

Symposium on *Job Creation and Job Destruction in Transition Countries*¹

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1. Introduction

The transition from a centrally-planned to a market economy entails large scale reallocation of labour. Under communism, planners emphasized rapid industrialization that lead eventually to an economy with an inflated industrial sector. At the same time services, considered 'unproductive', existed only in a rudimentary fashion. A centrally-planned economy was also supply-constrained, with allocative decisions very often based on political expediency rather than on the relative scarcity of resources. Once prices were liberalized and market forces allowed to act, consumer demand and competitiveness became the constraining factors rendering many products and firms non-viable overnight. As a rational price structure started to take hold, many of the production processes that were developed under central planning became obsolete and economically non-viable.

Economic theory predicts that the changes arising from the collapse of the centrally-planned system and the emergence of an economy driven by market forces will lead to job destruction and job creation on a massive scale. In addition, the literature on gross job flows in mature capitalist economies highlights the

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extent, volatility and heterogeneity of these flows on the background of rather modest net changes in employment. Even in mature market economies, the process of growth and change is a noisy one as outputs and inputs are continuously reallocated across businesses at a high pace. This literature has enabled us to better understand how firms adjust their employment levels over the business cycle, what drives job reallocation in the presence of technological shocks, and more generally the connection between the process of reallocation and growth and productivity. The analysis of job creation and job destruction in transition countries, on the other hand, allows one to get behind the large net employment changes across sectors and labour market states, which one observes in the first years of transition in these countries (Boeri and Terrell, 2002). The analysis can shed light on the adjustment process in their labour markets, highlighting the magnitude, the heterogeneity and the volatility of job reallocation as some sectors contract and other sectors expand; as new firms enter industries, while established firms either exit or restructure their economic activities. It seems, therefore, natural that researchers have started to investigate gross job flows in transition countries leading to a small but growing literature in this area.

2. What do we know about job flows in transition? The main stylized facts²

Before we discuss the main stylized facts, we briefly define the job flow rates used in the literature. Gross job creation is defined as the sum of all employment gains in all expanding firms including entering firms, while gross job destruction is the sum of all employment losses in all contracting firms including exiting firms in an economy or sector.³ Usually job destruction is expressed as a positive number so that net employment changes are measured as the difference between gross job creation and destruction. These job flows can be expressed as rates by dividing them by the total amount of jobs available in an economy or sector. The sum of the job creation rate and the job destruction rate is the job reallocation rate, while the difference is the net aggregate employment growth rate that can be observed in aggregate statistics. A measure of churning or reallocation of jobs, which is over and above the amount of job reallocation necessary to accommodate a given net aggregate employment growth rate, is the excess job reallocation rate. It is defined as the job reallocation rate minus the absolute value of the net aggregate employment

² In the brief summary that follows, we do not give an exhaustive review of the literature but instead only cite papers that help illustrate the key findings and issues.

³ Ideally the unit of observation is an establishment rather than a firm but establishment level data are not as readily available.

growth rate. This rate is interpreted as a measure of churning or reallocation of jobs within an economy or sector that abstracts from the impact of net growth.⁴

In addition to attempting to describe the patterns of job creation and job destruction *per se* in transition economies, there is of course an interest in learning if different patterns exist across regions and what theoretical or institutional explanations there may be for these patterns. As we describe the stylized facts on job flows, we will seek to distinguish between Central and Eastern Europe (CEE) and the Commonwealth of Independent States (CIS) or Russia. The adjustment paths of these two regions has become the subject of a large literature which is trying to explain why the CEE experienced a larger decline in employment relative to output than Russia; we will focus on what it means for job creation and job destruction patterns.⁵

The first stylized fact is that the patterns of job creation and job destruction vary over the transition period. In early transition, job destruction clearly dominates job creation, while an economy in a later stage of transition roughly destroys as many jobs as it creates (although by construction any economy with positive net employment growth rates has the average rate of creation exceeding the average rate of destruction). Haltiwanger and Vodopivec (2002) for example show that in the fast reforming Estonian economy, the job destruction rate exceeded 10 percent while the job creation rate was substantially lower in the early nineties. By 1995 the two rates were roughly equal implying a level of job reallocation of about 20 percent, which is similar to the level found in US manufacturing. This convergence of job creation and destruction in the later stages of transition is confirmed in the studies of Faggio and Konings (2001), who analyse job flows of the faster reforming economies of Estonia and Poland and the more slowly reforming Bulgaria, Romania and Slovenia, and the study of Jurajda and Terrell (2002) who compare job creation and job destruction in Estonia and the Czech Republic. The lesson we can draw from these findings for CEE countries is that transition economies, whether they embark on a course of rapid or slow reform eventually show job reallocation rates similar to those in mature capitalist economies and roughly equal creation and destruction rates. In contrast, in Russia we find job destruction rates continue to be much larger than job creation rates well into the transition. Acquisti and Lehmann (2000) show this for manufacturing, construction and trade sectors in 1997.

A second important finding, mirroring the patterns of job flows, is the large increase in worker flows as transition begins (see e.g., Haltiwanger and Vodopivec, 2002 and Jurajda and Terrell, 2002). In most countries, the increment in worker

⁴ Some caution needs to be used in interpreting excess job reallocation at high frequencies (e.g., annual data). The reason is that since reallocation takes time it may be that in period $t - 1$ job destruction is high and period t job creation is high. Overall excess reallocation over the two periods may be high but measured excess reallocation at the annual frequency might be low. For an exhaustive discussion of these job flow measures, see Davis and Haltiwanger (1992, 1999) and Davis, Haltiwanger and Schuh (1996).

⁵ See for example Boeri and Terrell (2002), Earle and Sabirianova (2002), Lehmann, Wadsworth and Acquisti (1999), and Svejnar (2002).

flows is dominated by the separation rate in the early stages of transition, while the hiring rate outpaces the separation rate in the latter stages. It is also noteworthy that a large part of separations and hirings are driven by job destruction and job creation, suggesting that a major factor underlying worker mobility is that workers are moving because the allocation of jobs across businesses is changing as opposed to workers reallocating themselves for a given allocation of jobs across businesses. A related and interesting question is the extent to which this finding suggests that a large part of the worker flows might not be of a voluntary nature. Jurajda and Terrell (2002) find that in the Czech Republic the share of voluntary quits is double the share of involuntary quits whereas in Estonia the shares are equal (over the 1990–95 period for both countries).

The literature has established that small and new private firms contribute disproportionately to job creation while state-owned firms are responsible for most of the job destruction. There is evidence for Bulgaria, Hungary and Romania (Bilsen and Konings, 1998), the Czech Republic (Jurajda and Terrell, 2002), Estonia (Haltiwanger and Vodopivec, 2002), and Poland (Konings, Lehmann and Schaffer, 1996). Konings, Lehmann and Schaffer (1996) show that after controlling for size, region and industry, new private firms have, on average, a much higher employment growth rate than state-owned and privatized firms. It appears that the same inverse relationship between firm-size and job reallocation has been found in Russia where new private firms show superior employment growth (Acquisti and Lehmann, 2000).

It is noteworthy that Haltiwanger and Vodopivec (2002) and Jurajda and Terrell (2002) arrive at the conclusion that virtually all job creation in Estonia and the Czech Republic during the first half of the 1990s came from the private sector (and the new private sector in the case of the Czech Republic), a finding quite in contrast to the results of the other two cited studies. These other studies, while underlining the superior performance of the private sector with respect to job creation, do establish that a large part of the jobs created in the economy came from the state sector in the early phases of transition.⁶ The superior growth performance of new private firms seems to raise important policy questions regarding the development of an economic and legal environment which is conducive to start-ups.

A fourth stylized fact in the cited literature is the tremendous heterogeneity of job creation and destruction within narrowly defined sectors. The clear message from formal exercises in Haltiwanger and Vodopivec (2002) and Faggio and Konings (2001), which decompose the excess job reallocation rate, is that the vast majority of job reallocation at any point in the transition is not *across* sectors but *within* sectors.

⁶ For example, Haltiwanger and Vodopivec (2002) find a job creation share of 0 in the state sector of manufacturing, while Konings, Lehmann and Schaffer (1996) report this share to be 0.49 in the Polish case. Jurajda and Terrell (2002) find an average job creation rate in the old sector (state-owned plus privatized firms) of 0.01 in Estonia and 0.005 in the Czech Republic for the whole economy during the first three (five) years after transition.

So, while some industries contract and others expand their employment shares, most of job reallocation takes place within industries. Even so, the pace of between industry reallocation is higher in the transition economies than in mature, developed economies. For example, the Faggio and Konings (2001) study suggests that between industry reallocation accounts for up to 29 percent of excess job reallocation in some countries, a percentage which is high by Western standards.⁷

A small literature focuses on explaining job flow patterns in transition economies (and their differences across the two large regions) with theoretical models and institutional knowledge. The most influential strand of models are those of the theory of the Optimal Speed of Transition (OST), which emulates the post-soviet economies to model the reallocation of labour from the inefficient old state sector to the newly established more efficient private sector (e.g., Aghion and Blanchard, 1994; Castanheira and Roland, 2000). Garibaldi and Brixiova (1997) extend this model to analyse the effects of labour market institutions on job reallocation from the state to the private sector. They find that institutions such as the minimum wage and unemployment benefits are important predictors of the speed and the magnitude of inter sector job flows. They claim these institutions can also explain the difference in job flow patterns in CEE and the CIS countries. However, while the authors cite some empirical evidence, their study is primarily a theoretical exercise. Recently, Boeri and Terrell (2002) have compiled more evidence, from all of the CEE and some of the CIS countries, which supports the argument that the different levels of expenditure and structures of non-employment benefit between these two regions explain their different reallocation patterns.

Jurajda and Terrell (2002) have used the predictions of two macroeconomic models of reallocation – Aghion and Blanchard’s (1994) Optimal Speed of Transition (OST) vs. Caballero and Hammour’s (1996, 2000) theory of reallocation with frictions – to evaluate the reallocation patterns in the Czech Republic and Estonia, which had dramatically contrasting approaches to the destruction of the communist economy. They find that these two bodies of macroeconomic theory are useful in helping us understand the process and the policies needed in transition economies. The OST single dimensional characterization of the reallocation process is correct – jobs are being destroyed in the obsolete state enterprises and created in the small new private firms (i.e., job destruction in the new sector and job creation in the old sector are negligible). Both countries, under some assumption fit the dynamic pattern of the OST models: Estonia appears to be moving up the inverted U-shaped curve between job creation and unemployment whereas the Czech Republic appears to be at the top of the curve. However, this does not mean the Czech Republic was following the optimal path, in terms of maximizing the net present value of output – the optimality criterion of the OST models. Following OST logic, the Czech process may have been sub-optimal in that it may have

⁷ Davis and Haltiwanger (1999) show that between industry reallocation accounts for only about 10 percent of excess reallocation even using very detailed industry definitions (e.g., 4-digit).

been too slow and the Estonian process may have been optimal. Nevertheless, the authors note it only took the Czechs two more years to obtain the same amount of reallocation as the Estonians, with a much lower level of unemployment.

With respect to the Caballero and Hammour (1996) model, Jurajda and Terrell (2002) find that the Czech Republic's pattern of job destruction and job creation is highly synchronized while the Estonian pattern is one of de-coupling at a relatively high level of reallocation. They draw the lesson that even in an environment with contracting frictions, such as seen in the Czech Republic, one can have synchronization with a low rate of reallocation when there is support for job creation. Their study therefore points to the importance of the right policy environment for promoting new start-up firms.

Johnson, McMillan and Woodruff (2000) look at several potential forces driving growth in the new private sector, in particular property rights and external financing. They find that employment growth of new private firms is more dynamic in CEE compared to the CIS because of more secure property rights in the former, while external finance is found to be a less important source of growth. This result ties in with the widely held view among students of transition economies that differences in the legal infrastructure mainly explain the diverging paths of CEE and CIS transition countries.

Finally, Brown and Earle (2002a) have tested whether job reallocation is enhancing productivity as predicted by theory. Using data of the 'traditional' manufacturing sector⁸ in Russia spanning the years 1985–99, they find a negligible association of job flows with productivity before 1992, which turns strongly positive after the beginning of reforms. This nexus between job reallocation and productivity is found to hold for job flows within industries and between industries. They take their evidence to show that even as the Russian manufacturing sector goes through a difficult period of downsizing, the job reallocation process has taken such a form as to make job destruction more creative. In a comparative study of Russian and Ukrainian 'traditional' manufacturing (Brown and Earle, 2002b), the authors demonstrate that even in Ukraine, where reforms have been extremely limited in the nineties, job reallocation has enhanced productivity. However, this effect manifested itself more rapidly in Russia, where reforms were more widespread and consistent.

3. Data and econometric issues in connection with the cited literature

The data analysed in the above cited papers are of three types: census or registry data of firms or establishments, sample data of firms and sample data of households. All of these datasets have their limitations.

⁸ A 'traditional' sector consists of firms or establishments that already existed in pre-transition times. Hence, the Russian 'traditional' manufacturing sector excludes new private firms.

The census/registry data used, for example, by Brown and Earle (2002a, 2002b), include only 'traditional' establishments and hence do not allow them to analyze the new private sector. The Polish census/registry data used by Konings, Lehmann and Schaffer (1996), on the other hand, includes new private firms but excludes micro firms and hence, presumably the most dynamic part of the new private sector. The Polish dataset has the additional limitation that it covers the universe of manufacturing *firms* and not of *establishments*. Calculations based on firm level data understate job flows since they do not incorporate job reallocation between plants in the same firm. Data at the establishment level in most circumstances form a better basis for an accurate picture of job reallocation in an economy or sector.

However, the data provided by the Russian Statistical Office 'Goskomstat' on establishments also have serious limitations. Over the nineties serious attrition has made the data less than universal even as far as 'traditional' firms are concerned. One can raise the question as to which biases this may introduce in these data. Another worrisome feature is that the widespread practice of forced and prolonged unpaid leave might distort the employment measure at the establishment level.

A second type of dataset consists of samples of relatively large firms. One source is the Amadeus database, which is also restricted to firms above a certain size threshold, but is supposed to be a random sample of the universe of the larger firms. While the truncation of a substantial part of the size distribution is a serious problem, the Amadeus datasets have the advantage that they cover both manufacturing and non-manufacturing industries, thus allowing inferences about economy wide job reallocation.

Some of the above cited papers use small samples of firms (e.g., Bilsen and Konings, 1998). These data have the advantage that they have more information about the firm than the Amadeus and the census-type data. Their great disadvantage is, however, that it cannot be established how representative these samples are either of the economy as a whole or of a sector.

However, the data sources that we discussed thus far have deficiencies at a more fundamental level, however. First, it is virtually impossible to identify entry and exit of firms in these data. For example the unique identifier of a defunct establishment can reappear in the Russian and Ukrainian manufacturing data and can be given to a new entrant or to a spin-off of the defunct firm. Second, there is a strong survivor bias in these data. For example, new private firms in the data used by Konings, Lehmann and Schaffer (1996) are those firms that have survived the new rough economic climate, while all those start-ups that have failed are not in the dataset. As discussed by Konings, Lehmann and Schaffer (1996), this survivor bias might bias the growth performance of new private firms upward. Third, most of these datasets have a short time dimension and apart from the Russian and the Polish data used by Brown and Earle (2002a) and Konings, Lehmann and Schaffer (1996) do not cover both pre- and post-transition periods. Finally, these datasets, while having a reasonable array of characteristics of firms/establishments, do not offer much on employee characteristics, worker flows and unemployment flows.

Information on the latter elements is, however, essential if one wants to get a complete picture of job reallocation as transition unfolds.

Sample data of households do not have this last deficiency. Estonian and Czech household survey data are used by Haltiwanger and Vodopivec (2002) and Jurajda and Terrell (2002) in their analyses of economy-wide and within and between sector job reallocation. Both these surveys have very detailed information on the reasons why someone left a job, which enables researchers to construct reliable job destruction rates and, indirectly, creation rates. The job flow measures rely on retrospective data to a large extent. This does not seem to pose a major problem in the case of these two surveys, since according to some studies recall bias seems to be minimal in these datasets. What is also clear is that the main job and worker reallocation patterns reported by Haltiwanger and Vodopivec (2002) and Jurajda and Terrell (2002) cannot be driven by recall error. The main advantages of these household survey data are that they cover all sectors of the economy and all labour market states enabling researchers to trace the evolution of worker and job flows and their interdependence. They also contain wages, which make it possible to analyse the correlation of job reallocation and productivity changes.

While the discussed firm and household level datasets provide rich information on the process of workers and job reallocation, they are far from ideal. A matched employer-employee dataset with a wide array of establishment and employee characteristics, as well as information on productivity, profitability, capital investment and reallocation, wages, worker and unemployment flows comes close to such an ideal dataset. It might be important to augment such a dataset with indicators of product, credit and labour market structures and policies, as these may vary across time and sector and as some of the policies may be applied differently to various firm types.

The limiting nature of the data used in the cited studies also induces some serious econometric problems. We mention here just a few.

The growth equations reported in many of the studies relating ownership type and growth performance often suffer from endogeneity problems. As discussed by Konings, Lehmann and Schaffer (1996), privatized firms might be selected into a privatization programme because of better performance expressing itself in superior growth performance. Regressing employment growth on ownership dummies will, therefore, not establish a causal effect of privatization on performance. In addition, data limitations often lead to the situation that those studies that employ instruments in order to control for this endogeneity problem cannot test the appropriateness of their instruments.

Those studies that use small samples or the Amadeus samples treat these data as if they were universal. Job flow measures calculated on the basis of these samples are, however, estimates. How precisely these measures are estimated is not explored in these studies and the calculated job flow measures are treated as population outcomes. This might lead to incorrect inferences especially if one compares the calculated job flow measures across sectors or firm types. Bootstrapped

standard errors are easily computed and, under the assumption of random sampling, can establish the precision, with which job flow measures are estimated. One of the papers in this symposium shows that differences in magnitudes of job flows across sectors can, at times, be entirely attributed to sampling error.

Another limitation of the empirical literature on job flows is one that is common in empirical research – the lack of highly relevant instruments to identify causal or structural relationships. This common problem is somewhat more problematic and difficult to address in the transition economy setting since the sample period for most papers is limited especially on the time dimension. Since a common procedure (e.g., estimation via GMM) is to exploit the time series dimension of the data (e.g., using lagged variables as instruments) this is more difficult in a transition economy setting.

Finally, comparing job reallocation across time, sectors and countries might be seriously flawed by measurement problems arising, for example, from the incidence of forced unpaid leave and the existence of a large shadow economy, as these might vary across the indicated dimensions. For example, in Ukraine, forced unpaid leave was very widespread in the first half of the nineties but less virulent at the end of that decade. Also, a comparison of job reallocation in Russia and Ukraine might be somewhat misleading if it ignores the larger shadow economy in the latter country.

4. The symposium papers

Whatever the deficiencies of the discussed studies, they have provided additional data points to the general literature and have put forth important empirical evidence, putting the debate on transition on a more secure footing. However, since they have done this with limited and limiting data sources, they have not been able to contribute much to the general literature methodologically.

Some of the transition countries have undergone market-oriented reforms for a decade and some excellent data sources have come on stream. It should be, therefore, possible to embed the analysis of worker and job flows more into the general literature on worker and job reallocation. Furthermore, in some contexts transition economies furnish something close to natural experiments, which can be exploited to test issues of wider interest. The papers in this symposium try to make a start with respect to this wider research agenda.

The first contribution is by David Brown and John Earle on 'The reallocation of workers and jobs in Russian industry: New evidence on measures and determinants.' Their study uses panel data for the years 1990–99 from a survey of roughly 500 industrial firms selected through national probability sampling. The data, which include observations on new private firms, are of a quality that allows the authors to set themselves a number of important tasks.

First, they examine several crucial measurement issues related to the timing and definition of employment and to firm boundaries that are often blurred in

census-type data. They find that these measurement issues are relatively unimportant. The reliability of the magnitudes of job flows as they have been established in previous studies using the more problematic census-type data seem to be confirmed by their estimates of job flow rates over the nineties based on this random sample of industrial firms.

As their sample data contain very rich information on firm characteristics they are also able to relate worker and job flows to firm and environmental characteristics, including age, ownership, unionization, product and labour market concentration, and adjustment costs. Their analysis shows that new firms account for a much larger share of job creation relative to their share in industry, but they still represent a tiny fraction of industrial employment. Significant differences are found in some, but not all, mean flow rates across firm age categories. Product market dispersion and managerial and dispersed outsider ownership are associated with greater worker churning, while unionization and concentrated outsider ownership are associated with less. They find little evidence that firms have become more sensitive to adjustment costs on average, but some categories of firms are significantly more sensitive than others. In particular, private ownership and product market dispersion are associated with greater sensitivity.

The second contribution by John Haltiwanger and Milan Vodopivec discusses 'Worker flows, job flows and firm wage policies: An analysis of Slovenia.' This paper exploits rich longitudinal employer-employee matched data for Slovenia. The data are based upon administrative data so that job and worker flows for all sectors are calculated in an integrated fashion. This paper also exploits the information on wages that are available in the data. One of the institutional factors that undoubtedly influences the worker and job flows is the determination of wages. As emphasized by Bertola and Rogerson (1998), the institutions that affect quantity variation (e.g., employment protection legislation) are likely to interact with institutions that affect wage variation (both across workers and across time). Bertola and Rogerson argue that greater compression of wages will lead to higher job flows since wage inflexibility implies greater variation in quantities (i.e., labour adjustment).

Haltiwanger and Vodopivec investigate these possible links between firm wage policies and job flows using data for Slovenia. They provide a detailed description of the evolution of wage determination over the transition in Slovenia. Pre-transition wage schedules were set by the state and the post-transition system is still influenced by such schedules, which are now issued as guidelines. Specifically, as the transition has proceeded, wage schedules by task and skills are still provided as guidelines but firms are allowed to set wages that vary from such schedules depending on the 'success of the worker or the success of the firm'. Haltiwanger and Vodopivec show that by the late 1990s there are considerable differences in wage policies across firms in terms of both the average and the dispersion of wages (even after controlling for worker characteristics such as experience and education). Moreover, they find that there is a strong relationship between idiosyncratic

aspects of firm wage policies and the worker and job flows. For example, they find that firms with more compressed wages have greater job flows consistent with the Bertola and Rogerson hypothesis. While the empirical analysis is not structural and hence does not identify causal relationships, the findings in this paper are striking in that they suggest a clear link between the patterns of the flows across firms and sectors and the nature and determination of wages across firms and sectors.

The third contribution, by Štěpán Jurajda and Katherine Terrell on 'Job growth in early transition: Comparing two paths', addresses a gap in the empirical literature on our understanding of the evolution of small start-ups, the engine of growth. Specifically, Jurajda and Terrell examine the growth and characteristics of this new sector in the Czech Republic and Estonia, which had very different approaches to the destruction of the old state sector. They hypothesize that the more rapid job destruction, higher unemployment rates and lower unemployment benefits in Estonia as compared to the Czech Republic would affect the rate of growth and characteristics of the jobs in start-ups. The authors take advantage of highly comparable retrospective employment history data drawn from large representative samples of the population in these two countries.⁹

Their first finding is that there is great heterogeneity in the patterns of new sector job creation both across industries within each country and within one industry between the two countries. However, they do find that the rate of reallocation is higher (about twice as high) in Estonia than in the Czech Republic. Second, they are also surprised to find that start-ups grow in importance not only in expanding industries but also in contracting ones. They find that the industrial composition of start-ups is strikingly similar in the two countries given large differences in capital constraints. Jurajda and Terrell argue that there is a convergence to 'western' industry firm-size distributions as the share of smaller firms rises in all industries. Third, they find job growth within industries is quantitatively more important than job growth due to across-industry reallocation. Although consistent with the literature, it is nevertheless surprising, given the amount of industrial reallocation needed in transition economies, given the initial over-employment of resources in agriculture and manufacturing. Fourth, they ask whether differences in the transition paths of these two countries and differences in the extent of voluntary versus involuntary separations would not affect the demographic composition of workers in start-ups in these two countries. Overall, the data imply little differences in the two countries: in both, males, younger workers and those with secondary education are more likely to work in start-ups. Fifth, they ask whether wage differentials between the old and the new sector would not be smaller in Estonia (due to low unemployment benefits and more involuntary quits) than in the Czech Republic. They indeed find that the wage gap is smaller in Estonia. They

⁹ In Estonia they have usable data on 7,928 workers and in the Czech Republic they have employment histories on 4,786 individuals.

also find that the new sector provides a larger fraction of low-wage jobs in Estonia. However, the extent of this phenomenon is surprisingly small given the low level of unemployment benefits in Estonia.

Overall, the similarity of the patterns across the two countries is striking in terms of the structure of new-to-old reallocation with respect to industries, demographics, or wages. It appears as if the difference in macroeconomic policies was mainly manifested in the aggregate level of unemployment and wages, but not in the composition of the new sector.

The fourth paper by Jozef Konings, Olga Kupets and Hartmut Lehmann on 'Gross job flows in Ukraine: Size, ownership and trade effects' documents job reallocation in the manufacturing and non-manufacturing sectors for the years 1999 and 2000, when Ukraine emerged from a decade of economic stagnation. The evidence is based on a sample of roughly 2200 establishments extracted from the Amadeus database.¹⁰ The study also tries to disentangle the effects of size and ownership on employment growth and job reallocation. The authors' first important finding is that controlling for size, new private establishments have on average much stronger employment growth and also reallocate more jobs than state-owned and privatized establishments, a finding in line with most of the literature.

The most important contribution of the paper is the exploration of the effect of changing trade patterns on employment growth and job reallocation at the establishment and industry level. Ukraine provides something close to a natural experiment as it opened up to the world economy after independence in 1991. Before transition, trade to the EU and the West in general was miniscule but rose dramatically over the nineties. However, this opening up to Western economies has varied substantially across industries in the trade sector, some of which opened up dramatically to the EU and the West over the nineties, while others remained relatively closed. The authors take advantage of these different trends in trade flows and construct several indices of relative openness of an industry, which proxy for import competition and competition in export markets. They then investigate whether differences in the openness of an industry, i.e., differences in competitive pressures, translate into different employment growth and job reallocation at the establishment and industry level. Given the large changes in trade flows over the nineties in Ukraine the empirical analysis might contribute to the on-going debate about the effect of globalization on domestic labour markets.

The authors' results, which should be treated as exploratory given the limited data at their disposal, show that both employment growth and job reallocation at the establishment and two-digit industry level are affected by strong exposure to import competition and product market competition in export markets. Establishments and industries that face more competition of either type show superior employment growth, while job reallocation and greater trade exposure are

¹⁰ 98 percent of the firms in the sample are single plant firms, i.e., establishments.

negatively correlated at the establishment level and positively at the industry level. These effects are more pronounced when the authors consider trade flows to the world at large and to the EU than when the analysis is based on trade flows to the CIS.

The final contribution is by Frédéric Warzynski on 'The causes and consequences of sector-level job flows in Poland'. The author explores sectoral-level job flows for Poland to investigate whether the creative destruction process is associated with higher productivity growth. The basic idea is that productivity growth may inherently involve reallocation as when new ways of doing business are adopted this may require entry and exit of businesses as well as reallocation of activity across existing businesses. Such effects might stem from vintage effects (i.e., perhaps new businesses are in a better position to adopt new technologies) and/or from the trial and error process of technical change (where technical change is broadly defined). The recent empirical literature on mature, developed economies has shown that reallocation effects are quite important in accounting for productivity growth (a survey of this evidence is provided in Davis and Haltiwanger, 1999).

Warzynski investigates the link between productivity dynamics and job flows while also examining the connection between market structure and the pace of reallocation. His methodology is to use variation in productivity growth, reallocation, and market structure and institutions at the sectoral level for Poland. While the time period and sectoral variation in the data are limited, he finds some intriguing and striking results. A competitive market structure, measured via import competition and concentration, is associated with a higher pace of reallocation. Moreover, higher job reallocation is associated with higher labour productivity growth under some of the empirical specifications considered. The paper also contributes to this literature by highlighting some of the difficult identification issues that must be confronted in this literature. For example, in using sectoral variation, controlling for unobserved factors that are sector specific and that may be influencing the reallocation and productivity dynamics is important but inherently difficult given the limited instruments that are available. This paper explores alternative estimation methodologies that can be used to address these issues and discusses associated limitations.

5. Where should we go from here?

The papers in this symposium as well as the burgeoning literature on job and worker flows in transition economies provide rich insights into the transition economies. They help us to understand the dynamic nature of the reallocation process and the connections between institutions and labour markets in that process. However, these flows are of interest beyond understanding labour market adjustment. As emphasized in the growing literature (and in some of the papers in this

symposium) the flows are part of the on-going creative destruction process that is ubiquitous in market economies. Recent evidence has suggested that variation in the growth of output and productivity across market economies is closely linked to the efficiency of the on-going reallocation process underlying the flows.

Where does this imply we should go? The literature needs to push towards the development of datasets that permit examination of the flows in the context of the dynamics of output, capital, productivity and entry and exit of firms on the firm side and the dynamics of wages, employment, unemployment and labour force participation on the worker side. If data on the flows can be integrated with other relevant micro and macro data in this fashion, this literature can be useful for not only understanding the dynamics of the labour market but also the dynamics of all aspects of the economy. Moreover, such an integrated data approach will enable the literature to explore the inherent policy tradeoffs in market economies in a much richer fashion. Indeed, the flows are at the heart of fundamental policy issues. An economy must be sufficiently flexible and efficient to permit the reallocation of resources to their highest valued use in a timely fashion in order to grow. But such flexibility may imply, at least for workers, job insecurity, unemployment and wage inequality. Developing the data infrastructure, the theoretical models and the empirical analysis to address these normative and positive issues will keep researchers busy for years to come.

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