

| Variable | Earnings in 1992 | | Earnings in 1993 | |
|--------------|------------------|--------|------------------|--------|
| | | T stat | | T stat |
| Female | -.31 | -14.7 | -.25 | -10.8 |
| Age | .04 | 8.2 | .04 | 7.4 |
| Age squared | -.00 | -7.8 | -.00 | -6.5 |
| Primary | .10 | 1.4 | .15 | 1.6 |
| Apprentice | .18 | 2.5 | .25 | 2.7 |
| Secondary | .42 | 6.0 | .45 | 4.8 |
| Higher | .73 | 10.0 | .80 | 8.5 |
| Industry | .019 | 0.6 | .09 | 2.9 |
| Services | .07 | 2.3 | .09 | 2.5 |
| Semi-private | .11 | 3.2 | .10 | 2.9 |
| Private | .06 | 2.1 | .02 | 0.8 |
| Constant | 8448 | 69.3 | 8666 | 57.7 |

| | | |
|----------------|------|------|
| R ² | .31 | .29 |
| F | 68.9 | 56.7 |

| Variable | Income in 1992 | | Income in 1993 | |
|--------------|----------------|--------|----------------|--------|
| | | T stat | | T stat |
| Female | -.33 | -16.1 | -.27 | -10.9 |
| Age | .03 | 5.4 | .03 | 4.9 |
| Age squared | -.00 | -4.1 | -.00 | -3.6 |
| Primary | .08 | 1.2 | .15 | 1.4 |
| Apprentice | .17 | 2.5 | .26 | 2.5 |
| Secondary | .39 | 5.9 | .46 | 4.5 |
| Higher | .72 | 10.5 | .82 | 7.9 |
| Industry | -.03 | -1.0 | .05 | 1.6 |
| Services | .07 | 2.4 | .07 | 1.9 |
| Semi-private | .10 | 3.0 | .04 | 1.1 |
| Private | .08 | 3.2 | .02 | 0.6 |
| Constant | 8701 | 75.1 | 8916 | 56.4 |

| | | |
|----------------|------|------|
| R ² | .35 | .29 |
| F | 80.3 | 54.7 |

Source: HH

policy in 1993; but it seems that the use of national guidelines may have achieved the same effect. Nominal wages appear to settle close to the guidelines, which in turn are conditioned on expected consumer price inflation. We now turn our attention to the bargaining framework itself.

Bargaining and the tripartite system

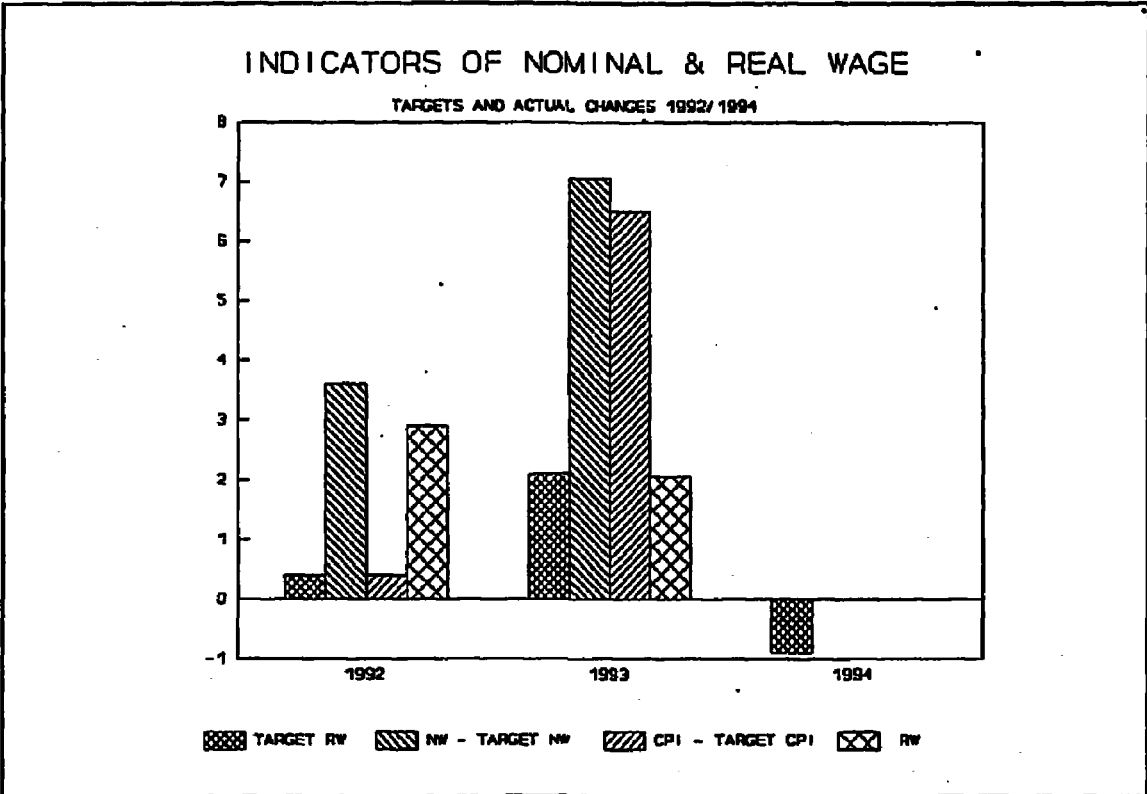
A tripartite system has been retained but now only has partial coverage, being reasonably complete only for state firms and for many privatized firms. Formal agreements at branch and firm level exist and these mostly cover wage changes, either centered on the base wage or average wages ¹⁴. There also appears to be some explicit consideration of employment in a limited number of cases. The impression is that trade unions are increasingly concerned only with wages but in larger state/privatized firms employment and wages are jointly bargained. The unions perceive in addition that real wages have fallen by significant magnitudes, while the wage distribution has become more skewed (in part by use of fringe benefits). While union membership is quite large, accounting for as much as 60% of the workforce, militancy to date has been low although apparently rising ¹⁵.

Figure 19 provides some indicators of the extent to which national wage targets, embodied in a wage rule or in the guidelines, were respected. For 1992, nominal wage growth exceeded target wage growth by over 3.5 percentage points. With consumer prices settling close to target inflation, the result was a real wage expansion of some 2.5 percentage points above target. For 1993, there is almost complete convergence of target and actual real wage increases -- c2% -- but both nominal wage and consumer prices rose 6.5-7 percentage points over projected changes. Nominal wage growth in the economy as a whole was thus significantly in excess of target increases in both years. For 1994.q1 nominal wage growth over 1993.q1 was 23.6% while consumer prices had increased over the same period by 16.8%. This divergence may in part be expectations-driven as wage bargains build in the expected inflationary effects

¹⁴ In 1993 there were 36 branch and 394 firm level agreements covering in all around 850,000 workers. Aside from the National Interest Conciliation Council, sectoral tripartite bodies also exist. In addition, the Labor Code specifies that each firm with more than 50 employees must have its own council.

¹⁵ Membership is reasonably concentrated; the successor union -- MSZOSZ -- accounts for around 40% of total union membership and the three other federations account for a further 30%.

Figure 19



of a possible exchange rate and interest rate adjustments. The wage-price dynamics that underlie this process have yet to be properly explored but earlier estimations pinned down a clear feedback from wages to prices ¹⁶. The current guidelines system may not only sanction an unnecessarily tight association of wage and price changes but may -- given the absence of any penalties on excessive wage deals -- permit financially troubled firms to indulge in predatory wage setting.

These aggregates likely encompass significant variation in wage settlements across sectors and bargaining loci. For 1992, we can more directly observe industrial branch wage agreements. These were largely concerned with establishing a floor for annual wage increases. In almost all cases, this floor ranged between 13-18%; in those cases where the agreement was conditioned on a maximum increase, that corresponded to the 28% norm set under the then-operating incomes policy. For firm level agreements, the majority specified an increase in basic or average wages over the range 17-21%. These numbers would be consistent with a wage setting constrained by the incomes policy, though the causality is far from clear.

For 1993 industrial gross wages increased by around 27%, with net wages increasing in step with consumer prices (23%). As yet, we lack information that is sufficiently disaggregated. However, for 1993.q1 we can contrast projected wage increases with actual settlements for 700 industrial firms. As a significant part of the annual wage round is concluded in the first quarter of the year, this provides a reasonably complete indication of the annual wage outcome for 1993. Table 13 shows that actual wage settlements have a somewhat bi-polar structure. A third of firms have actual settlements from 0-10% nominal wage increases for 1993.q1 over 1992.q1. Over 40% of firms have wages increasing by more than 20%, with nearly a quarter giving wage increments in excess of 30%, with half of this sub-sample being in excess of 40%. The employment distributions for this sample do not suggest that firm size is strongly positively correlated with wages. But we lack direct information on other attributes -- such as ownership - - of this population of firms ¹⁷.

¹⁶ Commander and Coricelli (1992)

¹⁷ Branch level data allow us to pick up the outliers; the most striking being mining where wages settled 8.5% above national averages, while employment continued to decline at a far higher rate than the industry average; a likely insider story.

The partial evidence set out above suggests that in the absence of an explicit incomes policy in 1993, we observe quite sharp variation in wage settlements, whether discriminating in terms of firm size, ownership or other attributes. The picture is not one of generalized wage convergence to announced inflation. Yet we also know that average industrial wage increases over 1993 were close to consumer prices. The distribution given in Table 14 probably hints at the reason. While a large number of firms indeed had small nominal wage changes, a significant share also harvested large increases, considerably in excess of wage guidelines or announced inflation.

Part of the reason for this polarity in wage settlements may be that guidelines are set and then incorporated in either branch or firm level agreements, in a good part of the remaining state sector as well as part of the privatized sector. Further, these settlements are made with reference to consumer prices; the wedge ensures that the burden is shifted to firms, if and when management's bargaining power is attenuated.

The wedge effect remains powerful because of a combination of factors. Reductions in consumer subsidies, food price shocks attributable to the drought, changes to VAT brackets and rate in 1993 and the rise in the relative price of services — given that the share of non-traded goods is higher in the consumer rather than producer price index and that consumption of non-traded goods is converging to OECD levels — have been the main factors explaining the presence and size of the wedge ¹⁸.

At first approximation, we can think of Hungarian workers and unions aiming at a stable consumption wage. Real wage resistance will obviously arise when firms' labor costs rise in response to exogenous changes which have an impact on workers. Wage bargains conditioned on consumer prices will obviously sanction the gap between the real labor costs of firms and the real consumption wage of workers. Further, the size of the wedge will be affected not only by the consumer to producer price relationship, but also by relative tax rates on employers and workers. Labor taxes paid by employers in Hungary are higher than OECD averages. However, changes to relative prices rather than to relative tax rates have primarily shifted the wedge in recent years. Real wage resistance has arisen because real labor costs have responded positively

¹⁸ Note that the wedge is significant for all industrial branches, the ppi range being 6-13% in 1993.

Table 13: Projected and actual wage increases for 700 industrial firms; 1993.1/1992.1

| Change in wage (range) | Projected----- | | Actual----- | |
|---------------------------|----------------|----------------|--------------|---------------|
| | No. of firms | Employment (%) | No. of firms | Employment(%) |
| constant | 37 | 2.7 | 116 | 11.0 |
| 0.1-10% | 121 | 11.7 | 119 | 28.4 |
| 10-15% | 121 | 25.7 | 76 | 17.6 |
| 15-20% | 148 | 30.4 | 84 | 11.2 |
| 20-30% | 191 | 21.5 | 140 | 16.9 |
| >30% | 82 | 8.5 | 165 | 14.9 |
| o/w 30-35% | 30 | 3.6 | 41 | 5.3 |
| o/w >40% | 27 | 1.9 | 88 | 6.4 |

Source: Ministry of Labor

Table 14: Net Flows, 1990-1994

| | Based on Munkaeromerleg | | | Based on LFS | | |
|--|-------------------------|------|------------|--------------|------|------------|
| | 1990 | 1993 | Net change | 1993 | 1994 | Net change |
| Employed, above working age | 488 | 300 | -188 | 175 | 138 | -37 |
| Working age population of which: | 5957 | 6061 | +104 | 6034 | 6014 | -20 |
| employed | 4991 | 4188 | -803 | 4046 | 3916 | -130 |
| unemployed | 24 | 680 | +656 | 498 | 476 | -22 |
| out of labor force | 942 | 1193 | +251 | 1490 | 1622 | +132 |

Table 15: Pearson and partial correlation coefficients between regional unemployment and industrial wage increase, 1992 (20 regions)

| | dW92 | |
|---|---------|--------------------|
| | Pearson | Partial (sign.) |
| Unemployment rate 1991.12. | .275 | .433 (.06) |
| Increase of the rate 1992.12. - 1991.12. | -.099 | -.360 (.13) |

to elements of the wedge.

How do we interpret the 1993 nominal wage outcomes and the apparent absence of outside factors in governing the wage settlement? De novo private firms appear to pay lower wages than state and privatized firms and to be more responsive to outside labor market conditions. Yet average wage settlements in the economy appear to converge toward consumer price inflation. This reflects the continuing weight of state and privatized firm wage decisions. Part of this can perhaps be attributable to initial wage jumps in privatized firms and hence a level effect, but it also seems likely that state sector wages have been quite inflexible.

Given what we know about the path of profits and their distribution, this may point to continuing rent appropriation in state and privatized firms. Assuming that state sector wages are set at or around average rather than marginal product, low exit rates from unemployment and the clear evidence that workers are not indifferent to keeping their jobs or unemployment, also suggest that the actual wage is higher than the wage equivalent of unemployment. One implication is that workers will tend to oppose decisions that threaten their continuing access to these rents.

To the extent that state and some privatized firms have internal bargaining power set-ups that retain high workers' relative bargaining power and de facto result in workers and managers playing cooperatively against government, we may be facing a substantive insider problem. Wage claims will be dissociated from firms' ability to pay and insiders may be indifferent to outside conditions. To break this requires either a change in policy by government (a shift to a credible and tough stance on employment) and/or further institutional changes (including unbundling) that can break insiders' ability to extract rents. The importance of doing this will be amplified, of course, if state/privatized insider wage claims provide a reference point for other wage settlements in the economy; but the evidence on this is patchy.

The overall conclusion at this stage is that the guidelines approach sends wages in part of the state and privatized firm sector toward expected inflation. As a significant part of the annual wage round is concluded in the first four months of any year, the guideline expectation on inflation would tend to be sanctioned and built into expectations. If the objective is to get wages as close as possible to actual inflation and to ensure that expectations are not simply satisfied, there would be a clear case for moving to shorter wage adjustment intervals.

There also appears to be no evident association of wages to either economy-wide productivity or even firm level productivity changes. This can be traced to weak managerial bargaining power and, to some extent, the associated attachment of the government to social peace. We then have the result that even if unions are not that powerful, managers prefer 'the easy life'. The bill may ultimately end up with the fisc and/or the banking system ¹⁹.

Unemployment

Unemployment rose rapidly after 1989 from a negligible base, driven by the sharply asymmetric dynamics of state and private sector employment. Both registered unemployment and the ILO-based rate began to fall in 1993 after a peak reached in February 1993. The registered rate then was 13.6% and regional rates varied between 7-22% ²⁰.

First, we can sum up net shifts between labor market states between 1.1.1990 and 1.1.1993, using the classification of the CSO's "Munkaeromerleg", and between 1.1. 1993 and 1.1. 1994., using the Labor Force Survey ²¹. In constructing Table 14 we calculate the stocks for 1 January by taking the average of the preceding and following quarters, assume that employment abroad stayed on its 1993 level (45,000) and add it to the employment stock. As indicated above, the decline in employment is large and continuing. At the same time, movements out of the labor force have indeed been large.

The recent fall of unemployment cannot be attributed to a rise of employment. In 1992.Q4-1993.Q4, unemployment rose by 30,000 while employment declined by 232,000; since then both unemployment and employment have been falling. The inflow to unemployment decreased slightly relative to 1992. On the other side, after controlling for seasonal effects, we find that the rate of registered unemployed finding a job remained in the range of 3-4 per cent per month since early 1992. A net shift towards non-participation can be attributed to a

¹⁹ Note that managers in state firms may have autonomy in decision-making but not necessarily large relative bargaining power with respect to workers. In so far as managers have acquired or maintained their positions through political connections their bargaining power with respect to government (and hence for subsidies) may be large.

²⁰ The range was larger – 7-46% – when using labor office areas as the reference.

²¹ The latter is more stringent in classifying people out of work as unemployed so its figure for 1.1.1993. is 498,000 as opposed to 680,000 in the "Munkaeromerleg".

combination of factors, including exhaustion of benefit eligibility, or an increase in unrecorded employment. Furthermore, many workers losing jobs fail to enter or re-enter the unemployment register, due to lack of eligibility for benefits, or because of access to earnings outside the wage labor sector. Further, available data on planned separations and hirings by firms in the LMFS also forecast a further drop in the rate of job destruction in 1994 (assuming the decision to close some of the huge loss-makers is further delayed) rather than a rise of the re-employment probability for the unemployed.

Given this environment, the stagnant pool characterization of unemployment is thus unlikely to change in the near future. And there are several other particularities that are important. They include, (i) a low exit probability. The 3.0/4.0% monthly exit rate would suggest an expected completed duration well in excess of two years in steady state.

(ii) Little or no feedback to wages, as indicated earlier in Table 9. A similar conclusion is suggested by the regional data given in Table 15. The partial correlation coefficients between the rate of change of industrial wages (taken from CSO statistics for the 20 counties) on the one hand, and the rate and change of unemployment, on the other, are differently signed. In other words, regional Phillips-curves, if they exist at all in Hungary, suggest a slightly slower wage increase where unemployment is rising, but no observable negative feedback from high unemployment to lower wage claims. With the close-to-zero parameters and low significance levels the correct conclusion might be that, in contrast to some other countries where correlations between regional unemployment and wages can be easily shown on simple scatters, Hungary as yet does not experience any such feedback ²².

(iii) Mismatch; the lack of feedback to wages may, to a great extent, be attributed to regional and skill mismatch. Fazekas (1993) has shown that the highest rates of unemployment are experienced in remote rural areas and highly industrialized, typically single-employer, micro-regions, where vacancies are locally minimal. Fazekas and Kollo (1994) in addition find, on the basis of the LMF survey, that demand for retraining increases when the firm has hard-to-fill vacancies, decreases if the local labor force has a higher educational level, but only slightly decreases when there is a higher local rate of unemployment, after controlling for the

²² Blanchard et al (1994)

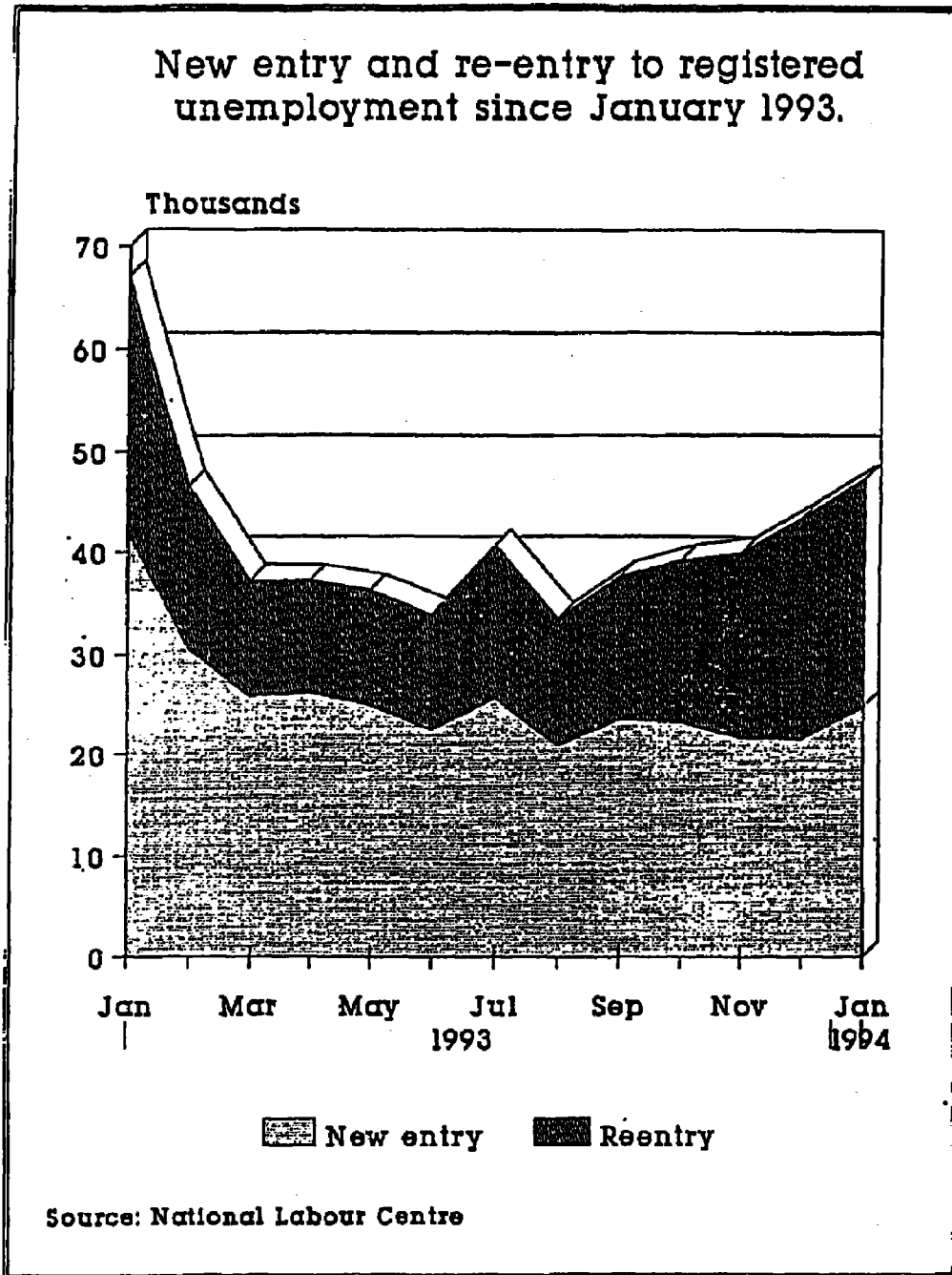
first and the second effect. Finally, indirect evidence supporting this hypothesis is also provided by the finding that there are close-to-zero firm level labor turnover rates (defined as $\min[\text{separation}, \text{hiring}]/\text{employment}$). An average rate of 0.2 per cent, invariant to the local unemployment rate, suggests that firms do not, or cannot, exploit the large pool of unemployment to replace their poorly performing workers.

(iv) Persistent regional differences; looking at local unemployment rates we find a surprisingly stable rank order for smaller regions. Regressions using variables on infrastructure, wealth, educational level, degree of industrialization and land quality from 1990 are more and more successful in explaining regional variation as we move closer to 1994. The regional differences seem to be rooted, to a great extent, in characteristics inherited from the past and hence difficult to change.

(v) Rising recurrent unemployment; a simplified vision of transition-induced unemployment, in which temporary joblessness is generated in a process of relatively fast transition from collapsing (state) to emerging (private) sectors is partly challenged by observations on labor market flows. These indicate that transitions occur mainly in the form of job-to-job flows; unemployment appears persistent (indicating that the main streams of transition avoid the pool of unemployment) and there is now evidence of an apparent rise in recurrent unemployment. Figure 20 likely underestimates the proportion of reentrants as many do not register because of lack of benefit eligibility, while others returning to unemployment after a short spell of employment had actually remained throughout on the register and were not counted as reentrants. Repeat spells are partly accounted for by temporary lay-offs in agriculture but preliminary estimations by labor office officials and researchers suggest the growing importance of intense mobility between unemployment and the low wage, short tenure end of the private sector. If we consider that recurrence shows up on the inflow as well as on the outflow side of unemployment, the rate of mobility between the steady jobs of a 'primary segment' and the pool of unemployment seems even less intense and decreasing.

The policy implications of points (i)-(v) are more-or-less clear but do not promise any quick help for the unemployed. They include targeted infrastructural and job creation programs in regions with very high unemployment; but all such policies are likely to have fairly extended lags. More generally, but subject to the regional and other constraints that characterize current

Figure 20



Hungarian unemployment, a further option would be to scrap the current system of lump sum payments for job creation and instead provide, within the same fiscal envelope, marginal wage subsidies aimed at making the unemployed more attractive to employers and hence allowing some share of the long run unemployed a chance to get back into work.

Conclusion

First, we summarize what we understand to be the current environment. There is a spectrum of firm types; (i) state firms; often in bad shape and/or natural monopolies; (ii) firms privatized or innovated with significant foreign direct investment (e.g, GE Tungsram; GM, Ford, VW/Audi etc). Foreign direct investment is however quite heavily concentrated, by sector and firm and the employment multiplier may in fact be quite small (iii) firms privatized by domestic, outside investors; (iv) firms privatized by insiders and (v) new small scale private firms.

The first and latter are increasingly outside the tax system (viz; state and de novo firms); the first by de facto exemptions; the latter by evasion (crude Ministry of Finance estimates of untaxed income are in the range 300/600 HUF bn). Thus, as the size of the de novo sector rises, the effective tax yield will tend to fall for constant evasion. The burden is shifted further to the taxable sectors – privatized or new 'taxed' firms. While subsidizing the growth of the private sector initially may have been desirable, dynamically this is unlikely to be true. So the obvious policy issue is to change the distribution of the tax burden, while setting tax rates consistent with labor-enhancing growth. The type of growth that has characterized the last four years is unlikely to be sustained.

The distribution of the tax burden has obvious implications for the incentives to generate employment in the taxed part of the economy. With evasion high, average payroll taxes have, until recently, risen quite sharply. Social insurance expenditures and other labor taxes comprised around 34% of hourly compensation costs in 1992; a significantly higher share than for OECD economies and for most other transition economies. And high contributions rates have been joined by apparent real wage rigidity in depressing the rate of job creation in the taxed sectors of the economy. As such, while wage levels are reasonably low compared to neighbors they remain higher than in other transition economies. Further, despite the large adverse shocks to output and employment, consumption wages have risen slightly and unit labor costs have

clearly increased. Thus, while wages have not exploded -- and the rigidities indicated above may partly be laid at the door of the bargaining system -- the general picture points to a lack of wage flexibility. And it is worth re-emphasizing the apparent absence in our wage estimation of the regional unemployment rate. Outside labor market conditions in the wage determination seem, at best, weak. This probably can also be explained by the composition of unemployment leading to duration effects. These combinations may result in a continuing inability to generate adequate jobs with the associated consequence of high and persistent unemployment.

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Appendix 1: Wage and Employment Setting in AVRt Firms

Firms controlled by the AVRt (Hungarian State Holding Company) include a significant share of loss-makers. In 1992 these amounted to 42% of the then 147 firms in the portfolio and included 5 out of the 41 largest loss-makers in the economy. Half of the original 11+1 firms are still managed by AVRt and these include several of the larger holding companies whose total employment at end-1993 still exceeded 40,000.

By early 1994 the portfolio of AVRt had increased to around 174 entities with a reasonably wide spread in terms of financial performance. As Table 1A indicates, however, the bulk of firms fall into categories requiring financial and other restructuring. Categories 2 and 3 account for nearly half the firms and over two-thirds of total employment for the entire AVRt portfolio. Clearly, size and restructuring needs are correlated. In what follows, we concentrate on these two categories.

The first point to note is that the size of losses in 1993 in Groups 2 and 3 remain significant. Pre-tax profits were negative to the tune of nearly 1000 mHUF with nearly 40% of these category firms registering losses. A similar proportion had negative profit/sales ratios for 1993. We are able to match up financial data with changes to employment and wages for a major sub-sample of these restructuring firms. The data presented below relate to 50 out of the total 85 firms in this category. In addition, we compare these firms with other entities in AVRt's portfolio, the bulk of which comprise firms from Category 1; easily privatizable firms. Several features are revealing, as indicated in Table 1B. For the total sub-sample (113 or over 60% of the total portfolio) the average employment decline in 1993 was around 10%. Most of this was concentrated in firms requiring restructuring; average employment in Categories 2 and 3 fell by nearly 20%. For other firms in the sample, average employment hardly declined; by 1.2%. Yet average nominal wages across all categories show remarkable convergence, rising by between 28-30% in 1993²³. Average wage increases are in fact slightly higher in firms requiring restructuring. And the coefficient of variation over 1992 and 1993 for both employment and the wage bill shows no change. In short, there is no evident conventional association between measures of financial performance and the change in wages. Indeed,

²³ Note that the level of the average wage in Groups 2 & 3 was only slightly (5%) below the full sample average and the difference in the level declined in 1993.

average wages in AVRT firms increased by around 7% in real terms (consumption wages) in 1993; well above national averages.

Figures 1A & 1B make this quite explicit. There is a great deal of clustering in the distribution of average wage increases. This suggests the presence of some outside wage rule, possibly tied to announced guidelines. Further, firms with larger employment adjustments have generally higher than average nominal wage increases. Firms requiring restructuring thus appear to force employment adjustments but these reductions also appear to sanction increased wage claims for remaining insiders. The extent to which this corresponds to a classical insider problem and/or end-game behavior is difficult to tell. But it does clearly indicate the weak governance exercised by the state holding company and the evidently weak association of firm level financial performance with wages.

Table 1A: AVRT portfolio; 1993

| Group | Type | Employment | Number |
|----------------|---------------------------------------|------------------|------------|
| Group 1: | Firms easily privatized | 18143 | 44 |
| Group 2: | Firms needing financial restructuring | 39942 | 52 |
| Group 3: | Firms needing other restructuring | 69664 | 33 |
| Group 4: | Firms to be liquidated | 96 | 6 |
| Group 5: | Firms that will not be privatized | 4643 | 12 |
| Group 6: | Firms partially privatized in 1993 | 28971 | 5 |
| Group 7: | Firms handed over to other agencies | 39 | 11 |
| Group 8: | Financial institutions | ? | 11 |
| TOTALS: | | 161318(+) | 174 |

Table 1B: Changes in Employment and Average Wages in 1993 (percent)

| | Change in Employment | Average Wage |
|--------------|----------------------|--------------|
| Total Sample | -10.2 | 29.2 |
| Groups 2 & 3 | -19.6 | 30.1 |
| Other Groups | -1.2 | 28.0 |

[Note: Total sample = 113; Groups 2 & 3 = 50; For total sample coefficient of variation for employment in 1992 and 1993 was 1.58 and 1.63; for wage bill 2.21 and 2.24 respectively.]

Figure 1A

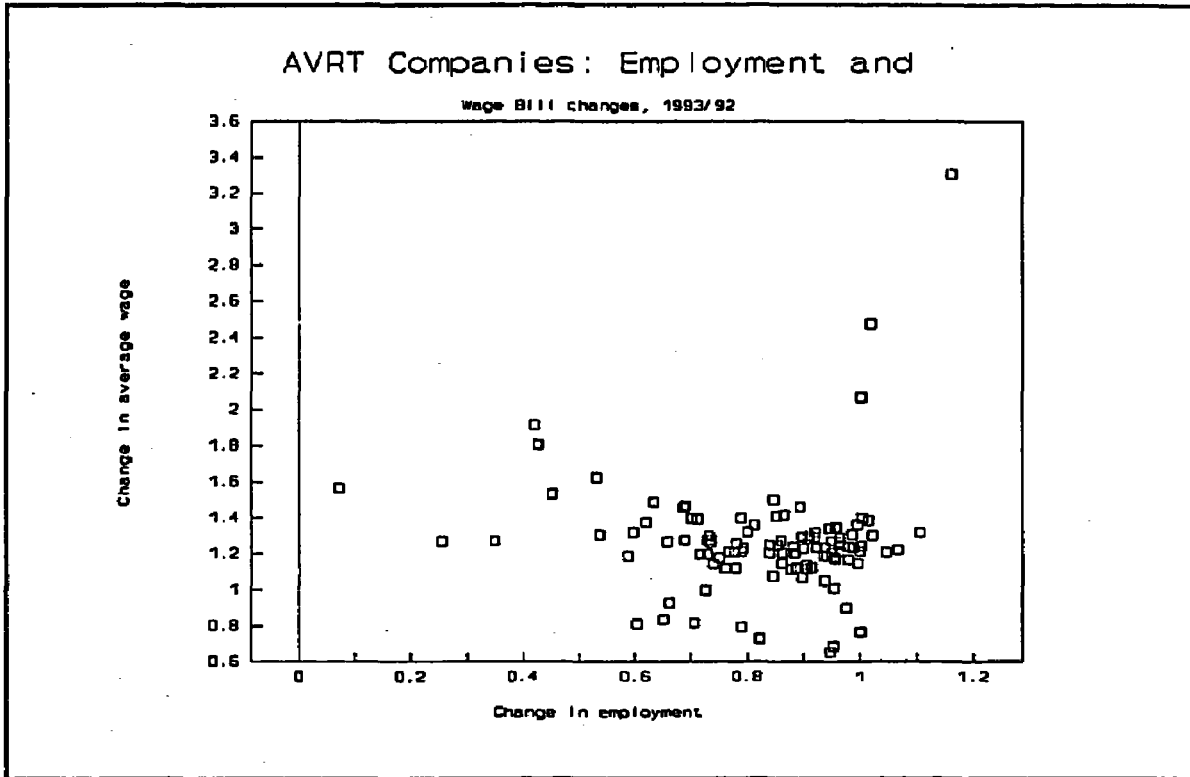
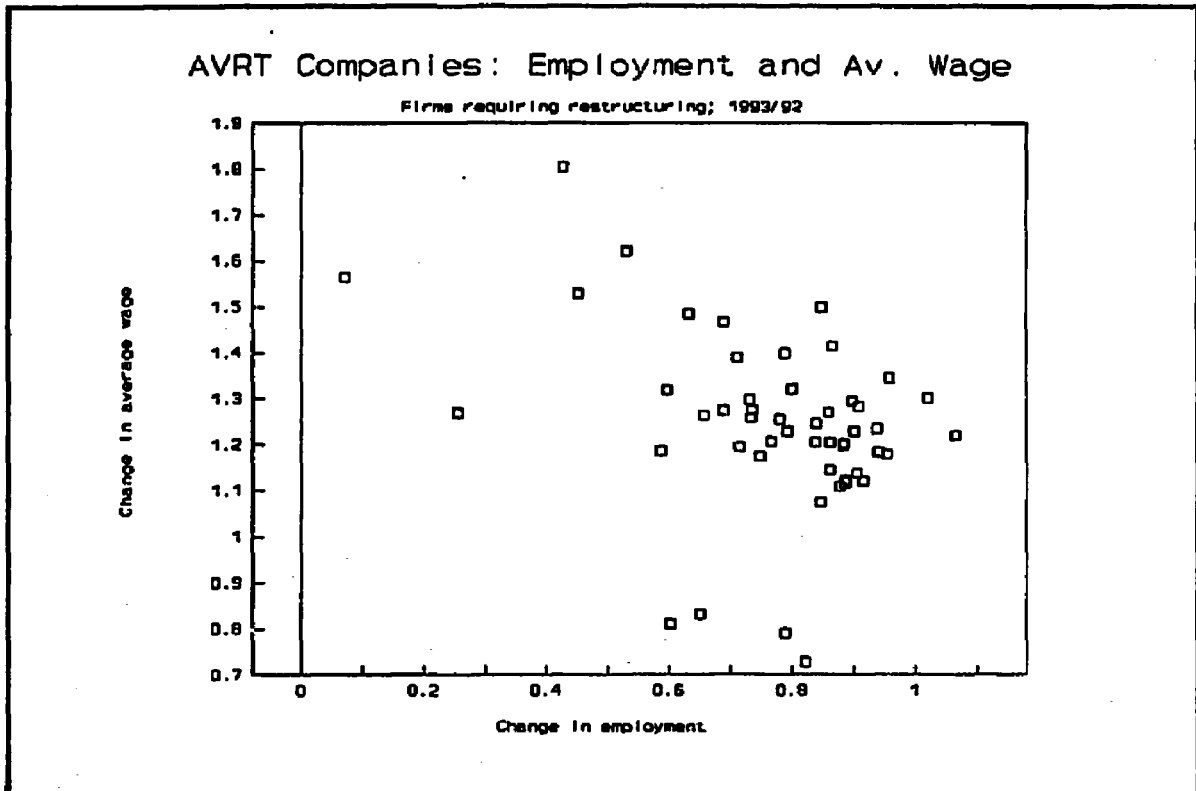


Figure 1B



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