Enterprises and Workers in the Transition: Econometric Evidence

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Abstract

The Central and East European (CEE) countries are in their sixth year of a dramatic transition from a centrally planned to a market-based system. In the first phase of the transition, most of these economies have achieved macroeconomic stabilization but also experienced a major decline in officially measured output and a slower but significant decline in employment. The attention has thus shifted to the ability of governments to check the rapid rise in unemployment, induce efficient behavior of firms, and improve the functioning of the infant markets. In particular, while a fundamental feature of the centrally planned economies was full employment, with state enterprises hoarding unproductive labor, a distinguishing feature of the transition has been the emergence of a double-digit unemployment rate, together with varying degrees of restructuring, privatization, and birth of firms. An understanding of these phenomena is essential for grasping the process of transition and formulating appropriate policies. In this paper, I provide a step in this direction by discussing some recent econometric evidence for CEE on (i) enterprise behavior (in the areas of restructuring and privatization, as well as employment and wage setting) and (ii) the flow of individuals from unemployment into employment.

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Abstrakt

Země střední a východní Evropy (CEE) se nacházejí v šestém roce dramatického přechodu z centrálně plánovaného ekonomického systému na tržně orientovaný systém. V první fázi přechodu dosáhla většina těchto ekonomik makroekonomické stability. Zakusila však také velký pokles oficiálně meřeného produktu i pomalejší, ale významný pokles zaměstnanosti. Pozornost se proto přesunula na schopnost vlád kontrolovat rychlý růst nezaměstnanosti, přimět firmy k efektivnímu chování a vylepšit fungování rozvíjejících se trhů. Zvláště, zatím co základním rysem centrálně plánovaných ekonomik se státními podniky, hromadícími neproduktivní pracovní sílu, byla plná zaměstnanost, výrazným rysem transformace se stala dvouciferná míra nezaměstnanosti, spolu s různícími se stupni restrukturalizace, privatizace a vzniku firem. Pochopení těchto jevů je nutné pro pochopení procesu transformace i pro formulaci vhodné politiky. Tato práce, která diskutuje nedávné ekonometrické výsledky pro CEE, týkající se (i) chování podniků (v oblasti restrukturalizace a privatizace a také v oblasti zaměstnanosti a určování mezd) a (ii) pohybu jednotlivců mezi zaměstnaností a nezaměstnaností, je dalším krokem tímto směrem.

1. Stylized Facts and Research Questions

1.1. Enterprise Behavior

The experience of the CEE countries in terms of enterprise restructuring and privatization has been diverse. From the start, some economies (e.g., those in Hungary and Poland) seemed more market-oriented than others. As central controls were lifted, some countries (e.g., the Czech Republic, Slovakia, and to a lesser extent Hungary) witnessed a major wave of breakups and spinoffs of the large state-owned enterprises (SOEs). Between 1990 and 1992, the number of state-owned industrial firms with 25 or more employees basically doubled in the Czech and Slovak Republics, while the average number of employees in these firms fell by over one half. The other CEE countries have not gone through a similar process. Two of the CEE countries, the Czech Republic and (the former) East Germany, have also massively privatized state property, while the others have been much slower in privatizing their state sectors.

The following questions thus naturally arise: (i) Given the different starting conditions, did the economic behavior of firms vary across the CEE countries before the transition and has it become more market-oriented and uniform as the reforms set in? (ii) did the restructuring through breakups and spinoffs have major economic effects? and (iii) do privatized and new private firms display a significantly different economic behavior than the SOEs?

1.2. Flows from Unemployment to Employment

Since 1990, all the CEE countries have experienced a rapid rise in unemployment despite the introduction of active labor market policies and major declines in labor force participation, real wages, and the generosity of unemployment benefits. By the end of 1993, all the CEE countries except for the Czech Republic recorded double-digit unemployment rates, and by 1995 over one half of the registered unemployed were estimated to have suffered unemployment spells of more than one year.

A key question is why the Czech unemployment rate remains under 4 percent. The answer lies in the dramatically (four to five times) higher outflow rate from unemployment in the Czech Republic compared to elsewhere in the region (see John Ham, Jan Švejnar and Katherine Terrell, 1995, or Tito Boeri and Stefano Scarpetta, 1995). This basic finding has focused the attention of researchers on the determinants of outflow of individuals from unemployment into employment.

2. Econometric Evidence on Enterprise Behavior

In “Breakups and Spinoffs of SOEs,” Lubomír Lízal, Miroslav Singer and Jan Švejnar (1995) examine industrial firms in the former Czechoslovakia during the major 1990–91 wave of breakups and analyze the effects of these breakups on seven indicators of enterprise performance: ratios of profit/employee, profit/assets, output/employee, output/capital, export/output, turnover/cost, and the average wage. Using data on enterprises that experienced spinoffs as well as those that did not, the authors regress each performance indicator on a number of explanatory variables, including one capturing the presence of a spinoff. They find that for most performance indicators the effect of the split on the performance of the master enterprise was negative, for some indicators it was insignificant, and in one case—the wage—it was positive. Moreover, by comparing means of the performance variables across the spun-off units and their (former) master firms after the split, the authors find no statistically significant difference. Thus, the analysis also provides support for the hypothesis that managers of the subsidiaries tended to break away from their master enterprises even if their unit and the master enterprise would not perform better as a result of the spinoff. The motivation of the managers of the subsidiaries was presumably driven by pecuniary and nonpecuniary benefits that they could derive from being top managers of a firm during privatization. Josef Kotrba (1995) in fact shows that privatization proposals of the top management were often accepted during the subsequent privatization process.

Employment Adjustment

Using panels of annual observations from the pre-transition and transition period, Swati Basu, Saul Estrin and Jan Švejnar (1995a,b) estimate dynamic employment equations on the population of industrial firms in the Czech Republic, Slovakia, and Poland. In order to detect behavioral changes occurring from the pre-transition period into the transition, the authors estimate the equation on consecutive two-year panels of data.

The estimates for Czech and Slovak firms in the pre-transition (1989–90) period show low short-run employment elasticities with respect to output and statistically insignificant short-run elasticities with respect to wages. In contrast, the pre-transition (1988–89) Polish firms displayed higher short-run elasticities of output as well as significant negative short-run elasticities with respect to wages. As the transition started, the short-run output and wage elasticities remained virtually unchanged in Czechoslovakia but became more pronounced in Poland. Finally, in the more mature phases of the transition, the elasticities went up in all three countries. Thus, before the transition as well as during the big bang, the Czech and Slovak firms conformed to the stereotype of stodgy SOEs operating in a planned economy, while the Polish firms displayed more market-oriented behavior. However, as the transition unfolded, the employment behavior of firms in all three countries became quite responsive to changes in output and wages.

Interestingly, ownership and the legal form (form of organization, registration, and commercialization) of the firm appear to have little effect on employment in any of the three countries. If anything, the few private firms in the data sets tended to increase employment relative to the state and cooperative enterprises. Finally, as Singer's (1995) analysis based on Czech monthly data indicates, the estimated output elasticities may be sensitive to the length of individual observations and the number of lags.

Wage Adjustment

The interesting question in this area is whether insiders tend to appropriate profits. In order to assess if wages are affected by enterprise performance, ownership, and legal form, Basu et al. (1995a,b) use their data to estimate wage equations that relate the average wage in the firm to various explanatory variables, including enterprise sales per worker (proxying the firm's ability to pay) and variables such as the ownership and legal form of the firm. The estimates indicate that the firm's ability to pay had a significant positive effect on wages in Poland both before and during the transition. In contrast, in the Czech Republic the effect was small before as well as during the transition. In Slovakia, the effect was small before the transition but increased thereafter. Before the transition, Polish wages thus contained a significant element of firm-specific rent sharing, while wages in Czechoslovakia were set much more uniformly. As the transition unfolded, Slovak firms approached the Polish rent-sharing model while the Czech firms retained only a limited link between sales per worker and wages. The estimates also indicate that ownership and legal form of the firm have little effect on wages in the three countries, *ceteris paribus*.

3. Econometric Evidence on Flows from Unemployment to Employment

In view of the high unemployment rate and long duration of unemployment spells in all the CEE economies except for the Czech Republic's, a significant amount of literature has emerged on the determinants of the outflows from unemployment to jobs.

3.1. Results from Micro Data

A number of studies report multinomial logit estimates of the probabilities that individuals with particular characteristics move within a given period from unemployment to employment.[1] Few studies provide proportional hazard function estimates of unemployment duration.[2] The basic results are similar across the CEE countries in all these studies and they resemble those found in OECD countries: unemployed individuals who are older, less educated, or handicapped have a lower probability of finding a job. The probability for women relative to men varies across the CEE countries, and single men tend to have a lower probability of finding a job than married ones.

In examining the effect of passive labor market policies (unemployment compensation) on the probability of the unemployed exiting into jobs, Ham et al. (1994) and John Micklewright and Gyula Nagy (1995) find that the effect is small in the Czech and Slovak Republics and Hungary, respectively. Ham et al. divide the unemployment compensation effect into that of benefits and entitlement and find that both effects are small. No studies have so far estimated the effect of active labor market policies (training of the unemployed, job referrals, etc.) on the exit probability.

Government policies could also be used to influence the demand in the economy. This area is worth exploring, since Ham et al. (1994) find that demand, as proxied by district and education-specific unemployment and vacancy rates, has a negative effect on unemployment duration.

Turning to the unemployment differential between the Czech Republic and Slovakia (and by implication the other CEE countries), Ham et al. (1995) find that two-thirds of the difference in the Czech and Slovak unemployment duration is attributable to differences in the estimated coefficients in the two hazards (responses of the two populations to various factors), one-third to differences in demand conditions in the Czech and Slovak districts and none to differences in the demographic structure.

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[1] See e.g., Lutz Bellman, Saul Estrin, Hartmut Lehmann, and Jonathan Wadsworth (1995) for East Germany, Derek Jones and Takao Kato (1993) for Bulgaria and Katherine Abraham and Milan Vodopivec (1993) for Slovenia.

[2] See Abraham and Vodopivec, 1993, for Slovenia, John Ham, Jan Švejnar and Katherine Terrell, 1994, for the Czech and Slovak Republics, John Micklewright and Gyula Nagy, 1994 and 1995, for Hungary, and Christina Lenkova, 1995, for Bulgaria.

3.2. Matching Function Estimates

On a more macro level, the efficiency of interaction between unemployed workers and firms is examined in the matching function literature which has developed rapidly for the CEE countries. This literature, surveyed recently in Daniel Münich, Jan Švejnar and Katherine Terrell (1995), follows the western matching function literature in assuming that the outflow from unemployment to employment is a function of the number of unemployed and the number of posted vacancies. The western literature frequently assumes that the matching function is Cobb-Douglas and finds that it displays constant returns to scale.

The CEE studies often find decreasing returns to scale and a small or insignificant coefficient on vacancies. The former finding suggests that the rise in unemployment and vacancies has been accompanied by a decreasing rate of job matches. The latter finding indicates that vacancies have a small or insignificant effect ("marginal product") on creating job matches. When the unemployment variable is subdivided into those with shorter versus longer spells, the shorter (longer) spell individuals have a significantly higher (lower) coefficient in the matching function.

Some studies augment the basic matching function with variables reflecting government expenditures on active labor market policies. Most results refer to the Czech and Slovak Republics and they suggest that the effect of government expenditures is non-negative. The estimates are sensitive to model specification in terms of the inclusion of control variables, treatment of dynamics, estimation methods, and changes of parameters during the different stages of the transition.

4. Conclusions

The econometric studies reviewed in this paper yield several important findings:

1. The major restructuring that took place in some countries at the start of the transition through breakups and spinoffs of enterprises had zero or a negative immediate effect on the performance of the master enterprises and spun-off firms. It may have benefitted workers in the master enterprises, but primarily it reflected a struggle for control by middle-level managers before privatization. An important by-product was the reduced vertical integration and greater competition.

2. Before the transition, Poland's economy was indeed more market-oriented than that of Czechoslovakia in that the estimated labor demand elasticities of Polish

firms were moderate, while those in the Czech and Slovak Republics were very small or nil. Moreover, the elasticities rose in Poland in the year of the big bang but remained virtually unchanged in the Czech and Slovak Republics. However, in all three countries the elasticities increased rapidly after the big bang, pointing to rapid marketization of firms later in the transition irrespective of the initial conditions.

3. The limited effect of central planning in countries such as Poland is also underscored by the finding that workers in Poland shared in rents of their firms already under central planning and continued to do so to a similar extent during the transition. In contrast, firm-specific rent-sharing was much more moderate in the pre-transition Czech and Slovak Republics, where central wage-setting was fairly effective. As the transition unfolded, rent-sharing remained moderate in the Czech Republic but increased dramatically in Slovakia.

4. Ownership of firms and their legal form (organization, registration, and commercialization) have virtually no effect on enterprise employment and wage behavior in the early stages of the transition. If anything, private firms tended to increase employment relative to the state and cooperative enterprises, *ceteris paribus*. This suggests that, rather than resulting in streamlining of the presumably excessive labor force, early privatizations tended to be carried out in firms where new owners had plans for expanding operations and the size of the labor force.

5. Micro data on unemployed individuals indicate that the negative effect of unemployment compensation on exit from unemployment into jobs is small and that the probability of exiting into jobs is positively affected by demand. Moreover, as in OECD countries, individuals who are older, less educated or handicapped have a lower probability of finding a job. The results suggest that the use of unemployment benefits to reduce people's opposition to the transition carries low cost in term of inefficiency (moral hazard) and that government policies geared to increase demand and assist target groups of unemployed may alleviate the unemployment problem.

6. The matching of unemployed workers and vacancies displays decreasing returns to scale, thus pointing to rising inefficiency in the matching process as unemployment rose in the CEE countries. The result contrasts with the constant returns effect found in western economies and suggests that policy makers in the CEE countries need to pay special attention to informational and other labor market imperfections. This conclusion is also underscored by the fact that, unlike in western economies, vacancies in CEE tend to have a low marginal effect on

matching.

Overall, the analyses of enterprise behavior, flows of individuals from unemployment into employment and matching of the unemployed and vacancies suggest that policies stimulating aggregate demand (e.g., through the exchange rate) might have a strong effect in the labor market by increasing the labor demand of firms and flows of the unemployed into jobs.

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