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ABSTRACT

Convergence in Institutions and Market Outcomes: Cross-Country and Time-Series Evidence from the BEEPS Surveys in Transition Economies

This paper uses the BEEPS firm-level data to study the process of convergence of transition countries with developed market economies. The primary focus of the study is on competition and market structure, finance and the structure of lending to firms, and how firms respond to the economic environment by restructuring; we are able to do this because the BEEPS cover thousands of firms from virtually all transition countries over a long time period (1996-99 through 2002-05), as well firms from developed market economies, thus providing a set of natural benchmarks. We find substantial evidence of convergence of transition countries with developed market economies in a number of dimensions. The pattern of growth at the country, sectoral and firm level shows rapid growth of the new private sector and of the micro- and small-firm sectors, with the size distribution of firms moving towards the pattern observed in the BEEPS surveys of developed market economies. Our interpretation of the evidence on competition is that there is an initial move by firms into niches to exploit local market power, and later in transition entry and domestic competitive pressure increases. In finance, the increasing reliance on retained earnings in transition countries reflects a maturation of the sector as new firms come to rely less on informal and family sources of finance. The scale of restructuring and innovation activity is as high or higher in transition economies as in developed market economies. Interestingly, we find evidence of an inverse-U shape pattern, with the peak of restructuring activity taking place in 2002, the middle of the period analyzed. Throughout, the regional patterns suggest greater convergence in the transition countries that joined the European Union in 2004 than in the other, lower-income transition economies.

JEL Classification: G32, L11, O12, P31

Keywords: transition, convergence, market structure, competition, enterprise finance, enterprise restructuring

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I. Introduction: motivation and analytical framework

To use the terminology of classical growth theory, the period of socialism put the transition countries (TEs) off the path of "convergence" with, or "catching up" to, the mature or developed market economies (DMEs). The simplest illustration of this is the dynamics of per capita output during the socialist period in two transition countries bordering Germany. In 1938, Poland's per capita GDP was considerably below that of Germany and hence well behind the "technological frontier", whereas GDP per capita in Czechoslovakia was the same or higher that of Germany and hence close to the frontier. By the late 1980s, productivity and living standards in both countries were lagging far behind their Western neighbor. It was the underperformance of the centrally planned economies, including a virtual stagnation in the 1980s, that motivated the dissatisfaction with central planning and market socialism and the move from plan to market in Central and Eastern Europe and the former USSR. The expectation was that that the return to the market would put these countries onto a growth path that would lead eventually to convergence with the mature market economies operating at the world technological frontier.

This paper is about convergence of the transition countries with developed market economies. The term "convergence", however, has several distinct meanings. The above example refers to convergence as bridging the gap in per capita output between the countries. Such catching-up at the aggregate level, however, may be decomposed into changes (or convergence) at lower levels: convergence in technology and productivity, convergence in economic structure, and convergence in institutions.

Convergence in the broad sense is a concept from the macro growth literature. The neoclassical growth model of Solow (1956) and its successors predicts, under certain assumptions and regardless of the initial income level, convergence of country's per-capita output to a steady state. In these production function models, the technological level of the economy is captured by a multiplicative productivity or technology parameter, and the steady state income level is determined by the savings/investment rate

and this productivity parameter. The earliest such models treated the technology parameter as exogenous and growing at a constant rate. Later developments treated technology as endogenous, and distinguished between generation of technology by R&D activity – typical of advanced market economies operating at or near the world technological frontier – and aggregate improvements in technology-driven "catching-up", whereby low productivity countries are able to grow quickly by adopting technologies that have already been developed. It is the latter source of growth and convergence that underlay the early hopes and expectations that income levels in the formerly socialist economists would eventually converge to development market economy levels. During period of central planning, the socialist economies were initially able to grow rapidly, but the inherent inefficiencies of central planning implied lags in innovation and diffusion of technology, and meant this catching-up had ceased by the 1980s, generating an "equilibrium technological gap" (Gomulka 1986). Abandoning central planning would enable adoption of improved technology and management practices and enable the resumption of catching-up. This source of endogenous growth has a long intellectual prehistory: Veblen (1915) and Gerschenkron (1952, 1962) proposed and analyzed the "advantages of backwardness" in the process of European industrialization and growth.

A second macro-level of convergence and source of growth for the transition economies is in terms of endowments and the structure of economic activity. At the start of the transition, the countries of Eastern Europe and Central Asia looked very different from the market economies at similar levels of income: large but low productivity industrial sectors, small agricultural sectors that would be more typical of richer, industrialized countries, and small services sectors. The modeling framework here is that pioneered by Kuznets (1955, 1965) and Chenery et al. (1968, 1975): as market economies industrialize, their structure changes in various ways. In particular, as economies develop, the share of agriculture in GDP and employment falls and the shares of manufacturing and services increase. The sources of these changes in the size of sectors have been modeled by Rowthorne and Ramaswamy (1997) amongst others as driven by (exogenous) differences in productivity growth across sectors. Convergence by the former socialist economies in this context would generate growth by reallocating factors away from the excessively-

large industrial sector and into the market services that the central planners had repressed (Döhrn and Heilemann 1996; Raiser, Schaffer and Schuchhardt 2004).

Underlying both these sorts of productivity-driven convergence in transition economies is productivity growth and reallocation at the firm level. Inefficient state-owned industrial firms were expected to downsize; new private firms would spring up, filling market niches that were neglected by the central planners; firms would adopt proven Western technology, production methods, and product standards; both new private firms and privatized state-owned firms would see efficiency improvements driven by the incentives brought by private ownership.

The example of ownership structure as a source of productivity growth and convergence makes clear that the technology parameter incorporates much more than "technology" narrowly defined. Lucas (1988), Mankiw, Romer and Weil (1992) and others pointed to the importance of human capital accumulation for growth, and implicitly at the importance of institutions that generate human capital such as the education sector. More recently, research in conditional convergence has explicitly examined the role of institutions in determining both the level of productivity of an economy and the rate at which it endogenously generates growth, e.g., property rights and legal protection, the institutions of capitalism brought by European settlers to colonies in the 17^{th}-19^{th} centuries (Acemoglu, Johnson and Robinson 2001), international trade and globalization, regulation and competition, and others; see Acemoglu (2007) for a very recent and comprehensive survey. Broadly speaking, the consensus view in literature is that of North (1990) and others that institutions matter hugely for economic growth and productivity, and debates today focus on which institutions matter and how, e.g., Rodrik (2006) argues against the "one-size-fits-all" view, suggesting instead that there are roles for policies, institutions and state interventions that are appropriate specifically for developing countries that are converging. China is the most-often cited example of a rapidly growing country that has adopted some of the institutions of developed capitalism (e.g., competitive markets, free entry) but not others (e.g., a legalistic approach to the protection of property rights). The convergence debate here is in effect returning to its

roots, since both Veblen and Gerschenkron paid close attention to the special institutional characteristics, and especially the role of the state, in the catching up by Germany and other European countries in the 19th and early 20th centuries.

It is this "institutional catching-up" that is at the heart of the view that the transition countries can both grow rapidly and converge in various dimensions towards the developed market economies. When countries of Eastern Europe and Central Asia started their transition process, they lacked well-functioning markets of all sorts – product markets, factor markets, financial markets – while their institutions, inherited from the era of central planning, were very different from the range of those observed in either mature or middle income market economies. This "institutional gap" and the need for institutional reforms was recognized at the very start of transition (see, e.g., Fischer and Gelb 1991). Convergence of the transition countries in terms of institutions should therefore be accompanied by growth in productivity and living standards. More nuanced versions of this argument point to the importance of history and the strength of the institutional inheritance from the pre-socialist period (sometimes called or even proxied by "the distance to Brussels"; see Fidrmuc 2003), and to the role of prospective or actual EU membership in generating institutional change: transition countries with experience of developed capitalism in living memory and members of the EU (e.g., the Baltics) are expected to converge more rapidly than countries with neither (e.g., the Central Asian states).

The same intellectual framework motivated the research and policy agendas of the World Bank and EBRD looking at the "business environment" and "investment climate" (see, e.g., World Bank 2004, EBRD 2005). Over a period of years, both institutions have engaged in large-scale research efforts, looking at the quality of the business environment in transition, developing and developed market economies. The policy perspective behind these efforts is straightforward: promotion of policies and institutions that create sustainable growth. For the most part, these recommend policies and institutions that are in place in many developed market economies, and hence the implication is that

convergence in policies and institutions will generate catch-up growth and thus convergence in productivity and living standards.

The Business Environment and Enterprise Performance Surveys (BEEPS) implemented in the transition economies by EBRD and the World Bank are part of this research effort. The BEEPS surveys, and the similarly-motivated Investment Climate Surveys (ICS), are large-scale surveys of firms that have been implemented in many countries since the late 1990s. In addition to standard questions about the characteristics and performance of the firms, the surveys have a strong focus on the economic and business environment in which managers have to operate. There have been many studies to date using the BEEPS and ICS data. Some of these studies have focused on direct measurement and characterization of various aspects of the business environment (e.g., the effectiveness government, corruption, the legal system, business infrastructure); Kaufman, Hellman, Jones and Schankerman (2000) and World Bank (2006) are examples. Others have tried to estimate econometrically the relationship between aspects of the business environment and productivity at the firm level (e.g., Dollar, Hallward-Dreimeier and Mengistae 2005, Svejnar and Commander 2007, Carlin, Schaffer and Seabright 2006).

Our paper is a contribution to this literature: we use the waves of BEEPS data to analyze the convergence process in the transition economies. The BEEPS consist of a series of 3 snapshots of virtually all transition economies in 1999, 2002 and 2005, plus, crucially, selected developed market economies in 2004-05. The BEEPS has a number of useful features for our analysis:

- The surveys are random and representative samples that cover all TEs, allowing ready identification of broad patterns.
- The first year of the BEEPS surveys is 1999, and it happens also to be the first post-financial crisis year, when the transformational recession is more or less over, and growth starts across the region. We are able to analyze 6 years of change, convergence and growth.

- We are able to benchmark the TEs against other, mostly non-transition countries in 2004-05. In particular, we have BEEPS data from developed and cohesion Europe (Germany, Spain, Greece, Ireland, Portugal), developed Asia (South Korea) and even emerging Asia (Vietnam, coming from a different transition path).[1]

The benchmarking BEEPS surveys have not been used much by researchers to date, but play a central role in our analysis, because together with the time series dimension of the BEEPS data, they enable us to analyze the convergence process. Where our approach differs from most previous studies using the BEEPS data is that our focus is not on direct measurement of institutions, something which is notoriously difficult in the best of circumstances.[2] Rather, we look primarily at the function of, and convergence in, markets and firm behavior that are shaped by particular institutions. We focus in particular on competition and market structure, finance and the structure of lending to firms, and how firms respond to the economic environment by restructuring. Analyzing restructuring activity through the convergence prism is particularly interesting in the transition context, since it provides an example where we expect successful convergence to be associated with a high initial level of restructuring – possibly appearing after an initial low level of restructuring and then "take-off" early in the transition period – as firms make major investments to adjust to the new market economy environment, followed by a decline over time. Our analysis is thus closest in spirit to the "structural convergence" literature pioneered by Kuznets and Chenery. Unlike this literature, however, which operates at the sectoral level, and the growth and convergence literature, which operates at the macro level, we are drilling down to the level of firms.

The paper is organized as follows. Section II describes the BEEPS surveys and samples and introduces the country classification we use. Section III sets the scene by presenting the stylized facts of growth and convergence as they have been analyzed in the literature

[1] The "Cohesion" group includes Greece, Ireland, Portugal and Spain, the countries which in the late 1990s were recipients of the EU cohesion funds.
[2] Thus Blanchard (2007) makes this point for an application that is relatively straightforward compared to ours: measurement of labor market institutions in the OECD countries.

and as they manifest themselves in the BEEPS surveys. In Sections IV and V, we analyze the evidence on convergence in two dimensions of the business environment: competition and financing. Section VI looks at how firms have responded in terms of restructuring. Section VII concludes.

II. Sample description, country classification and benchmarking

The Business Environment and Enterprise Performance Surveys (BEEPS) have been conducted by the World Bank and EBRD since 1999. As the name suggests, the focus of the interviews with firm managers is the business environment in which firms are operating, but the data collected also include key figures about the firm, including sales, inputs, and growth. Most of the data gathered have come from three waves of surveys – 1999, 2002 and 2005 – implemented in nearly all the transition countries of Central and Eastern Europe and the former Soviet Union. The BEEPS were extended in 2004 and 2005 to include a range of comparator countries from Western Europe and East Asia.

Survey samples were constructed by random sampling from a national registry of firms or equivalent, with oversampling of some additional categories of firms to ensure reasonable subsample sizes. The firms covered are drawn from industry and services,[3] and, like the population of firms in countries around the world, are mostly SMEs (see Table II.1). A majority of the firms surveyed in the transition countries (60% in 1999, rising to 75% in 2005) are new private sector firms, i.e., they were private from the point of startup. Privatized firms make up about 15-25% of the sample, and the remaining 10-15% were state-owned enterprises (SOEs). The shares of both privatized and SOEs in the BEEPS transition samples have been falling over time. The samples from the non-transition market economy comparator countries include very few SOEs and privatized firms, which means that our benchmark is the market economy private sector.

[3] A small number of firms in agriculture, fishery, forestry as well as in power generation in the 1999 BEEPS survey are classified in this paper as manufacturing.

The strengths of the survey, from the point of view of this paper, are the use of a consistent survey instrument across virtually all transition countries and range of market economy comparators, and, for the transition countries, over a substantial period of time.[4] The 1999 and subsequent BEEPS surveys included 3-year retrospective questions, and we are therefore able to track developments in transition over a period of 6 to 9 years. These two strengths allow us to benchmark the transition countries against developed market economies, and to track their progress in transition. The main weakness of the BEEPS is the consequence of the wide coverage and finite budgets: the sample sizes for individual countries are relatively small. Even in the biggest BEEPS round in 2005, most country samples have fewer than 400 firms. In the first BEEPS surveys in 1999, a typical country sample had about 150 firms. See Table II.2 for the composition of BEEPS surveys by country and year of implementation. The implication of this is that too great a degree of disaggregation in the analysis would results in systematic differences across countries and over time being swamped by noise in the data. We therefore aggregate across countries in much of our analysis.

Our aggregation scheme separates countries according to position in Europe at the time of the most recent BEEPS surveys in 2005, and according to income as of 1999:

Aggregation scheme: by income and position in Europe

I. West Germany
II. Cohesion countries (Greece, Ireland, Portugal, Spain)
III. EU8 (new members as of May 2004) (Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovak Republic, Slovenia)
IV. Lower middle income transition countries (Albania, Bosnia and Herzegovina, Bulgaria, Macedonia, Romania, Serbia and Montenegro / Belarus, Kazakhstan, Russian Federation, Ukraine)

[4] Although the BEEPS survey instrument has been modified each time it was implemented, the range of questions that remained consistent across surveys is substantial.

a. SEE (Albania, Bosnia and Herzegovina, Bulgaria, Macedonia, Romania, Serbia and Montenegro)
b. Middle income CIS (Belarus, Kazakhstan, Russian Federation, Ukraine)

V. Low income CIS (Armenia, Azerbaijan, Georgia, Kyrgyzstan, Moldova, Tajikistan, Turkmenistan, Uzbekistan)

We will sometimes refer to Groups I and II as the "pre-2001 EU" or "developed market economies" (DMEs), and groups III-V as "transition economies" (TEs).

The income classification uses the standard World Bank scheme based on GNI per capita in 1999 (see Table II.4). The division between I, II, III and IV is based on EU status as of 2005, but also matches GNI per capita in 1999 almost exactly. The division between IV and V is from the WB income classification. Croatia is an outlier – located in South-Eastern Europe, this country has GNI per capita that is substantially higher than that of the other countries of the region – and is therefore omitted from the analysis. East Germany as well as Turkey, Korea and Vietnam were also included in the BEEPS 2004-05 surveys, but these countries are too heterogeneous for aggregation; we omit them from the aggregation scheme and most of the analysis, but occasionally make use of them.

III. Growth and convergence

As mentioned in the introductory section, this paper looks at the function of, and convergence in, markets and firm behavior of the transition countries with those in the developed market economies. Our focus is on competition and market structure, finance and the structure of lending to firms, and how firms respond to the economic environment by restructuring. We begin, however, by briefly reviewing the existing literature on growth and convergence in the transition countries at the micro level, assembling basic stylized facts and comparing them to the evidence from the BEEPS data. The purpose of this is two-fold: first, to set the scene for subsequent discussion, and second, to show important similarities between the previous findings in the literature and the BEEPS data. The latter will reinforce the evidence from the studies conducted in

various regions and various points of time, often using very different methodologies. It will also show that the BEEPS dataset, with its cross-sectional and time-series dimension, is particularly appropriate for studying the issues of convergence at the micro-level across the transition countries and over time.

The process of economic transition has long been thought as consisting of two key elements, reallocation and restructuring (Blanchard 1997). The former involves intersector adjustments of production, from low value added sectors to those generating high value added. The term "intersector adjustment" is used here in a broad sense meaning reallocation from the state sector to the private sector as well as by branches of economic activity. "Restructuring" refers to the behavior of surviving firms: in particular, changes in the level and technical composition of labor and capital, in search of efficiency improvements.

The economics literature on the transition process can be characterized by two broad views which differ by the relative importance attached to these two processes. One view emphasizes the inability of the old sector to quickly adapt to the new market environment and suggested that productivity improvements are mainly attained via the development of a new private sector. Thus, reallocation from the old sector to the new one is a focal point of the transition process according to this perspective. According to the other view, the restructuring of the existing firms, implying a collection of measures undertaken by these firms in order to survive and succeed in the market conditions, is an important contribution to improved productivity and economic growth. The second view thus emphasizes a particular aspect of convergence, namely convergence of the old firms with the new private businesses in terms of behavior and productivity. This is, however, a difference of emphasis; there is a broad consensus that both sources of productivity growth are important.

A voluminous literature has studied reallocation, growth and productivity at the firm level in the transition countries. While a thorough review of these studies is outside the scope of this paper and can be found elsewhere (see, e.g., Djankov and Murrel 2002;

Haltiwanger, Lehmann and Terrell 2003; Iwasaki 2007), we briefly summarize here the main findings in this field.

We begin with a caveat, namely that scholars in the field have faced considerable difficulties in measuring firm performance in the transition environment. For example, as pointed out in Bevan, Estrin and Schaffer (1999) and also acknowledged in Djankov and Murrel (2002), indicators that are based on capital stock, assets, or equity may be very noisy and uninformative of the actual performance of firms because of the high inflation rates, deficiencies in the accounting standards or underdevelopment of stock markets in the transition economies. Therefore, the bulk of studies in the field rely on the measures of performance that are based on employment and sales (e.g., growth of sales, employment labor productivity), as the least noisy indicators, particularly employment. Another related problem is that some indicators may be suitable for the analysis of the traditional firms, but fail to provide a meaningful comparison between them and the newly established businesses. The latter may expand labor rapidly but sometimes have, or appear to have, falling labor productivity because they are expanding employment faster than sales. The appearance rather than the reality may be driven by reporting biases: greater reluctance to share information about growing sales than growing employment. Labor shedding, on the other hand, is a characteristic of SOEs and privatized firms in early and middle transition.

Haltiwanger et al. (2003) provide a thorough survey of studies analyzing employment growth, job creation and destruction in the transition economies. Based on the evidence from 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) they conclude that small and new private firms contribute disproportionately to job creation while state-owned firms are responsible for most of the job destruction. Another important conclusion from the literature is that the patterns of employment growth, job creation and job destruction vary over the transition period: job destruction dominates job creation in the early transition period, but the magnitude of the two processes converges at the later stages. In particular, already by

1995 the job reallocation rates in the CEE countries are similar to those in mature capitalist economies (about 20 percent) with roughly equal job creation and destruction rates (Davis and Haltiwanger 1999).

The general patterns evident in the BEEPS data are broadly in accord with these earlier findings of firm growth. Table III.1 shows the balance between growing and shrinking firms, i.e., the proportion of the sample of firms that is growing less the proportion that is shrinking (no growth firms are ignored). Here and below, growth is in real terms and covers the 3 years preceding the survey. Germany was in a period of macroeconomic stagnation during the period 2001-04, and this is apparent in the table, with the share of firms with growing sales exceeding the share of shrinking firms by only 5 percentage points. The cohesion countries, by contrast, were growing rapidly, with the number of firms with growing sales exceeding the shrinking share by 30 percentage points. The EU8 look very similar, and also show a moderate slowdown over the full period covered by the BEEPS surveys. An acceleration in growth is very apparent in the poorest countries/slowest reformers (middle income and low income CIS), going from near stagnation in 1996-99 to rapid expansion in 2002-05.

The picture in terms of employment is more muted. The number of firms with expanding employment in the EU8 has barely exceeded the number of downsizing firms from the very start of the BEEPS surveys. This share is, moreover, low compared to that in the cohesion countries. Here we see the first evidence of a possible failure of convergence: evidence of possible stagnating job growth in the new EU members. We will return to this point below. The pattern in the other regions is quite different: in SEE, firms expanding employment have markedly outnumbered firms shedding labor since 1996-99; and in the middle income CIS and low income countries, stagnation in 1996-99 is replaced by large-scale expansion in more recent years.

Part of the explanation can be attributed to continued downsizing of employment and restructuring of state-owned and privatized firms. By 2005, these firms are sharing in the output expansion in TEs with new private firms, but are still shedding labor. Privatized

and state-owned firms, especially SMEs, are rare in the cohesion countries and are almost absent from the cohesion country samples. Table III.2 shows that in terms of sales, state-owned and privatized firms in TEs went from being relatively stagnant in 1996-99 to predominantly expanding 2002-05, and indeed the share of firms with expanding sales in the latter period was very similar for state-owned, privatized and new private firms. In terms of employment, however, state-owned and privatized firms had large shares of downsizing firms during the period spanned by the BEEPS, though declining over time. This is in contrast to the new private firm sector, which was expanding employment. These patterns of employment growth have been previously found in earlier studies based on smaller samples covering one or few transition countries, such as Richter and Schaffer (1996), Earle, Estrin and Leshchenko (1996) and Bilsen and Konings (1998), among others. What is interesting and new in the BEEPS data is that the downsizing of the traditional firms, according to the BEEPS data, continues in all the regions even a decade after the start of transition.

Table III.3 looks at job growth in the more concrete terms of job creation (JC), job destruction (JD), net job growth (JG) and job reallocation (JR) rates, thus focusing on aggregate employment growth. The picture is rather different from what one finds in the balance table Table III.1, because that table simply count firms, and the smaller firms are more likely to be expanding but contribute less to the aggregate growth. The table shows that job growth (defined as JCR-JDR) is higher in the richer TEs in the 1996-99 period, but this reverses by 2002-05, when the poorer TEs have faster employment growth. The reversal is driven by both job creation and job destruction. Job creation rates in the EU8 are lower than those in the cohesion countries, and the acceleration in JC takes the poorer TEs ahead of the EU8 by 2002-05. Job destruction rates are persistently higher in the EU8 than in the cohesion countries, and fall markedly in the poorer TEs so that by 2002-05, job destruction is less common than in the EU8. Job reallocation (defined as JC+JD) is, however, fairly constant across time and across groups of TEs. Again, these patterns are broadly consistent with previous literature suggesting that high rates of job destruction are typical of the earlier stage of the transition process and level off over time while job creation rates increase (Haltiwanger et al. 2003).

How do job creation, destruction and reallocation compare in transition and developed market economies? Previous such comparisons have been made by Konings et al. (1996), Davis and Haltiwanger (1999), Haltiwanger and Vodopivec (2002), and the papers in the symposium edited by Haltiwanger et al. (2003). These studies typically show that during the socialist period and in the early years of transition, gross job creation rates in state-owned manufacturing did not change hugely and were similar to those in the OECD, while job destruction rates in the state-owned sector following the start of transition increased dramatically and then decline. New private sector firms, by contrast, show high rates of job creation, job destruction, with the former predominant especially in the early phase of transition. It should be noted that such comparisons need to be interpreted with caution as they were hampered by lack of full compatibility of samples; in particular, studies for TEs have typically used firm-level data, whereas studies of JC/JD in Western economies have used establishment-level data. In this respect, the BEEPS data offer a better opportunity for such comparison. The data presented in Table III.3 show that for the later transition period, the job reallocation rate is actually no higher in the TEs than in the cohesion countries – about 20% – and has been very steady in the TEs.

A more detailed picture of regional patterns and convergence in firm growth can be obtained from a decomposition analysis of employment growth.[5] This can help answering such questions as to what extent the differences in the employment growth rates observed across regions are due to the differences in the endowments of the respective economies –specifically, ownership, sectoral distribution, and size of firms – or stem from different relationships between these characteristics and firm growth across the regions. For example, we expect that "traditional" (state-owned and privatized) firms will contribute less to employment growth than the new private sector. The sectoral distribution of employment across traditional and new private firms is different in the EU8 countries and in the CIS countries. How much of the difference in the employment growth rates between the two groups of economies should we attribute to having different

[5] We used Ben Jann's (2005) "decompose" addin for Stata for the decompositions in this section.

employment shares of traditional firms? And how much should we attribute to the fact that the employment growth rates of traditional firms are different in these two groups of economies, reflecting different progress in enterprise restructuring?

We consider 3 sources of differences in employment growth: ownership, sectors, and size. The decompositions are performed for the following groups of countries:

- Cohesion group versus the EU8 groups
- EU8 group versus SEE group
- EU8 group versus CIS group
- SEE group versus CIS group

In these comparisons, the first group plays the role of a benchmark (leaders) while the second group embraces the countries that, according to the transition literature, can be regarded as convergers or followers.

The decompositions separate the contributions to growth into the following categories of effects:

- Sectoral effects.
- Size effects, new private sector.
- State ownership effects.
- State ownership size effects.
- Privatized effects.
- Privatized size effects.

It is important to control for and quantify size effects because of the size differences between the different ownership categories of firms – new private firms are smaller than state-owned firms – and we need to distinguish between the effects of ownership and the dynamics of size. We allow for size effects that can vary across ownership categories.

The decomposition method is standard and is discussed in detail in the Appendix. In brief, we estimate regressions separately for each group of countries in which the dependent variable is the growth rate of employment, and the regressors are a set of

sector dummy variables, a size variable (log employment), dummy variables for state and privatized firms, and the interaction of the state and privatized dummies with the size variable. The means of these variables are the "endowments", and the coefficients are the per-unit contributions of these different country characteristics. Thus, for example, the contribution of the sectoral distribution of firms can be decomposed into differences between country groups in how many firms are in each sector ("endowments") and differences between country groups in how fast each sector is growing ("coefficients"). As is standard in this literature, there is also an interaction effect between endowments and coefficients. We summarize below the results of the employment growth decomposition analysis in Figures III.1-III.8. A more detailed discussion of the decomposition framework, the regression results and detailed decomposition tables is presented in the Appendix.

The decompositions come in two forms: (a) decomposition of *aggregate* or total employment growth, which is obtained by using regressions weighted by average employment; (b) decomposition of *average* or firm employment growth, which is obtained by using unweighted regressions. The former shows aggregate employment effects and is comparable to the analysis of job creation and destruction presented above (Table III.3). The latter is comparable to much of literature on the growth of firms, and to our analysis above (Tables III.1 and III.2). The definitions of growth are the same as those used for the job creation/job destruction growth rate definitions.

The main results of the comparison of the Cohesion and the EU8 countries are shown in Figure III.1. These results refer to aggregate employment growth. The first two bars in the figure show the net growth rates in the two groups of countries and their contributing factors. In particular, for aggregate employment the net growth rate in the Cohesion group is equal to 6.40% and is largely determined by sectoral differences in growth rates and employment (which cumulatively amount to a growth rate of 6.69%) with only a

small negative contribution of size effects (-0.30%).[6] Similarly, the net growth rate in the EU8 is equal to -1.64% and is composed of a large cumulative sectoral effect (10.48%), a large negative contribution of state ownership (-7.43%), a somewhat smaller negative effects of the privatized sector (-2.64%) and the size impact of privatized firms (-2.16%).[7] The size of firms in the private sector and in the state sector contribute little to the aggregate employment growth. Overall, the high contribution of growth among the private firms in the EU8 (which is considerably faster than in the Cohesion group) is completely wiped out by the negative ownership and ownership-size effects of the state and privatized sectors of -11.85%.

Bar 3 of Figure III.1 shows contributions of these factors to the differences in the employment growth rates across the two groups of countries. Because sectoral growth among private firms is faster in the EU8 group (followers/convergers, poorer group) than in the Cohesion group (leader, benchmark group), the corresponding difference appears as negative number in bar 3 of the figure (6.69%-10.48% = -3.79%). Conversely, state and privatized ownership effects appear as large negative numbers in bar 2, being drags on growth in followers, and thus as positive numbers in bar 3 (slowing down the catch-up process).

Finally, bar 4 of Figure III.1 shows the decomposition results, which further disaggregate the effects of ownership, sector and size into endowment and coefficient effects, as discussed in the decomposition framework. It appears that the presence of state and privatized firms in the EU8 (endowment of these countries with such enterprises) slows down the employment growth rate and, consequently, the catch-up process in these economies (the contribution of these endowment effects to the difference in the observed employment growth rates is 7.04% and 4.8% respectively). In contrast, the differences in

[6] These numbers are the predicted values from the regression of employment growth in the Cohesion countries on sectoral dummies and firm size variable (the ownership variables are missing because the Cohesion sub-sample only includes new private firms).
[7] These numbers are the predicted values from the regression of employment growth in the new UE members on sectoral and ownership dummies, firm size variable, and its interaction with ownership variables.

the sector/size distribution of firms (endowment effect) as well as in the sector/size growth rates (coefficient effects) contribute to higher growth in the EU8 countries.

Figure III.2 shows the decomposition results for average employment growth for the same groups of countries. The main difference from the aggregate employment results presented in Figure III.1 is that the difference in the private sector growth rates is essentially nil. The reason is that the EU8 new private firms, which are growing rapidly, are small compared to the Cohesion new private firms, and therefore do not generate as much growth in aggregate. The general pattern is the same, however: the growth gap between the Cohesion and the New EU countries is more than fully explained by slow growth of privatized and state firms in the latter group of countries.

Decomposition analysis for the EU8 group and SEE countries is shown in Figures III.3-III.4. Similarly to what we have observed in the comparison of the Cohesion countries with EU8 countries, the private sector growth rate (sectoral/size effects) is higher in the follower group (SEE), regardless of whether one looks at the aggregate (16.53% versus 10.20%) or average (15.29% versus 7.74%) employment growth. The detailed decomposition results presented in the Appendix show that the growth differential between the new private sectors in the two groups of countries is not a size effect, but instead is driven mostly by the contribution of manufacturing employment growth in the SEE group. However, faster growth of private firms in these countries is completely offset (in the case of aggregate employment growth) or substantially mitigated (in the case of average growth) by downsizing of state-owned and privatized firms: the contribution of this sector, including size effects, is -11.84% in the EU8 and -24.06% in SEE (see, bar 2 of Figure III.3 and bar 2 of Figure III.4).[8]

[8] What is driving the smaller negative contributions of the state and privatized sectors in the decomposition of average as opposed to aggregate growth is that these sectors consist of firms which are relatively large and make a bigger negative contribution to aggregates than to means. We can see this by comparing the values for "State" and "Privatized" in the "Mean" columns in the weighted and unweighted results in the Appendix. In the weighted results, these are the values of aggregate employment in the sample, i.e., in the New EU sample, SOE+Privatized = 0.360+0.255=61.5% of employment; in the SEE/CIS sample, SOE+Privatized = 0.318+0.366=68.4% of employment. In the unweighted results, SOE+Privatized = 0.078+0.092=17.0% of firms in the New EU sample, and = 0.086+0.129=21.5% of firms in the SEE/CIS sample.

The last bar of Figure III.3 shows large coefficient effects of ownership, suggesting an important contribution of faster growth (or slower decline) of state-owned and privatized firms in the EU8 compared to the SEE group. This can be interpreted as more advanced adaptation/restructuring of these enterprises in the former group of countries, the leaders in economic transition. Also interesting is the effect of the difference in endowments in privatized firms, which also contributes to faster employment growth in the EU8. The major negative contribution to faster growth in that region is the coefficient effect of firm size in the private sector, which may indicate maturation of new private firms or the exhaustion of growth opportunities due to increased competition (see also the discussion in the next section below on competition). Overall, we observe a kind of catching-up story: the new private sector boom is further advanced and slowing down in the EU8 countries, but the downsizing of the state sector is also further advanced and slowing down. The results for average employment growth (see Figure III.4) are similar, except for much less pronounced ownership effects.

A comparison of the EU8 and CIS countries is shown in Figures III.5-III.6. Qualitatively, the results are remarkably similar to what we have found in the comparison of the EU8 versus SEE countries. In particular, the private sector is growing faster in the CIS than in the EU8 group, which is to a large extent a consequence of a much faster sectoral growth (in particular, in manufacturing) rather than a size effect.

Given the remarkable similarities in the last two comparisons, it is of interest to benchmark the SEE group with the CIS countries. The results of this decomposition are shown in Figures III.7-III.8. The weighted/aggregate employment story is that the SEE and CIS new private sectors are almost identical; the big difference is the much bigger downsizing of the SOE and privatized sectors in SEE. The unweighted/average firm story is that SEE and CIS look similar across all sectors. The observed difference between the weighted and unweighted stories implies that the SOE/privatized downsizing in SEE is more concentrated in the larger firms. The catching up story evidently does not hold in the CIS, since inasmuch as it is less advanced in the transition compared to the

SEE group, the downsizing of the state sector would have been expected to have been stronger.

The notable differences between aggregate employment growth and mean firm employment growth that we have observed in the above analysis suggest a closer look at the size distribution of firms is warranted. An indication of convergence in this exercise would be an increase in employment in small firms relative to employment in large firms in the transition economies. Indeed, planned economies had very few small firms, and the small firm sector would be expected to growth rapidly during the transition period to fill this gap (see, e.g., World Bank 2005 for detailed discussion of the Russian case). We would therefore expect to find that the size distribution is evolving towards the pattern of the developed market economies, and that the new EU members have caught up more than the poorer TEs.

This is indeed what we see in the BEEPS data. Figure III.9 shows the distribution of firm size in West Germany and the cohesion countries, the EU8 countries and the other TEs, by four broad size categories: micro (1-9 employees), small (10-49), medium (50-199) and large (200+ employees). Small and micro firms are most prevalent in the developed market economies of the EU, least common in the non-EU TEs, and the EU8 members occupy an intermediate position. Figure III.10 shows the size distribution of firms in the new EU8 moving steadily towards the developed market economy pattern of large numbers of micro and small firms, and by 2005 the distribution is close to that observed in West Germany and the cohesion group. Figure III.11 shows the same pattern in the poorer TEs, but these countries start in 1999 from a position of even fewer small firms, and although the small firm sector grows between 1999 and 2005, in 2005 it is still some distance from the market economy benchmark.

As noted already, another test of the convergence hypothesis is to use data on reallocation across industrial sectors in the course of transition, where we would expect to see a Kuznets-Chenery-type pattern. Raiser et al. (2004), in a study of 20-odd transition countries, divide total employment in to broad sectors (agriculture, industry, markets

services and nonmarket services), and show that employment shares during the transition have generally moved towards benchmarks calculated from a sample of market economy comparators: in particular, the share of industry has fallen and the share of market services has risen in all TEs. These patterns are also evidenced in the relative growth rates of firm employment and jobs in the BEEPS surveys, but with a twist. The employment growth regressions for 1999, 2002 and 2005 show that employment in trade and services firms has grown consistently faster than in manufacturing firms in the EU8 countries.[9] The twist is that, for the lower-income TE country groups (SEE and CIS), the differential switches size and manufacturing firms grow as fast as services firms in 1996-99 and then faster than services firms in 1999-02 and 2002-05. When we look at aggregate employment growth (i.e., job growth), however, the pattern is different for TEs as a whole – net job growth is slower in manufacturing throughout the period – which is consistent with the findings by Raiser at al. (2004).[10] In short, we have evidence at the firm level of two different Kuznets-Chenery-type patterns. In the higher-income TEs, the lower rate of employment growth in manufacturing relative to services reflects primarily a convergence to market economy benchmarks driven by industrial sectors that were "too large" at the start of transition, and market services sectors that were "too small". In the lower-income TEs, the observed pattern of relatively higher rates of employment growth in manufacturing relative to services is consistent with a bigger impact of the standard Kuznets-Chenery-type pattern in which, as a country develops and productivity growth, employment in manufacturing first increases and then decreases.

In sum, the picture painted by the BEEPS data is broadly consistent with both the basic macroeconomic trends in the region, and with previous sectoral and firm-level studies: following the "transformational recession" (Kornai 1994) of the mid-1990s, TEs have been growing, and at a faster rate than that observed in the developed market economies – convergence is under way. The pattern of growth at the country, sectoral and firm level

[9] These and other results discussed in this paragraph are not shown in the paper, but are available on request from the authors.

[10] The explanation for this contrast is as follows: Raiser et al. (2004) and other studies that have looked at structural change in this framework use shares of total employment, whereas the faster growth of manufacturing firms relative to services firms in the lower-income TEs that we report is based on firm level

show more rapid growth in the private and especially new private sectors, movement in the size distribution of firms towards the pattern of large numbers of small firms as seen in developed market economies, more evidence of convergence in the new EU members than in the poorer TEs, and evidence as well of Kuznet-Chenery type structural change across sectors.

We now turn to the evidence on convergence in two key dimensions of the business environment, competition and finance, and how firms have responded to changes in terms of restructuring activity.

IV. Competitive environment

Our motivation for this section is two-fold: the recognition, now widely shared, that competition is a key determinant of firm performance and the fact that competition and market structure remain among the least explored aspects of business environment in the transition economies. We ask the following questions: how has the competition in TEs changed over time? Does competition as perceived by firms now look comparable to developed market economies?

To start with, under the central planning, competition, whether domestic or foreign, did not exist or was at best substituted with bureaucratic pressure, according to Djankov and Murrell (2002). The market structure was highly distorted, relative to the developed economies, with considerably fewer small and medium-sized firms (Roland 2000). Many state-owned enterprises, according to Newbery and Kattuman (1992), were effectively monopolists and there were concerns that privatization alone would have little effect on enterprise restructuring and performance in such a monopolized environment (Tirole 1991, Konings, Van Cayseele, and Warzynski 2005).

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data, and as already noted, the changes in employment in smaller firms play a larger role in the latter because of the growth of the small firm sector in TEs.

Evidence from previous studies concerning the evolution of the market structure and competition is incomplete and fragmented. While many studies have focused on the effect of market structure and competition on firm restructuring and performance (see, e.g., Aghion, Carlin and Schaffer 2002; Angelucci, Estrin, Konings, and Zolkiewski 2002), little is known about changes and convergence in this aspect of business environment per se. Carlin, Estrin and Schaffer (2000) is one of the few exceptions that offers benchmarking of competition in the transition and market economies, using a survey sample of manufacturing firms in Poland, Romania and Spain.

The BEEPS surveys contain several measures of competition. The BEEPS market structure measure is the response to the question, "Thinking of your firm's major product line or main line of services in the domestic market, how many competitors do you face?", with 3 possible responses: none (monopoly); 1-3 (oligopoly or rivalry); 4 or more (competitive). A measure of the price elasticity measure is captured by the response to the question, "If you were to raise your prices of your main product line or main line of services 10% above their current level in the domestic market, which of the following would best describe the result assuming that your competitors maintained their current prices?", with 4 possible responses based on how the firm's customers would respond, ranging from (1) customers would continue to buy the same quantities from the firm, to (4) customers would buy from the competition instead. The BEEPS surveys also contain questions relating to the importance of import competition, and on the role of competition in spurring restructuring and innovation.

We begin with market structure. Table IV.1 shows the composition of the year and region samples according to the proportion stating the number of competitors they faced (none, 1-3, or 4+). The degree of competition faced by firms in TEs (country groups III-V) increased between 1999 and 2002, and in 2005, was similar to, though still slightly below that, faced by firms in the pre-2001 EU members (country groups I-II). These results are robust to controlling for firm characteristics such as size and industry, and across country region. The similar levels of competition in 2002 and 2005 in the TEs may be contaminated by a change in the way the question was asked (in 2005, firms were

asked separately about domestic and foreign markets). The 2004 and 2005 BEEPS surveys asked a retrospective question about levels of competition faced three years earlier. The responses suggest, if anything, a further catching-up of the TEs to levels of competition seen in the pre-2001 EU: of the firms that faced moderate competition in 2002 (1-3 competitors), 34% in TEs stated they faced strong competition (4+ competitors) in 2005, vs. 22% in the pre-2001 EU; and of the firms that faced strong competition in 2002, 18% in TEs said they faced less competition in 2005, vs. 15% in the pre-2001 EU.

A closer look at variation across country regions shows that firms generally reported an intensification of competition across all transition country regions between 2002 and 2005. The least competitive environment is reported by firms in the low-income CIS countries (V), whereas the most competitive environment is in the cohesion countries (II) and the EU8 members (III). The fastest change in the market structure (towards more competition) is observed in the middle-income CIS countries (IVb) followed by the SEE countries (IVa) and low-income CIS countries (V). The interpretation of this result is straightforward: (new) firms are filling in niches in markets characterized by low competition. The data also show that the EU8 member states are fairly close to the cohesion countries in terms of market structure and market structure change.

The price elasticity of demand data shows a somewhat different picture (Table IV.2). Over the entire 1999-2005 period, the overall degree of price elasticity is similar to what is seen in the pre-2001 EU countries. However, the share of firms in TEs reporting inelastic demand grew between 1999 and 2005, and the share of firms facing highly elastic demand shrank. The picture is therefore somewhat different from the degree of competition results: firms in TEs in 1999 faced elasticities of demand that were slightly higher than in the market economy benchmark (EU pre-2001), and in 2005 faced elasticities that were slightly lower than the benchmark.

A possible explanation for this is that responses to questions about elasticity of demand are affected by the business cycle and business environment much more than estimates of

the number of competitors. In case of a negative shock, in the short term the number of competitors stays the same while demand drops, and the latter may be perceived as more elastic demand. This explanation is supported by two findings from the data. First, firm-reported capacity utilization (which is highly correlated with the business cycle) is correlated with firm-reported elasticity of demand, whereas there is no evidence of correlation between the number of competitors and capacity utilization. Second, patterns at the country level suggest a relationship between macro performance and changes in the elasticity of demand. Uzbekistan', for example, has grown relatively slowly in recent years and is a country where demand has been becoming more elastic. On the other hand, in countries that grew reasonably fast, the reported elasticity has been falling (e.g., Russia, Ukraine). Thus, although market structure as measured by the number of competitors has become more competitive over the 1999-2005 period in transition economies, the substantial macro recovery in the region may be responsible for the reported falls in elasticity of demand faced by firms.

We turn now to firms' assessments of the "importance" of competition. This is approached in several ways in the BEEPS survey. Firms are asked about the importance of competition from imports in the market for their main product or service. Separately, they are asked about the importance of pressure from customers and from foreign and domestic competitors for developing new products, services or markets, and for reducing production costs. These latter measures are particularly relevant for this paper, since they measure the competitive pressures to engage in restructuring.

Table IV.3 shows a now familiar pattern: the perceived level of competition from imports in transition countries (III-V) in 2002 and 2005 differs little from that in the developed EU market economies (I-II). A closer look at country groups suggests that variations across regions are driven primarily by country size, i.e., the size of the domestic market and the scale of domestic competition. Thus in 2005, 11-14% of firms in the cohesion countries (II), the EU8 members (III), the SEE countries (IVa), and the low income CIS countries (V) stated that competition from imports was high, whereas the figures for West Germany (I) and the middle-income CIS countries – most of which are Russian firms –

were 5% in both cases. A comparison of Russia, the largest transition economy, with other middle-income CIS countries is quite suggestive: while 51% of firms in Russia report insignificant pressure from imports, the figure is only 38% in the other middle-income CIS countries.

The pressure from foreign competition to restructure (Table IV.4) is also broadly similar in TEs and mature market economies, but there are significant differences across country groups. The strongest pressure – and higher than that in Germany and the cohesion countries – is perceived by managers in the EU8 members (III) and in SEE (IVa). By contrast, foreign competition is noticeably less of spur to restructuring in the CIS (IVb and V); these are countries that are physically more distant from the most important advanced market area (the EU), and where, since domestic productivity levels and product quality are low, domestic producers occupy niches are less exposed to international trade. The difference between the low income CIS countries and Vietnam, another low-income country but where firms report very strong pressure from foreign competitors, is probably simply location: Vietnam shares a border and major trading links with China.

In all regions, the surveyed firms stated pressure from domestic competitors and from customers is more important for restructuring. Tables IV.5 and IV.6 show that these perceived domestic pressures to restructure are similar in the pre-2001 EU members (I and II) and in TEs overall (III-V). The differences across regions are less pronounced than in perceive pressure from foreign competitors, but again, there is evidence that the competitive pressure to restructure is highest in the EU8 members (III) and lowest in the CIS countries (IVb-V); the SEE countries (IVa) are intermediate, with levels similar to those in the pre-2001 EU members. Unlike the pressure from foreign competitors, which changed little between 1999 and 2005, these domestic pressures have been increasing in all groups of TEs.

What we observe here can be interpreted as “convergence”, and the EU8 members are furthest along in this process, with the SEE and CIS countries following. Foreign

competition was always there. But initially, firms run into niches and avoid domestic competitions. Early in the transition process, there aren't many domestic firms that can challenge foreign competition. As the economies mature, however, there is more successful home-grown competition, and so domestic competition indicators heat up. High quality imports were always there, but high quality domestic production is a new phenomenon. Another factor is that the industrial structure is changing rapidly in the TEs: the share of industry is falling while services are growing rapidly. Manufacturing firms faces more competition from abroad while many services are non-tradables.

V. Finance and financial constraints

Access to external finance has long been regarded as an important aspect of the business environment crucial for the creation, survival and performance of firms. The entrepreneurship and finance literature in the developed market economies has long emphasized the existence of financial constraints implying the inability of firms to raise external financing in order to fund all desired investments (e.g., Evans and Jovanovic (1989), Fazzari, Hubbard and Petersen (1988)). It may be argued that financial constraints facing firms in the transition countries are much more severe than in the developed market economies, by virtue of the fact that financial markets did not exist during the era of central planning. On the other hand, things may not be as simple as they appear at the first glance: it is well known that state-owned firms before the start of transition operated under so-called soft budget constraints. The footprints of these SBCs have been found well after the start of the transition process. For example, using data from Poland, the Czech Republic, Bulgaria and Romania covering 1994-1999, Konings, Rizov and Vandenbussche (2003) found greater financial constraints for firms in Poland and the Czech Republic than for firms in the less-financially-developed countries of Bulgaria and Romania. Such a cross-country pattern is explained by the persistence of SBCs in Bulgaria and Romania.

Despite a growing number of studies in the field, few authors provide a comprehensive picture of the financial development of and financial constraints in the transition region.

Berglof and Bolton (2002), Bonin and Wachtel (2003), EBRD (2005) are among these few contributions. In this section of the paper our aim is to provide a broad picture by taking advantage of the cross-country and time-series nature of the BEEPS dataset. How has the transition process changed this important aspect of the business environment? How do the transition countries compare with the developed market economies? These are the questions that are addressed in this section.

The BEEPS surveys are very rich in questions on access to and cost of finance, relationships with lenders, financial problems of firms, etc. The BEEPS data show, for example, that when firms are asked about access to and cost of finance, firms in the pre-2001 EU members have fewer problems than those in TEs, but the problems reported by firms in TEs have been declining since 1999, particularly in the SEE and CIS countries. In TEs, large firms, firms in major cities, and foreign-owned firms all face lower obstacles to obtaining finance than other firms. The pattern in the developed market economies is similar, with an interesting exception: firms in large cities in Germany and the cohesion countries do not report financing obstacles that are any different to those in smaller cities or rural areas. We take this as evidence of incomplete within-country integration in the transition economies. In these countries, the large cities grow and catch-up faster than the rest of the country, and the poorer areas lag behind, whereas the developed market economies are financially integrated internally. Similar patterns have been found in previous studies, e.g., EBRD (2005).

The picture painted by the more quantitative data is similar: privatized and new private firms in TEs have lower costs of credit than state-owned firms; small firms pay more; exporters and firms in big cities pay less. We also find that the terms of loans are, not surprisingly, longer in Germany (I) and the cohesion countries (II), followed by the EU8 members (III); and that the costs of loans have been declining in TEs between 1999 and 2005, and are approaching the levels seen in Germany and the cohesion countries. In short, we again see a pattern of convergence.

The focus of this paper is on restructuring and growth, however, and so we are particularly interested in how this is enabled, or not, by financial institutions. We therefore focus on the structure of financing of firms.

Table V.1 presents a snapshot of the sources of finance for fixed investment by firms in the BEEPS surveys in 2004-05. By far the largest source of financing is retained earnings, in all regions. This is a standard finding in the literature (see e.g., Mayer (1988, 1990) for an early discussion). More significant are the cross-country differences. West Germany (I) stands out from the cohesion countries (II) as country where dependence on internal financing is somewhat lower, though the differences are not huge: roughly 50% of total financing in Germany is via retained earnings, vs. 60% in the cohesion countries. The difference is due to formal capital markets: not just bank financing (23% vs. 20%) but equity offers (10% vs. 3%). The EU8 members (III) resemble the cohesion countries in both the reliance on retained earnings and on formal capital markets (though division between equity offers and bank financing puts more weight on the former). Reliance on retained earnings and on capital markets is clearly related to level of income and economic development: the former increases, and the latter decreases, as we move from the richest to the poorest country groups. Interestingly, the role of state bank financing is small and if anything, smaller in the transition economies than in the developed market economies. State banks do not appear to be a major conduit for the soft budget constraint, at least for most firms.

More surprising is the time trend in the TEs. Table V.2 shows that the transition economies have *not* been converging to levels of reliance on retained earnings that are observed in the mature EU economies; on the country, in all groups of transition countries, firms were on average *more* reliant on retained earnings in 2005 than in 1999. The data in the table do not suggest that formal capital markets have been shrinking in TEs; as the simple means in the table show, reliance on bank and equity financing has been fairly stable over this period. (Bank financing from state banks cannot be separately identified in 1999, but the figures for 2002 are small and slightly below those reported in Table V.1 for 2005.) The biggest change has apparently been a move away from

informal finance: loans from family, friends, money lenders or other informal sources. It is possible that increasing reliance on retained profit represents not a decline in the institutions of formal finance, but an increase in the level of development – a maturation – of the financial sector and/or the business sector itself.

We explore these issues using regression analysis in Tables V.3 and V.4. Table V.3 analyzes the relationship between firm characteristics and financing shares for our benchmark market economies. Explanatory variables (characteristics) include ownership, export activity, location, size, and sector dummies. For consistency of interpretation across BEEPS surveys, bank financing includes state banks; the state financing that is separately identified is non-bank financing, e.g., grants and subsidies. The table shows, not surprisingly, that larger firms borrow more from banks and rely less on retained earnings; for bank financing, the coefficient on log employment is about 0.03, implying that an increase of employment from 50 to 500 would mean an increase in the share of bank financing of about 7 percentage points (=0.03*ln(10)). Foreign-owned firms rely less (about 10 percentage points) on bank financing and correspondingly more on retained earnings, presumably because foreign owners have "deep pockets"; the adjustments by foreign owners probably appear under retained earnings rather than equity because equity injections are made on an irregular/long-term basis. Exporters rely more on external financing (about 5 percentage points for bank borrowing and equity combined).

Table V.4 reports the same regression analysis using the 2005 BEEPS sample of TEs. In this initial formulation, we employ ownership dummies for new private and state-owned firms (the base category is privatized firms) but constrain the coefficients on explanatory variables to be the same across all types of firms. The results are qualitatively similar: larger firms rely more on external financing and less on retained earnings; foreign owned firms rely less on external financing, again presumably because their owners have deep pockets; exporters rely more on external financing. The ownership dummies are suggestive: state-owned firms, ceteris paribus, rely more on state financing and less on bank financing. But here we have a problem, because ceteris may not be paribus: it may

not be reasonable to assume that the relationship between firm characteristics and borrowing is the same across ownership categories.

The same questions, in fact, apply to the time trends noted above. What is the source of the increased reliance on retained earnings of firms in TEs? Is it because of changing sample characteristics (size, sector, etc.)? Or because the relationship between characteristics and borrowing has changed? Or has it been an autonomous change, unrelated to characteristics of firms?

The decomposition approach is again a natural approach to addressing these issues. Applied here, the method consists of identifying two samples of firms. The regression relating financing shares to firm characteristics is estimated for the two samples for a particular category of financing. The decomposition then separates the total difference in financing shares into the amount attributable to "endowments" (firm characteristics); coefficients (the relationship between characteristics and financing); and the shift coefficient (the "unexplained" or "autonomous" difference between the two categories).[11]

We apply the decomposition to the following:

- Private sector firms in developed market economies vs. private sector firms in transition economies in 2005.
- Privatized vs. state-owned firms in TEs in 2005.
- Privatized vs. new private firms in TEs in 2005.
- New private firms in TEs in 2005 vs. 1999.
- Privatized firms in TEs in 2005 vs. 1999.
- State-owned firms in TEs in 2005 vs. 1999.

In each case, we decompose the total difference in the share of financing via a particular source into the amount attributable to characteristics (endowments, E), coefficients (C) and the remainder (the dummy variable defining the first-named group of firms). Each cell in the main part of the table reports both the total amount attributable to a particular characteristic, as well as the amount into E+C (underneath, in parentheses). The subtotal

row is the total attributable to measured characteristics (E+C). We also provide, for information, two additional rows giving the raw means for the two groups of firms (the difference is the amount to be explained, in the "Total" row); and two additional columns giving the mean characteristics (endowments) for the two groups of firms. The explanatory variables are size (log L), location (a "big city" dummy), export activity (dummy variable), majority foreign ownership (dummy variable), and sector dummies. The treatment of sector dummies is different – for reporting purposes, manufacturing is chosen as a benchmark category and the "Sector" row reports the total decomposition for non-manufacturing vs. manufacturing. The results are based on fixed-effects regressions with country dummies.

We begin with Table V.5, which reports the decomposition applied to our basic benchmarking question: how do firms in transition economies (TEs) differ from firms in developed market economies (DMEs) in 2005? The base category is TEs, so the differences are what make DMEs different from TEs. The "DME mean E" and "TE mean E" columns show that the two sample of firms do differ significantly in basic characteristics: the TE firms are substantially larger (employment is about 35% higher); are less concentrated in manufacturing than the DME sample; and are more likely to be found in big cities. The big difference between the two groups of firms is the lower reliance of DMEs on retained earnings (14.2 percentage points) and the higher use of bank credit (7.6 percentage points). It turns out that these raw differences reported in the "Total" row are only modestly different from those in the "Region (DME dummy)" row, which is the difference between the groups after account for the impact of different endowments E and coefficients C. The biggest single identifiable impact is size: although the smaller size of the DME firms make them slightly more likely to rely on retained earnings (1.8 percentage points), this is reversed by the smaller (in absolute value) negative size effect for DMEs. But this is dwarfed by the large shift coefficients that remain after accounting for measurable characteristics: firms in TEs rely more on retained earnings (9.1 percentage points), more on family and informal sources (5.6), and less on bank financing (-6.6) and other sources (-6.7). The fact that the differences

[11] We used Ian Watson's (2005) "decomp" addin for Stata for the decompositions in this section.

attributable to coefficients is small is itself interesting, because it is evidence of convergence: the relationship between characteristics and financing is similar in TEs and DMEs.

Table V.6 applies the decomposition to privatized and state-owned firms in TEs in 2005. The big difference in financing source in the raw means in the "Total" row is that privatized firms rely much more on bank financing (10.8 percentage points) and less on state financing (-11.7 percentage points) than SOEs. Interestingly, this is not driven by autonomous or unexplained changes – rather, it is attributable to sector and size, and in particular to coefficient rather than endowment effects. Thus the size-bank borrowing relationship is steeper for privatized firms than for SOEs, and inspection of the regressions on which the decomposition is based (not reported here) shows that bigger privatized firms borrow more from banks, but bigger SOEs do not. Most of the difference in state financing, meanwhile, is a coefficient effect driven by the greater likelihood of state-owned manufacturing firms to get state financing than privatized manufacturing firms.

Privatized and new private firms in TEs in 2005 are compared in Table V.7. Here, the main finding is a null result: the structure of financing before and after decomposition is very similar for privatized and new private firms. The biggest difference, not surprisingly, is in the impact of size: privatized firms are, on average, considerably larger than the new private firms in the sample, with a positive impact on their bank financing and a negative impact on financing from retained earnings (both relating to new private firms). The surprise in the table is the absence of a difference in the use of informal financing: privatized and new private firms are roughly equally likely to use it.

The last three tables, V.8-10, show how the structure of financing has evolved over time for the three ownership categories of firms in TEs, and allow us to address directly the issue raised above about the apparent increasing reliance of firms in TEs on retained earnings. In Table V.8, we see that privatized firms have increased financing from banks and decreased it from suppliers, in both cases in ways largely unrelated to observed

characteristics ("autonomous" change). The results for new private firms in Table V.9 are more striking. The "Total" row shows that the main change has been for new private firms to rely less on informal financing (-8.2 percentage points) and more on retained earnings (+9.8). Interestingly, in both cases the autonomous shifts are larger still (-18.2 and +17.9 percentage points respectively) but these are offset by large coefficient effects relating to size. Since the coefficient effects for new private firms in 2005 differ little from those for privatized firms, and together these differ little from private firms in DMEs, we have a double convergence story: new private firms have become more like privatized firms and DME firms in terms of how their characteristics relate to financing, and new private firms have "matured" in the sense that they rely less on family and informal financing (perhaps relating to start-up) and more on retained earnings, like privatized firms. Lastly, the results in Table V.10 for SOEs provide evidence for the hardening of budget constraints in the region. The big change for SOEs has been the decline in the share of state financing (-13.3 percentage points). Interestingly, the autonomous decline has been even larger (a remarkable -22.7 percentage points), offset by increases relating to endowments (sector, location and export activity). Our interpretation is that soft budget constraints, or stated financing more generally, has become more selective and more targeted. The decrease in state financing has been made up by a corresponding increase in retained earnings, roughly equally explained by an autonomous increase of 10.2 percentage points and an increase of 7.9 percentage points.

VI. Deep Restructuring

The early literature on enterprise restructuring in transition economies distinguishes between "defensive" restructuring on the one hand, and "deep", "proactive" or "strategic" restructuring on the other (Grosfeld and Roland, 1996). The early transition period was defined by large-scale defensive restructuring, as state-owned firms shed labor, controlled costs, discontinued product lines which were no longer in demand and tried to maintain sales of their remaining products. While this was happening, new private firms were starting up. These new firms were, almost by definition, engaged in activities that merit

the term “deep restructuring” – introducing new products and process, finding new markets for their goods, supported by significant investment.

The BEEPS surveys start in 1999, after the end of the transformational recession and the period of large-scale defensive restructuring by firms. Most of the region has experienced an economic recovery during the period covered by the surveys. Actions by firms that would have earlier been described as part of the defensive restructuring process intrinsic to the transition process are better thought of as the lower tail of the distribution of firm-level growth. This section therefore focuses on deep restructuring activities.

The BEEPS surveys are rich in measures of restructuring and innovation activity. However, many of these measures are hard to use because of calibration problems. If 30% of the sample of firms in a country introduce a new product, is this high or low? By benchmarking against what is observed in market economies, we can answer this question. We are also interested in measuring the pace of restructuring activity in TEs over time. The scale of misallocation of capital at the start of transition was enormous, meaning that there were many profitable market niches, large and small, for firms to move into. As transition progressed and the scale of the initial misallocation moved further into the past, the size and number of these profit opportunities would have decreased. One hypothesis we will explore is whether the scale of restructuring activity in TEs has been declining and approaching the levels observed in DMEs. We will also use the BEEPS data to explore the determinants of restructuring activity. We are interested in particular in the relationship between certain features of the business environment – in particular, competition, finance and ownership – and restructuring activity.

The BEEPS measures of restructuring activity that we use are, for each firm, indicators of whether the firm:

1. developed successfully a major new product line/service in the 36 months prior to the survey;

2. upgraded an existing product line/service in the 36 months prior to the survey;
3. obtained a new product licensing agreement in the prior 36 months;
4. obtained a new quality accreditation (such as ISO 9000) in the prior 36 months;
5. discontinued of at least one product line in the prior 36 months.

We also define two composite indexes:

6. the average of new product (1/0) and upgrade (1/0);
7. the average of new product (1/0), upgrade (1/0), new licensing (1/0), new accreditation (1/0).

The first measure, introducing a new product line, is the "deepest" of these deep restructuring measures, and is our preferred measure of deep restructuring. Measure 5, discontinuation of a product line, is often used as an indicator of defensive restructuring, but it is also associated with proactive restructuring; reorientation of product lines by firms often simultaneous exit from some markets with entry into others. We therefore include this measure in our analysis here, and the other frequently used measure of defensive restructuring, employment downsizing, is considered as part of growth in next section.

Table VI.1 presents the shares of the samples by region and country that engaged in the two main indicators of deep restructuring, introducing a new product and upgrading an existing product, as well as the measure capturing the discontinuation of products. First, it is immediately apparent that the scale of restructuring activity, as expected, is as high or higher in transition countries than in the mature market economies. The difference is most apparent in the introduction of new products, where the percentage of firms that have engaged in this activity is about 10 percentage points higher in the TEs (III-V) than in Germany and the cohesion countries (I-II). This is not a surprise: the share of micro firms is 46% in Germany and 56% in the cohesion group, but 25-28% in the CIS countries, and smaller firms innovate less since they have, for example, fewer products and fewer product lines. The more frequent introduction of new products in TEs is

consistent with the hypothesis earlier – firms in TEs will do this more frequently as transition progresses and they catch up to the developed market economies. Again, we see a pattern of catching up and convergence. The gap is smaller or nonexistent with respect to upgrading. Interestingly, in 2005 there is virtually no variation across countries in terms of discontinuation of products: 15-17% of firms in Germany, the cohesion EU countries, and all the transition countries, report that they had discontinued a product in previous years. The exception is East Germany, which reports considerably lower levels of restructuring activity than observed in firms in West Germany or anywhere else.

The second pattern in the data is more of a surprise. The raw data show an inverse U-shape pattern of restructuring in the transition countries between 1999 and 2005: restructuring activity is low in 1999, high in 2002, and lower again in 2005. The other measures of restructuring available in the BEEPS surveys produce similar results (with the sole exception of "obtained a new quality accreditation"). To check the robustness of this finding, we estimated a restructuring activity equation (see below) on the full set of three years of data, including all the controls that we use below (firm size, sector, ownership, etc.), in order to remove any effects of changes in the composition of the BEEPS survey samples. The U-shape pattern appears strongly in these regression results (Table VI.2), across all the measures of restructuring we use, including the measure that captures both defensive as well as deep restructuring: discontinuation of product lines in the TEs peaks in 2002. The U-shape pattern extends across transition country regions as well.

This pattern is puzzling. A U-shape pattern is consistent with the literature on restructuring discussed earlier: if the early transition period is dominated by defensive restructuring, the opposite side of the coin is that deep restructuring starts with a lag and then accelerates. But why should the timing of the peak of restructuring activity in the new EU member states coincides with the one in middle income and low income CIS countries? It is widely believed that the more developed transition countries were faster reformers at the start of the transition period, and, hence, more restructuring activity in

these countries would have occurred at the start of the transition process. In contrast, the less developed countries, which are normally also slow reformers, postponed many reforms that drive enterprise restructuring; so one would expect that the peak of restructuring activity in less advanced countries occurs later than in more advanced countries. A possible explanation for this observed pattern in the BEEPS data is as follows. Most of the firms in the survey are SMEs from the new private sector. The pattern in the extent of deep restructuring in the BEEPS data is therefore largely driven by the extent of this activity among these firms. The pattern we observe suggests that this activity peaked in new private sector SMEs about 10-12 years after the start of transition. This could be either because of a standard pattern in new firm development, since the start of transition and the beginning of new private sector growth was synchronized across TEs, or because of the largely common timing of the transformational recession and the resumption of growth in TEs.

We turn now to regression analysis, and explaining the relationship between observed restructuring and the economic environment in particular. The early waves of BEEPS (1999 and 2002) are not very well suited to investigate the effect of competition in particular. A fundamental problem is that most measures of competition in the survey are contemporaneous, while restructuring refers to the period spanning three years before the survey. This is true of the market structure variables (number of competitors), price elasticity of demand, competition from imports, and indicators of pressure from competitors and customers for developing new products. In other words, competition is measured after restructuring activities have been undertaken, so it is difficult to establish a causal link from competition to restructuring (unless market structure is more or less stable). One may proceed under the assumption that market structure does not change much over three year periods, but the assumption is questionable at least. Attempts to estimate simple regressions with restructuring measures on the LHS and ownership and competition variables on the right-hand side (plus controls such as firm size, industry, location) show that it is very difficult to establish any robust result with respect to competition. Fortunately, the latest wave of BEEPS (2005) suffers less from this problem, because firms were also asked retrospective questions about number of

competitors three years before the survey. We therefore focus on the results using the 2005 data only; by using lagged values available in 2005 we can somewhat mitigate the endogeneity problem as applied to the market structure variables, but not others such as elasticity of demand and various pressures.

We use the 4-component index of deep restructuring; the results are similar using other measures. The regressions are reported separately for all groups of countries, including the pre-2001 EU members Germany and the cohesion countries. The explanatory variables include measures of ownership (state-owned and privatized; the omitted category is new private), size (log employment), location (big city dummy), number of competitors (omitted category is 1-3 competitors), price elasticity of demand (omitted category is highly price elastic), pressure to innovate from domestic competitors, foreign competitors, customers, and sector and country dummies. The results are shown in Table VI.3.

First, as should be expected, larger firms are more likely to have engaged in more deep restructuring measures than smaller firms. The impact of size is found in all country groups, including the developed market economies, and the magnitude of the impact is about the same in all. The ownership variables show that in TEs, not surprisingly, state-owned firms are less active than new private firms; privatized firms are less active than new private firms as well, but if anything more active than state-owned firms. The differences are not, however, huge: the coefficient on the SOE dummy ranges from about -0.07 to about -0.16. The index is an average of 4 measures and take the values of 0 to 1. Although SOEs in TEs have engaged in less deep restructuring than private firms, they are not simply “dinosaurs”. The absence of any measurable ownership effects in Germany and the cohesion countries is due simply to the very small number of privatized and state-owned firms in the samples for these countries.

The most interesting results relate to the role of competition. First, we find no significant impact of market structure on restructuring. As suggested by Carlin, Schaffer and Seabright (2004), this null result may stem from the endogeneity of market structure.

Thus their study using BEEPS 1999 showed that there was an impact of competition in CIS countries, where market structure had not yet adjusted, and not in CEE countries, where they hypothesize is had. We are looking at 2005, and the null result of the impact of market structure may be the result of market structure in CIS countries adjusting – another sign of convergence. We note here that our results are robust to formulation in terms of lagged or current market structure.

The impact of the elasticity of demand on restructuring is a priori ambiguous. On the one hand, facing highly elastic demand is associated with a very competitive market environment, and if competition promotes restructuring, then we should observe a correlation between restructuring activity and elastic demand. On the other hand, inelastic demand may be driven by temporary monopoly that is the result of successful innovation, or the profits that result from monopoly can be used to finance restructuring. What we observe in both TEs and the developed market economies is that the latter channels predominate: highly elastic demand (the omitted category) is associated with less deep restructuring. (There is also a hint of a U-shape relationship in some of the results, with less restructuring found in monopolistic environments, but these results rely on the small number of firms reporting such a market structure and are not very robust.)

Finally, deep restructuring is clearly associated with perceived pressures to innovate. This is true across all regions, and in both the developed market economies and the TEs. Interestingly, the source of pressure apparently varies systematically across groups of countries. In particular, in both Germany and the cohesion countries, competitive pressure from domestic competitors is a spur to deep restructuring, whereas it has generally no such impact in the TEs, where the pressure comes exclusively from either foreign competition or customers. This is consistent with TEs as followers: in the developed market economies, the domestic competition is perceived as more of a competitive threat than it is in the less developed TEs.

We conclude this section with an examination of whether deep restructuring is associated with external financing. Simple correlations suggest a connection: measures of external

financing, either obtained (e.g., the sources of financing for fixed investment) or perceived (e.g., cost of or access to finance as an obstacle to business) are positively correlated with deep restructuring, however measured. We then use the same methodology as above – regression analysis with controls for firm characteristics – but now we include a measure of external financing. We use two different measures: whether or not the firm has a bank loan, and whether or not the firm has any external financing. The results are presented in Table VI.4 for specifications that pool the pre-2001 EU members and the TEs, using our index of the two main restructuring measures (new product and upgrade); the results are similar when we use different measures of deep restructuring. The absence of external financing, either partial (no bank borrowing) or complete (not external financing at all) is associated with less restructuring. The impact of access to external financing is, interesting, quantitatively as qualitatively very similar in both the developed market economies of the pre-2001 EU members and in the TEs.

VII. Conclusion

The move from plan to market in Central and Eastern Europe and the former USSR was to a large extent driven by the expectation that the return to the market would put these countries onto a growth path that would lead eventually to convergence with the developed market economies operating at the world technological frontier. Fifteen years after the start of the transition process, it is the right time to ask if such convergence has indeed been taking place. Most studies of convergence focus either on the macro aspect (convergence in terms of per capita GDP) or the micro aspect (convergence in firm productivity). In contrast, this paper looks at the function of, and convergence in, markets and firm behavior of the transition countries with those in the mature market economies. Our focus is on competition and market structure, finance and the structure of lending to firms, and how firms respond to the economic environment by restructuring.

We use data from several waves of the BEEPS exercise; due to a number of unique features, these data are particularly appropriate for studying the process of convergence

in the transition economies. The BEEPS consist of a series of 3 snapshots of virtually all transition economies in 1999, 2002 and 2005 and covers random and representative samples from these countries. In addition, its last wave contains firm level data from a number of developed market economies, which makes it possible to directly benchmark TEs against these economies.

Our analysis of firm growth, sectoral changes and changes in size distribution of firms provides a clear picture of the convergence process. Overall, the BEEPS data show a faster growth of firms in the TEs compared with the developed market economies. The pattern of growth at the country, sectoral and firm level shows more rapid growth in the private and especially new private sectors, movement in the size distribution of firms towards the pattern of large numbers of small firms as seen in developed market economies, more evidence of convergence in the new EU members than in the poorer TEs, as well as evidence of Kuznet-Chenery type structural change across sectors.

We see clear signs of convergence of the TEs to the developed market economies of the EU across the two dimensions of the business environment that we investigate in detail, competition and finance. In terms of competition and market structure, the EU8 members are furthest along in this process, with the SEE and CIS countries following. We offer an interpretation in terms of an initial move by firms into niches to exploit local market power and avoid domestic competition. Later in transition, there is more entry and domestic competition becomes stronger. In finance, there is again clear signs of convergence, albeit incomplete. We find some evidence that the gaps may be related to within-country duality in TEs (developed urban vs. undeveloped rural) that we do not observe to the same degree in the developed EU countries. Our decomposition analysis suggests that structure of financing received by firms in TEs is related to the observed characteristics, and the main difference remaining between TEs and developed market economies is a lower autonomous reliance on bank financing in the former (unrelated to observable firm characteristics) and correspondingly higher reliance on retained earnings. The increasing reliance on retained earnings in TEs that we observe in the BEEPS surveys over time is not a sign of reversal; rather, it represents a “maturation” of the

business sector, as new private firms rely less on informal and family sources of finance and more on retained earnings, to a similar extent observed in privatized firms in TEs. The other major trend over time has been the large decline in state financing of SOEs, which we take as a sign of harder budget constraints.

The analysis of restructuring and innovation activity shows that the scale of these processes is as high or higher in the TEs as in the DMEs, in line with convergence patterns. We also find, somewhat unexpectedly, an inverse U-shape pattern of restructuring in the transition countries between 1999 and 2005, with the peak of restructuring occurring in 2002 and not in 1999 or 2005. We relate this finding either to the standard pattern of firm development (most sampled firms are new private firms, established after the collapse of socialism) or to the largely common timing of transformational recession and the resumption of growth in TEs. With respect to ownership, our analysis suggests that state-owned firms are the least active in restructuring and innovation activities, followed by privatized enterprises and new private firms. We did not find any significant effect of market structure on restructuring. This may be related to the fact that the market structure, an exogenous factor at the start of transition, has already adjusted to the market environment in most of the TEs, suggesting convergence. Our results, however, suggest that highly elastic demand is associated with less restructuring of firms. Finally, the BEEPS data provide evidence that restructuring is positively associated with external financing. The impact of access to external financing is, interestingly, quantitatively as qualitatively very similar in both the developed market economies of the pre-2001 EU members and in the TEs.

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FIGURES

Figure III.1

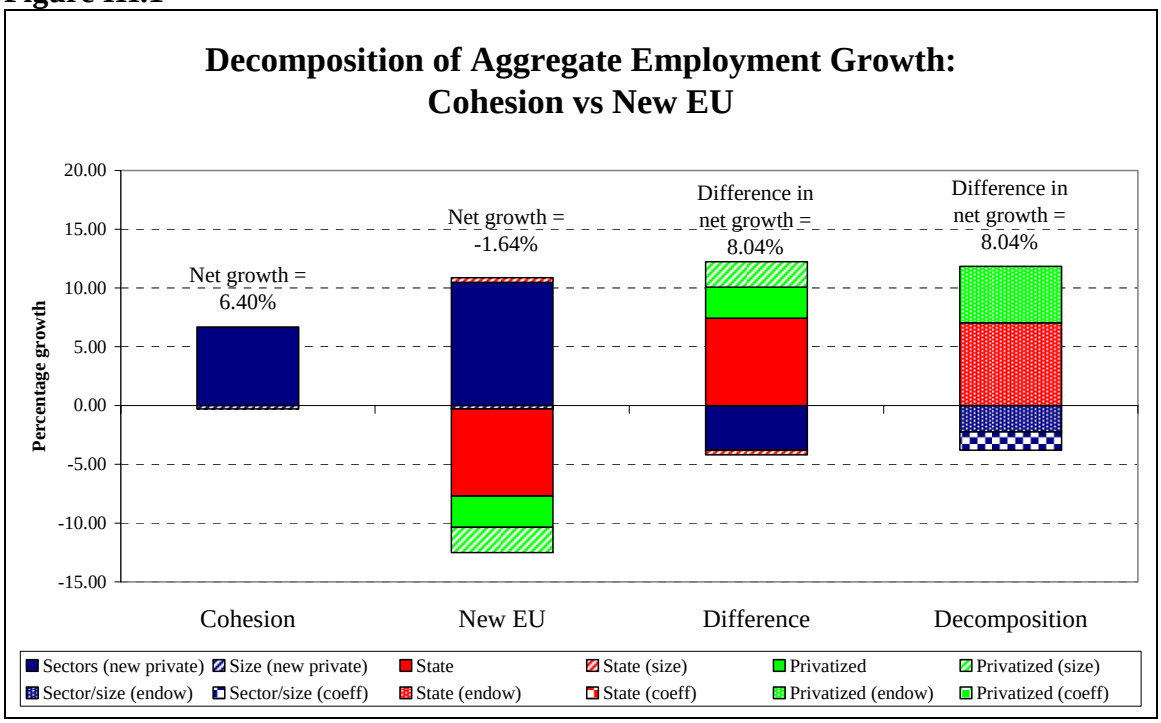


Figure III.2

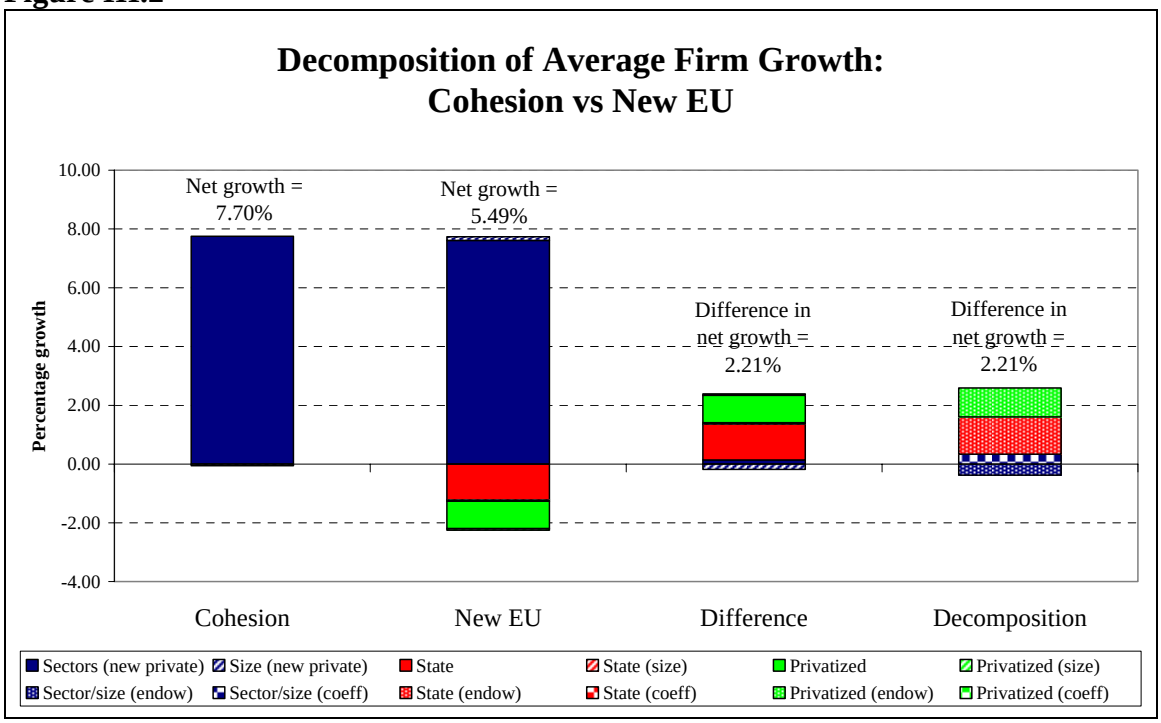
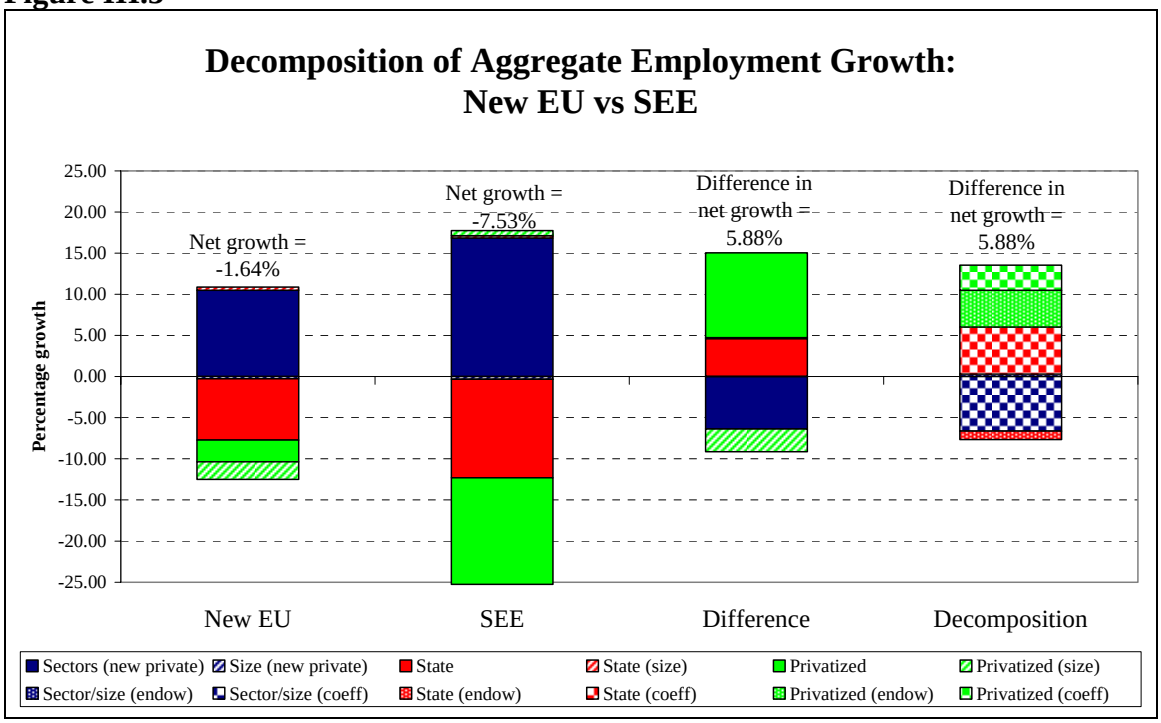


Figure III.3



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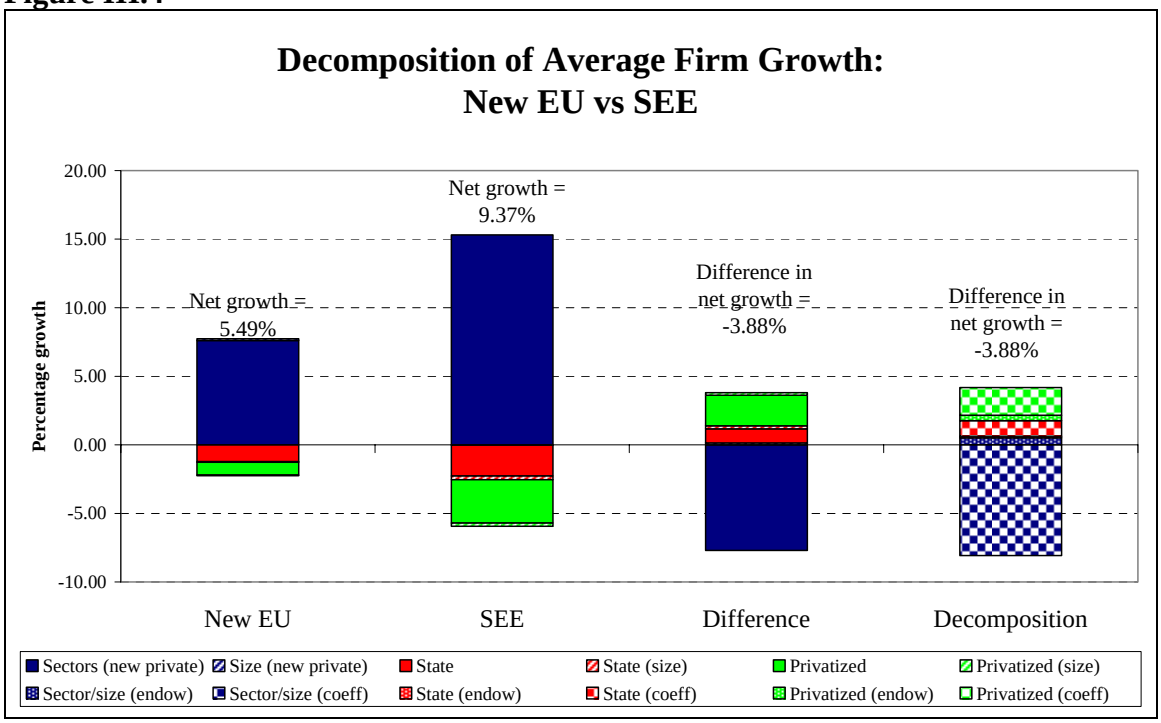

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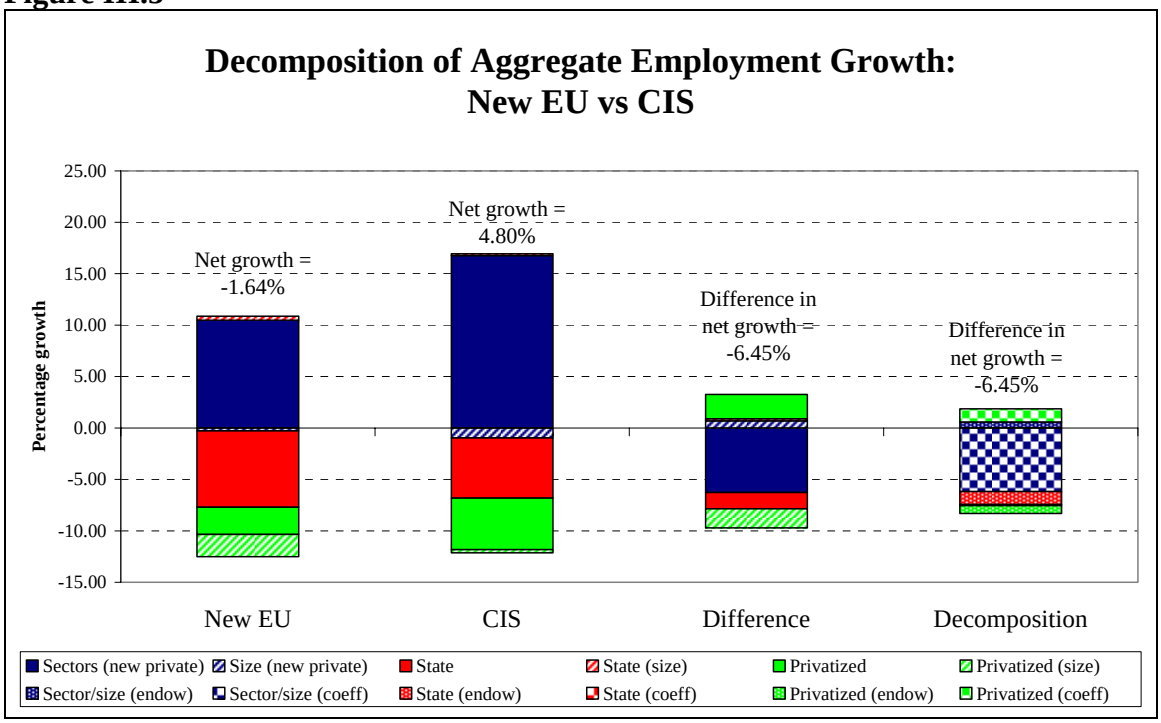

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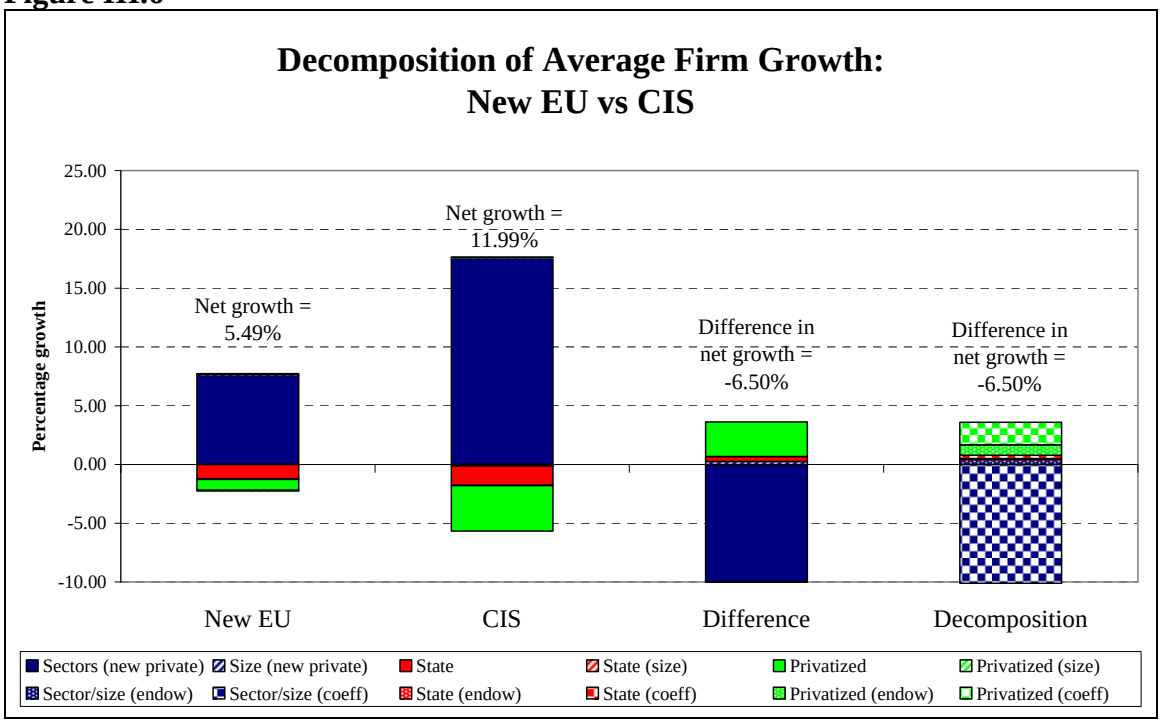

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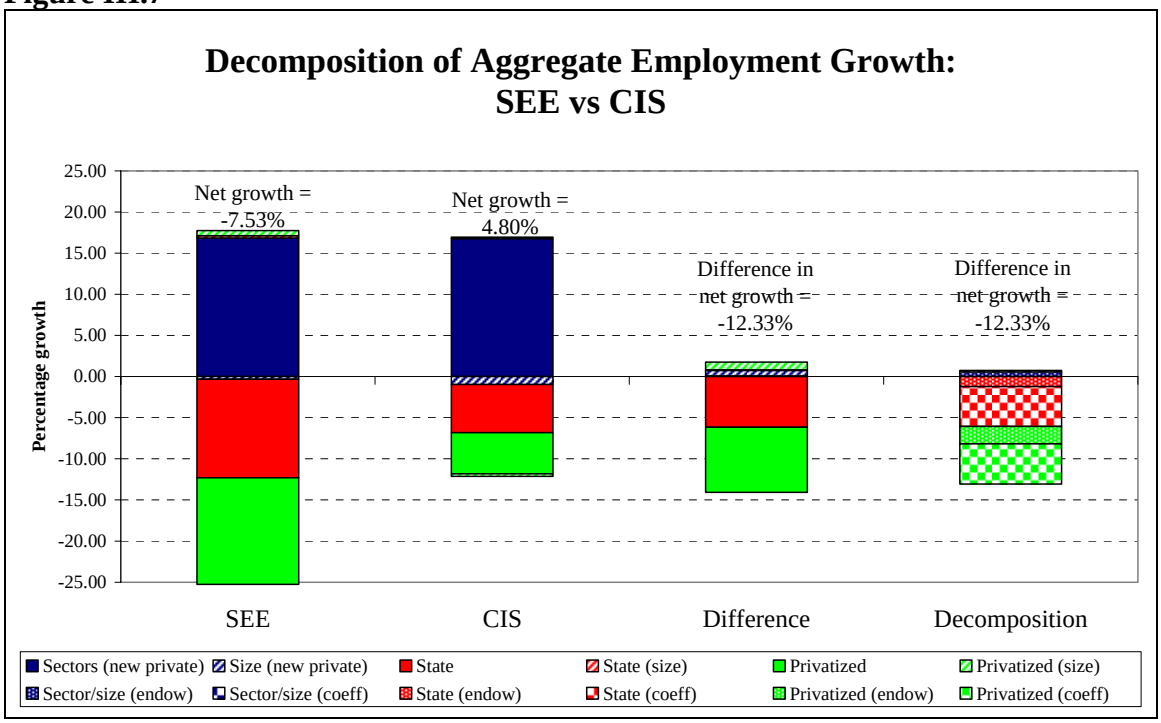

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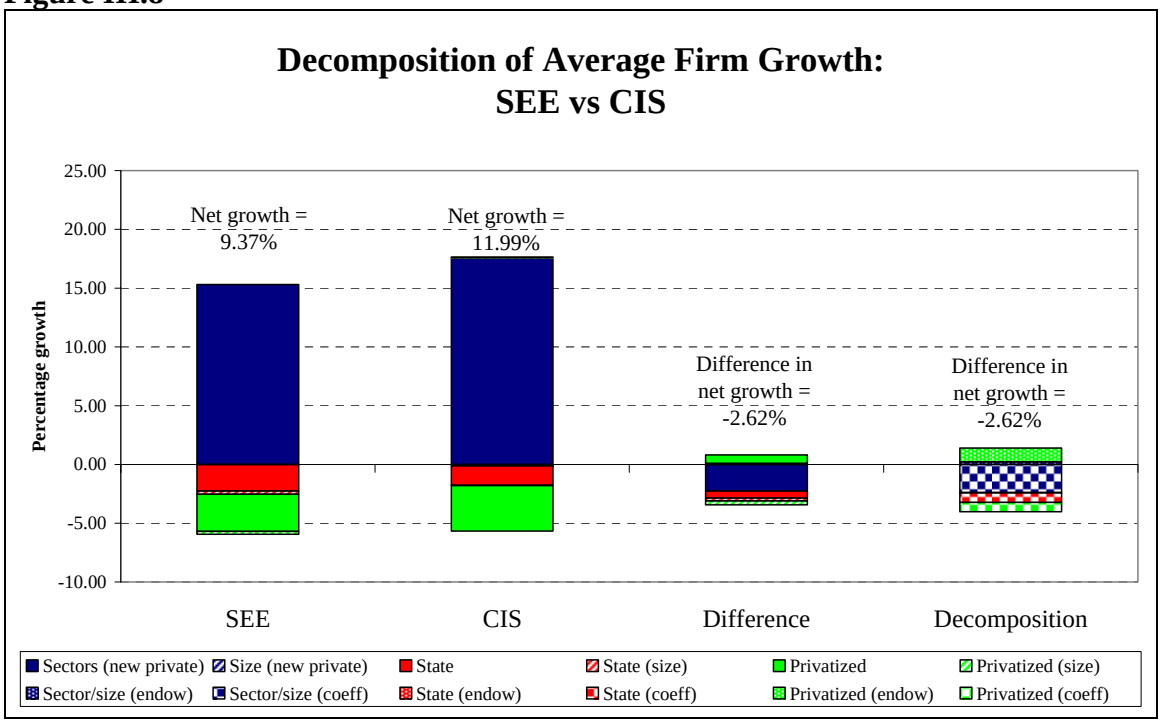


Figure III.9

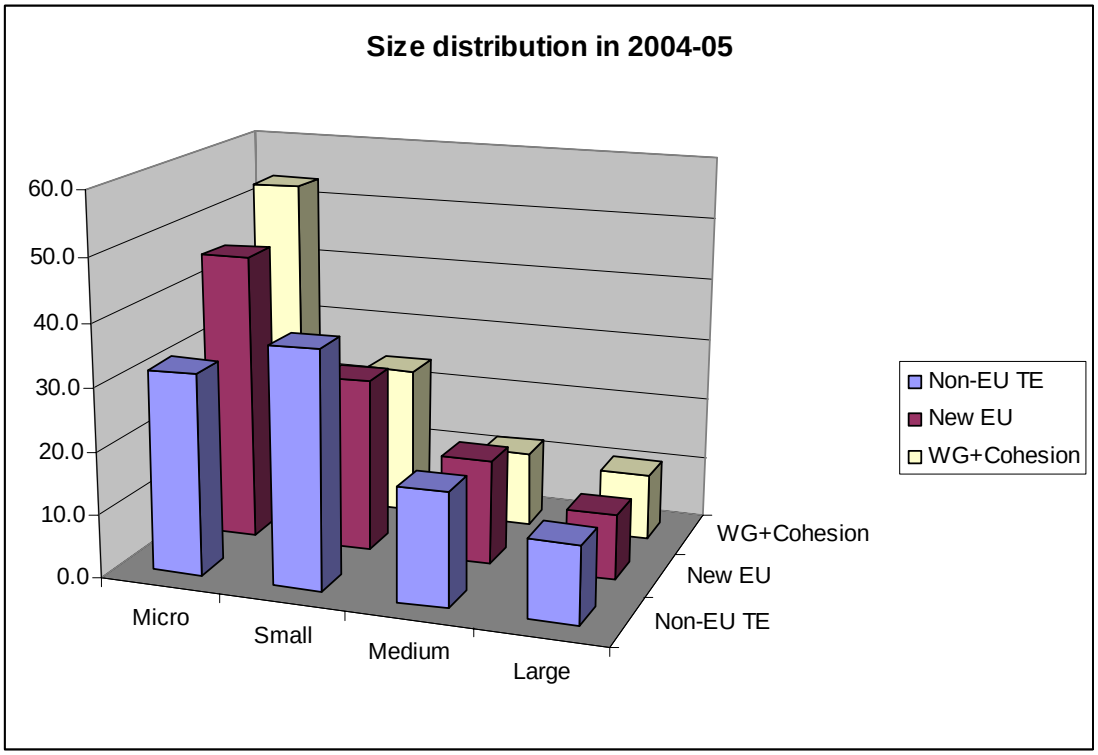


Figure III.10

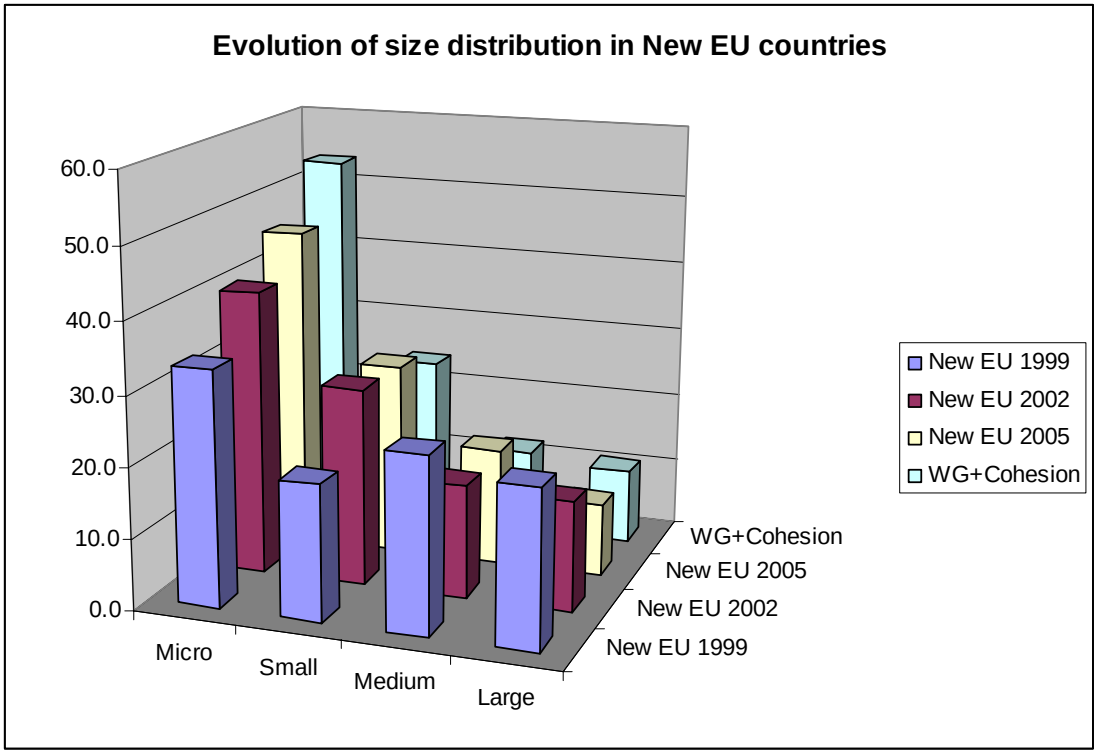
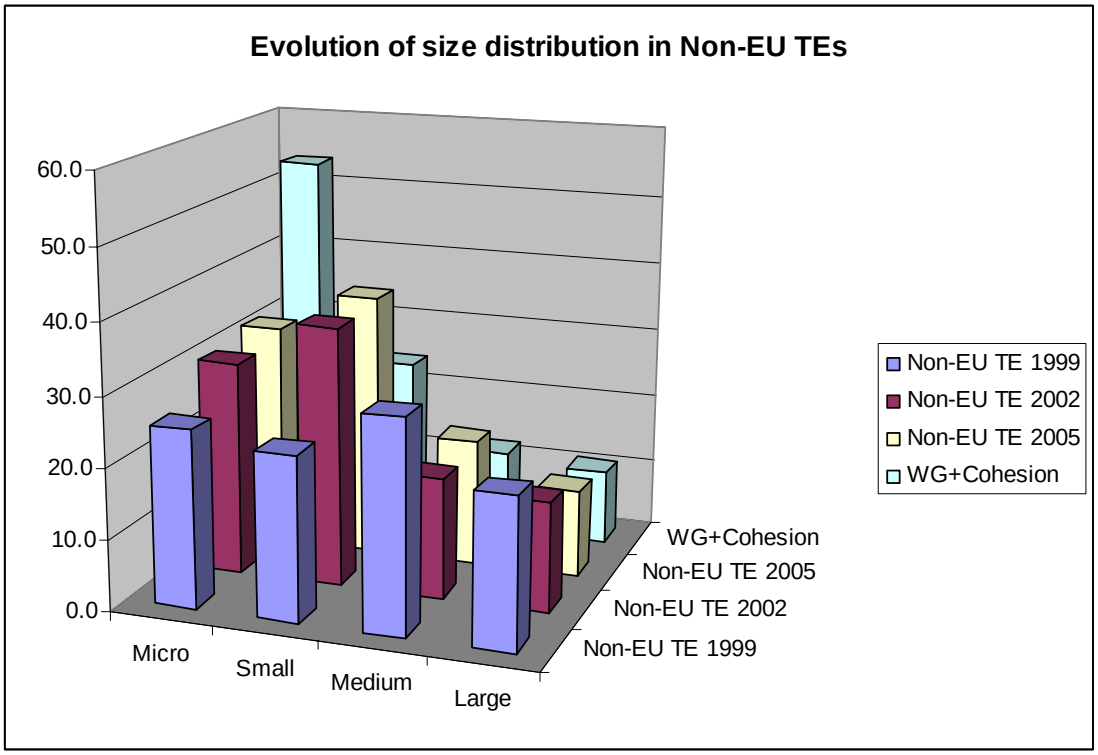


Figure III.11



TABLES

Table II.1: BEEPS composition by firm size

Firm size	1999	2002	2004	2005	Total
Micro	1093	2241	1569	4145	9048
%	26.68	33.77	46.89	38.53	36.43
Small	905	2242	1038	3499	7684
%	22.09	33.79	31.02	32.52	30.94
Medium	1171	1126	362	1873	4532
%	28.58	16.97	10.82	17.41	18.25
Large	928	1027	377	1242	3574
%	22.65	15.48	11.27	11.54	14.39
Total	4097	6636	3346	10759	24838
%	100.00	100.00	100.00	100.00	100.00

Note: Firm size categories are defined on the basis of employment, micro (1-9 employees), small (10-49), medium (50-199) and large (200+ employees). The table shows the number of firms in each size category as well as the percentage of firms in the respective category in each wave of the survey.

Table II.2: BEEPS composition by country (number of firms sampled)

Country	1999	2002	2004	2005	Total
Albania	163	170		204	537
Armenia	125	171		351	647
Azerbaijan	137	170		350	657
Belarus	132	250		325	707
Bosnia&Herzegovina	192	182		200	574
Bulgaria	130	250		300	680
Croatia	127	187		236	550
Czech Republic	149	268		343	760
Estonia	132	170		219	521
Georgia	129	174		200	503
Germany			1197		1197
West			811		
East			386		
Greece			546		546
Hungary	147	250		610	1007
Ireland				501	501
Kazakhstan	147	250		585	982
Korea			598		598
Kyrgyzstan	132	173		202	507
Latvia	166	176		205	547
Lithuania	112	200		205	517
Macedonia	136	170		200	506
Moldova	139	174		350	663
Poland	246	500		975	1721
Portugal			505		505
Romania	125	255		600	980
Russia	552	506		601	1659
Serbia&Montenegro		250		300	550
Slovakia	138	170		220	528
Slovenia	125	188		223	536
Spain				606	606
Tajikistan		176		200	376
Turkey	150	514		557	1221
Ukraine	247	463		594	1304
Uzbekistan	126	260		300	686
Vietnam			500		500
Total	4104	6667	3346	10762	24879

Table II.3: GNI per capita in the BEEPS countries

Country	GNI per capita 1999, Atlas method, current USD	GNI per capita 2004, Atlas method, current USD	Rank in 1999	Rank in 2004	Change, 1999-2004
Tajikistan	280	280	LI	LI	
Kyrgyz Republic	300	400	LI	LI	
Vietnam	370	550	LI	LI	
Moldova	410	710	LI	LI	
Azerbaijan	460	950	LI	LMI	↑
Armenia	490	1120	LI	LMI	↑
Georgia	620	1040	LI	LMI	↑
Turkmenistan	670	1340	LI	LMI	↑
Uzbekistan	720	460	LI	LI	
Ukraine	840	1260	LMI	LMI	
Albania	930	2080	LMI	LMI	
Bosnia&Herzegovina	1210	2040	LMI	LMI	
Kazakhstan	1250	2260	LMI	LMI	
Bulgaria	1410	2740	LMI	LMI	
Romania	1470	2920	LMI	LMI	
Macedonia, FYR	1660	2350	LMI	LMI	
Russian Federation	2250	3410	LMI	UMI	↑
Latvia	2430	5460	LMI	UMI	↑
Belarus	2620	2120	LMI	LMI	
Lithuania	2640	5740	LMI	UMI	↑
Turkey	2900	3750	LMI	UMI	↑
Estonia	3400	7010	UMI	UMI	
Slovak Republic	3770	6480	UMI	UMI	
Poland	4070	6090	UMI	UMI	
Croatia	4530	6590	UMI	UMI	
Hungary	4640	8270	UMI	UMI	
Czech Republic	5020	9150	UMI	UMI	
Korea, Rep.	8490	13980	UMI	HI	↑
Slovenia	10000	14810	HI	HI	
Portugal	11030	14350	HI	HI	
Greece	12110	16610	HI	HI	
Spain	14800	21210	HI	HI	
Ireland	21470	34280	HI	HI	
Germany	25620	30120	HI	HI	
Serbia&Montenegro	n/a	2620	LMI	LMI	

Note: data from the World Bank. LI stands for low-income countries with GNI per capita less than 826 (755 in 1999), LMI stands for lower middle income countries with GNI per capita more than 826 (755 in 1999) but less than 3,256 (2,995 in 1999), UMI stands for upper middle-income economies with GNI per capita more than 3,256 (2,995 in 1999), but less than 10066 (9266 in 1999), and HI denote high income economies with GNI per capita more than 10,066 (9,266 in 1999).

Table III.1: Balance between growing and shrinking firms (share of sample) by country group

	Sales			Employment		
Country group	1999	2002	2005	1999	2002	2005
I. W. Germany			0.051			-0.130
II. Cohesion			0.297			0.159
III. EU8	0.321	0.282	0.277	0.054	0.059	0.064
IVa. SEE	0.223	0.267	0.246	0.188	0.221	0.153
IVb. Mid inc CIS	0.098	0.461	0.520	-0.009	0.245	0.223
V. Low inc CIS	-0.035	0.292	0.340	-0.137	0.118	0.208
nb: E Germany			0.171			0.018

Table III.2: Balance between growing and shrinking firms (share of sample) by ownership type, TEs only

	Sales			Employment		
Ownership type	1999	2002	2005	1999	2002	2005
State	0.101	0.270	0.323	-0.282	-0.164	-0.100
Privatized	0.054	0.330	0.368	-0.322	-0.071	-0.142
New private	0.219	0.342	0.341	0.221	0.272	0.241

Table III.3: Job reallocation rate (JRR), job creation rate (JCR), job destruction rate (JDR) and job growth rate (JGR), by country group

Country group	JRR	JCR	JDR	JGR	Obs.
Developed market economies (2004/2005):					
W Germany	0.138	0.060	0.078	-0.018	810
Cohesion	0.192	0.125	0.066	0.059	2,150
Transition economies (2005):					
EU8	0.180	0.074	0.105	-0.031	2,946
SEE	0.224	0.088	0.137	-0.049	1,762
Mid inc CIS	0.191	0.116	0.075	0.041	2,080
Low inc CIS	0.229	0.140	0.088	0.052	1,944
Transition economies (2002):					
EU8	0.173	0.071	0.102	-0.030	1,885
SEE	0.207	0.092	0.115	-0.023	1,249
Mid inc CIS	0.190	0.137	0.053	0.084	1,458
Low inc CIS	0.203	0.100	0.103	-0.003	1,285
Transition economies (1999):					
EU8	0.193	0.062	0.131	-0.068	1,124
SEE	0.167	0.053	0.115	-0.062	639
Mid inc CIS	0.216	0.049	0.167	-0.118	1,039
Low inc CIS	0.221	0.033	0.187	-0.154	750

Note: Job creation rate (JCR) is defined as the sum of all employment gains in the expanding firms in the economy divided by total employment, job destruction rate (JDR) is the sum of all employment losses in the contracting firms divided by total employment, job reallocation rate (JRR) is the sum of the two (JCR+JDR) and job growth rate (JGR) is the difference between JCR and JDR.

Table IV.1: Market structure - number of competitors

	None	1 to 3	4 or more	Sample size
TEs (III-IV-V)				
1999	9.6	12.7	77.7	3,822
2002	1.4	16.9	81.7	5,845
2005	4.0	14.3	81.7	8,264
Pre-2001 EU members (I-II)				
2004-05	1.4	13.8	84.8	2,885

Table IV.2: Price elasticity of demand

	1 (Low)	2	3	4 (High)	Sample size
TEs (III-IV-V)					
1999	14.3	25.2	25.0	35.5	3,718
2002	19.9	30.5	17.9	31.7	5,912
2005	22.5	30.6	18.5	28.7	8,647
Pre-2001 EU (I-II)					
2004-05	15.5	26.7	26.3	31.5	2,921

Table IV.3: Importance of foreign competition

	1 (Low)	2	3	4	5 (High)	n.a.	Sample size
TEs (III-IV-V)							
2002	29.7	13.1	22.6	19.1	9.9	5.7	5,920
2005	28.5	15.4	20.7	18.7	10.0	6.8	7,097
Pre-2001 EU (I-II)							
2004-05	27.3	14.7	19.3	20.4	11.8	6.5	2,873

Note: n.a. = not applicable; products can't be imported.

Table IV.4: Pressure from foreign competitors

	Pressure to develop new products			Pressure to reduce costs		
Country group	1999	2002	2005	1999	2002	2005
I. W. Germany			1.85			1.90
II. Cohesion			2.03			2.03
III. EU8	2.34	2.20	2.21	2.28	2.14	2.19
IVa. SEE	2.29	2.16	2.23	2.29	2.14	2.23
IVb. Mid inc CIS	1.66	1.80	1.70	1.59	1.72	1.65
V. Low inc CIS	1.82	1.90	1.81	1.78	1.84	1.74
Korea			1.69			1.69
Vietnam			2.32			2.34

Note: Evaluated on a scale from 1 to 4, not at all important (1), slightly important (2), fairly important (3), and very important (4).

Table IV.5: Pressure from domestic competitors

	Pressure to develop new products			Pressure to reduce costs		
Country group	1999	2002	2004/05	1999	2002	2004/05
I. W. Germany			3.08			3.06
II. Cohesion			2.87			2.81
III. EU8	2.84	3.02	3.10	2.77	2.96	3.05
IVa. SEE	2.84	2.74	2.97	2.83	2.68	2.94
IVb. Mid inc CIS	2.31	2.69	2.70	2.24	2.62	2.63
V. Low inc CIS	2.31	2.50	2.56	2.21	2.40	2.47
Korea			2.65			2.63
Vietnam			3.24			3.25

Note: Evaluated on a scale from 1 to 4, not at all important (1), slightly important (2), fairly important (3), and very important (4).

Table IV.6: Pressure from customers

	Pressure to develop new products			Pressure to reduce costs		
Country group	1999	2002	2004/05	1999	2002	2004/05
I. W. Germany			3.07			2.91
II. Cohesion			3.12			2.98
III. EU8	3.01	3.16	3.28	2.87	3.05	3.20
IVa. SEE	2.65	2.92	3.10	2.57	2.81	3.00
IVb. Mid inc CIS	2.36	2.88	2.68	2.25	2.72	2.58
V. Low inc CIS	2.30	2.59	2.51	2.21	2.52	2.43
Korea			2.74			2.70
Vietnam			3.33			3.31

Note: Evaluated on a scale from 1 to 4, not at all important (1), slightly important (2), fairly important (3), and very important (4).

Table V.1: Sources of financing, 2004-05

Country group	Ret. earn.	Equity	All banks	Incl.state banks	Family/ informal	Suppliers	State	Other
I. W. Germany	49.1	9.7	23.0	3.9	0.6	4.5	0.2	12.7
II. Cohesion	61.3	2.6	20.0	3.1	1.1	2.7	0.6	11.6
III. EU8	63.0	6.4	13.7	2.8	2.2	1.6	1.1	11.4
IVa. SEE	71.9	0.5	16.1	1.4	3.2	1.5	1.1	5.4
IVb. Mid inc CIS	76.9	3.4	10.0	2.0	2.8	1.6	1.4	3.2
V. Low inc CIS	79.8	0.3	11.1	0.8	3.7	0.7	1.8	1.6

Table V.2: Evolution of financing, 1999-2005

Country group	Retained earnings			Banks*			Family/informal		
	1999	2002	2004/05	1999	2002	2004/05	1999	2002	2004/05
I. W. Germany			49.1			23.0			0.6
II. Cohesion			61.3			20.0			1.3
III. EU8	49.1	61.6	63.0	13.6	13.5	13.7	9.3	3.3	3.0
IVa. SEE	63.8	73.5	71.9	6.8	9.4	16.1	9.6	6.4	3.5
IVb. Mid inc CIS	67.3	76.6	76.9	5.9	6.8	10.0	6.5	6.4	3.7
V. Low inc CIS	67.5	77.1	79.8	4.3	5.8	11.1	10.2	7.4	4.8

*Including state-owned banks.

Table V.3: Regression results for share of financing. Developed economies, 2004-05
Private firms only=privatized+new private. Country fixed effects.

Dependent variable:	Retained earnings	Equity	Banks	Equity and banks	Family and informal	Suppliers	State	Other
Intercept	0.697**	0.049**	0.128**	0.177**	0.018**	0.016*	-0.002	0.094**
	(0.026)	(0.010)	(0.021)	(0.023)	(0.005)	(0.007)	(0.005)	(0.018)
Foreign owned	0.143**	-0.006	-0.10**	-0.106**	0.001	-0.003	0.001	-0.034
	(0.035)	(0.012)	(0.028)	(0.029)	(0.005)	(0.012)	(0.007)	(0.021)
Exporter	-0.018	0.007	0.042	0.049*	-0.006	-0.003	0.002	-0.025
	(0.026)	(0.011)	(0.022)	(0.024)	(0.004)	(0.009)	(0.004)	(0.018)
Big city dummy	0.003	0.002	-0.035*	-0.033	-0.005	-0.009	0.001	0.044**
	(0.022)	(0.008)	(0.016)	(0.018)	(0.004)	(0.007)	(0.002)	(0.014)
Log employment	-0.048**	0.005*	0.028**	0.033**	-0.002	0.004*	0.001	0.012**
	(0.006)	(0.002)	(0.005)	(0.005)	(0.001)	(0.002)	(0.001)	(0.004)
Sector dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-sq.	0.089	0.063	0.052	0.021	0.011	0.019	0.009	0.045
Observations	2181	2182	2183	2184	2185	2186	2187	2188

Note: Standard errors are reported in parentheses. Asterisks denote significance levels: ** - significant at 1%, * - significant at 5%.

Table V.4: Regression results for share of financing. Transition economies, 2005
Country fixed effects. Omitted ownership category: privatized.

Dependent variable:	Retained earnings	Equity	Banks	Equity and banks	Family and informal	Suppliers	State	Other
Intercept	0.819**	0.051**	0.058**	0.108**	0.065**	0.007	-0.016**	0.016
	(0.020)	(0.008)	(0.015)	(0.017)	(0.007)	(0.005)	(0.005)	(0.010)
State-owned	0.013	-0.014	-0.097**	-0.110**	-0.020**	-0.003	0.115**	0.005
	(0.023)	(0.008)	(0.015)	(0.016)	(0.005)	(0.004)	(0.013)	(0.012)
New private	-0.030*	-0.008	0.014	0.006	0.007	0.000	0.006*	0.012
	(0.015)	(0.006)	(0.012)	(0.013)	(0.005)	(0.003)	(0.002)	(0.008)
Foreign owned	0.050**	0.002	-0.056**	-0.054**	-0.013**	0.008	-0.001	0.011
	(0.016)	(0.007)	(0.012)	(0.013)	(0.005)	(0.005)	(0.003)	(0.010)
Exporter	-0.040**	0.003	0.027**	0.030**	-0.012**	-0.001	0.008*	0.015*
	(0.013)	(0.005)	(0.010)	(0.011)	(0.004)	(0.003)	(0.003)	(0.007)
Big city dummy	0.018	-0.001	-0.028**	-0.029**	0.005	-0.001	0.003	0.005
	(0.011)	(0.004)	(0.007)	(0.008)	(0.004)	(0.002)	(0.003)	(0.006)
Log employment	-0.029**	-0.003	0.029**	0.027**	-0.009**	0.002	0.002	0.008**
	(0.004)	(0.001)	(0.003)	(0.003)	(0.001)	(0.001)	(0.001)	(0.002)
Sector dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-sq.	0.110	0.110	0.083	0.033	0.035	0.015	0.130	0.093
Observations	6300	6300	6300	6300	6300	6300	6300	6300

Note: Standard errors are reported in parentheses. Asterisks denote significance levels: ** - significant at 1%, * - significant at 5%.

Table V.5: Decomposition of share of financing. Private firms in transition economies (TEs) vs. developed market economies (DMEs) 2005

Attributable to - Total (Endow.+Coeffs.)	DME mean E	TE mean E	Retained earnings	Equity	Bank	Family + informal	Suppliers	State	Other
- Size (E+C)	2.63	3.00	3,7 (-1,1+4,8)	-1,9 (-0,1-1,8)	2,1 (1,2+0,9)	-2,4 (-0,4-2,1)	-0,5 (0,1-0,6)	0,0 (0,0+0,0)	-0,9 (0,3-1,2)
- Sector (vs. manuf.) (E+C)	0.23	0.44	1,7 (-0,7+2,5)	0,8 (0,1+0,7)	-2,7 (0,6-3,2)	-0,2 (0,0-0,3)	-0,9 (0,0-1,0)	0,1 (0,0+0,2)	1,3 (0,0+1,3)
- Big city (E+C)	0.23	0.37	0,6 (0,2+0,3)	-0,1 (0,0-0,1)	-0,2 (-0,4+0,2)	0,3 (0,1+0,2)	0,2 (0,0+0,2)	0,0 (0,0+0,0)	-0,8 (0,1-0,9)
- Foreign ownership (E+C)	0.08	0.12	-0,5 (0,2-0,7)	0,1 (0,0+0,1)	0,1 (-0,2+0,3)	-0,1 (0,0-0,1)	0,1 (0,0+0,1)	0,0 (0,0+0,0)	0,4 (0,0+0,4)
- Exporter (E+C)	0.22	0.24	-0,5 (-0,1-0,4)	0,0 (0,0+0,0)	-0,3 (0,1-0,4)	-0,2 (0,0-0,2)	0,1 (0,0+0,1)	0,0 (0,0+0,0)	1,0 (0,0+0,9)
Subtotal (E+C)			5,0 (-1,5+6,5)	-1,1 (0,0-1,1)	-1,0 (1,3-2,2)	-2,6 (-0,3-2,5)	-1,0 (0,1-1,2)	0,1 (0,0+0,2)	1,0 (0,4+0,5)
Region (DME dummy)			9.1	-0.6	-6.6	5.6	-0.9	0.0	-6.7
Total			14.2	-1.8	-7.6	2.9	-1.9	0.0	-5.7
Mean source – DME			57.2	5.2	21.0	1.0	3.3	0.3	12.0
Mean source – TE			71.4	3.3	13.4	3.9	1.4	0.3	6.2

Table V.6: Decomposition of share of financing. Privatized vs. State-owned, 2005

Attributable to - Total (Endow.+Coeffs.)	Prv mean E	SOE mean E	Retained earnings	Equity	Bank	Family + informal	Suppliers	State	Other
- Size (E+C)	4.33	4.77	-5.0 (1.2-6.2)	1.1 (0.0+1.2)	13.4 (-1.4+14.9)	-3.1 (0.4-3.4)	-0.9 (0.0-0.8)	-4.6 (0.0-4.7)	-1.0 (-0.1-0.9)
- Sector (vs. manuf.) (E+C)	0.54	0.26	7.5 (-1.8+9.5)	-0.4 (0.8-1.2)	2.6 (1.5+1.1)	0.0 (-0.2+0.2)	0.0 (-0.1+0.1)	-8.3 (-0.1-8.2)	-1.5 (0.0-1.5)
- Big city (E+C)	0.31	0.42	0.2 (0.0+0.2)	0.7 (-0.1+0.8)	-0.5 (0.3-0.8)	0.3 (-0.2+0.5)	0.4 (0.0+0.4)	-1.1 (0.0-1.1)	0.1 (0.0+0.1)
- Foreign ownership (E+C)	0.13	0.00	1.1 (1.0+0.1)	0.2 (0.2+0.0)	-1.1 (-1.0-0.1)	0.2 (0.2+0.0)	-0.1 (-0.1+0.0)	0.0 (0.0+0.0)	-0.4 (-0.3-0.1)
- Exporter (E+C)	0.36	0.27	0.5 (0.0+0.5)	0.1 (0.0+0.1)	-1.2 (-0.1-1.1)	-0.3 (-0.1-0.2)	0.2 (0.0+0.2)	-0.3 (0.0-0.3)	0.9 (0.1+0.8)
Subtotal (E+C)			4.4 (0.4+4.0)	1.8 (0.8+1.0)	13.4 (-0.7+14.0)	-2.8 (0.0-2.9)	-0.5 (-0.2-0.3)	-14.4 (-0.1-14.3)	-1.9 (-0.3-1.6)
Ownership (privatized)			-4.9	-0.7	-2.6	5.0	0.7	2.6	-0.2
Total			-0.5	1.1	10.8	2.2	0.2	-11.7	-2.1
Mean source – Prv			69.8	3.1	17.3	2.5	1.3	0.3	5.8
Mean source – SOE			70.3	2.0	6.4	0.3	1.1	12.0	7.9

Table V.7: Decomposition of share of financing. Privatized vs. New Private, 2005

Attributable to - Total (Endow.+Coeffs.)	Prv mean E	New mean E	Retained earnings	Equity	Bank	Family + informal	Suppliers	State	Other
- Size (E+C)	4.33	2.77	-2.5 (-4.3+1.8)	1.3 (0.1+1.2)	4.5 (5.0-0.5)	-1.0 (-1.3+0.3)	0.0 (0.2-0.2)	-0.9 (-0.1-0.7)	-1.5 (0.4-1.9)
- Sector (vs. manuf.) (E+C)	0.54	0.42	2.7 (-0.1+2.7)	-0.5 (0.0-0.4)	-1.1 (-0.2-1.0)	0.1 (0.2-0.1)	-0.3 (0.0-0.3)	-0.1 (0.0+0.0)	-0.9 (0.1-1.2)
- Big city (E+C)	0.31	0.39	-0.8 (0.0-0.8)	0.4 (-0.1+0.5)	0.2 (0.2+0.0)	0.5 (-0.1+0.6)	0.1 (0.0+0.1)	0.0 (0.0+0.0)	-0.3 (0.0-0.3)
- Foreign ownership (E+C)	0.13	0.12	0.4 (0.1+0.3)	0.2 (0.0+0.1)	-0.3 (-0.1-0.2)	0.4 (0.0+0.4)	-0.2 (0.0-0.2)	0.0 (0.0+0.0)	-0.4 (0.0-0.4)
- Exporter (E+C)	0.36	0.22	1.1 (0.0+1.0)	-0.2 (0.0-0.1)	-0.9 (-0.1-0.8)	-0.1 (-0.2+0.1)	-0.1 (0.0-0.1)	0.1 (0.1+0.0)	0.1 (0.2-0.1)
Subtotal (E+C)			0.8 (-4.2+4.9)	1.3 (0.0+1.3)	2.5 (4.9-2.4)	-0.1 (-1.4+1.4)	-0.5 (0.0-0.6)	-0.9 (-0.1-0.8)	-3.0 (0.8-3.8)
Ownership (privatized)			-2.7	-1.5	2.0	-1.5	0.4	0.8	2.4
Total			-1.9	-0.3	4.5	-1.6	-0.1	-0.1	-0.6
Mean source – Prv			69.8	3.1	17.3	2.5	1.3	0.3	5.8
Mean source – New			71.7	3.4	12.7	4.1	1.4	0.4	6.3

Table V.8: Decomposition of share of financing. Privatized, 2005 vs. 1999

Attributable to - Total (Endow.+Coeffs.)	2005 mean E	1999 mean E	Retained earnings	Equity	Bank	Family + informal	Suppliers	State	Other
- Size (E+C)	4.33	4.86	-5.1 (1.5-6.6)	-5.1 (0.0-5.1)	6.9 (-1.7+8.6)	3.9 (0.4+3.5)	2.6 (-0.1+2.7)	-3.7 (0.0-3.7)	0.4 (-0.1+0.6)
- Sector (vs. manuf.) (E+C)	0.54	0.63	3.9 (1.7+2.2)	-1.6 (-0.3-1.1)	-3.0 (-1.0-2.1)	-0.4 (-0.1-0.2)	0.2 (0.0+0.3)	0.3 (0.0+0.3)	0.4 (-0.2+0.8)
- Big city (E+C)	0.31	0.24	0.6 (0.0+0.6)	0.3 (0.1+0.2)	-0.9 (-0.2-0.8)	0.4 (0.1+0.2)	0.4 (0.0+0.4)	-0.1 (0.0-0.1)	-0.6 (0.0-0.6)
- Foreign ownership (E+C)	0.13	0.06	0.8 (0.6+0.2)	0.3 (0.1+0.2)	-0.9 (-0.6-0.3)	0.2 (0.1+0.1)	0.0 (-0.1+0.0)	0.1 (0.0+0.1)	-0.5 (-0.2-0.4)
- Exporter (E+C)	0.36	0.33	2.0 (0.0+2.0)	-0.2 (0.0-0.2)	-1.1 (0.0-1.1)	-0.9 (0.0-0.8)	-1.0 (0.0-1.0)	0.9 (0.0+0.9)	0.2 (0.0+0.2)
Subtotal (E+C)			2.2 (3.7-1.5)	-6.2 (-0.2-6.0)	0.9 (-3.5+4.3)	3.3 (0.5+2.8)	2.3 (-0.1+2.3)	-2.5 (0.1-2.6)	0.1 (-0.5+0.6)
Time (2005 dummy)			3.6	4.8	6.6	-5.3	-6.7	-1.0	-2.1
Total			5.8	-1.4	7.4	-2.0	-4.4	-3.5	-2.0
Mean source – 2005			69.8	3.1	17.3	2.5	1.3	0.3	5.8
Mean source – 1999			63.9	4.5	9.8	4.5	5.8	3.7	7.7

Table V.9: Decomposition of share of financing. New private, 2005 vs. 1999

Attributable to - Total (Endow.+Coeffs.)	2005 mean E	1999 mean E	Retained earnings	Equity	Bank	Family + informal	Suppliers	State	Other
- Size (E+C)	2.77	2.85	-7.0 (0.3-7.2)	-1.5 (0.0-1.5)	4.4 (-0.3+4.7)	5.9 (0.1+5.9)	-1.4 (0.0-1.4)	-0.9 (0.0-0.9)	0.4 (-0.1+0.5)
- Sector (vs. manuf.) (E+C)	0.42	0.32	1.3 (-0.1+1.6)	-0.6 (0.1-0.7)	-1.0 (0.2-1.3)	1.0 (0.2+0.8)	-0.7 (-0.1-0.5)	0.2 (0.0+0.2)	-0.1 (-0.1+0.0)
- Big city (E+C)	0.39	0.42	-2.1 (-0.1-2.0)	-0.3 (0.0-0.3)	-0.3 (0.1-0.3)	2.4 (0.0+2.4)	-0.3 (0.0-0.3)	0.2 (0.0+0.2)	0.4 (0.0+0.5)
- Foreign ownership (E+C)	0.12	0.10	0.9 (0.1+0.9)	0.2 (0.0+0.2)	-1.1 (-0.1-1.0)	0.4 (0.0+0.4)	0.2 (0.0+0.2)	0.1 (0.0+0.1)	-0.7 (0.0-0.7)
- Exporter (E+C)	0.22	0.25	-1.3 (0.1-1.4)	0.2 (0.0+0.2)	0.4 (-0.1+0.5)	0.4 (0.0+0.3)	-0.2 (0.0-0.2)	0.2 (0.0+0.2)	0.3 (-0.1+0.4)
Subtotal (E+C)			-8.1 (0.2-8.2)	-2.1 (0.1-2.2)	2.4 (-0.2+2.6)	10.0 (0.3+9.7)	-2.3 (-0.2-2.2)	-0.2 (0.0-0.2)	0.5 (-0.2+0.7)
Time (2005 dummy)			17.9	-1.0	2.5	-18.2	-1.2	-0.3	0.2
Total			9.8	-3.1	4.9	-8.2	-3.5	-0.5	0.7
Mean source – 2005			71.7	3.4	12.7	4.1	1.4	0.4	6.3
Mean source – 1999			61.8	6.5	7.9	12.4	4.9	0.9	5.6

Table V.10: Decomposition of share of financing. State-owned, 2005 vs. 1999

Attributable to - Total (Endow.+Coeffs.)	2005 mean E	1999 mean E	Retained earnings	Equity	Bank	Family + informal	Suppliers	State	Other
- Size (E+C)	4.77	5.26	13.4 (0.7+12.7)	-2.7 (0.1-2.8)	-9.8 (-0.1-9.8)	0.8 (0.0+0.8)	4.5 (-0.1+4.7)	-2.6 (-0.4-2.2)	-3.6 (-0.2-3.4)
- Sector (vs. manuf.) (E+C)	0.26	0.48	-0.3 (-1.7+1.4)	-0.1 (-0.2+0.2)	-4.6 (-1.9-2.7)	0.4 (0.0+0.4)	0.0 (0.0+0.1)	4.6 (3.2+1.2)	0.3 (0.7-0.5)
- Big city (E+C)	0.42	0.33	-1.5 (0.0-1.5)	-0.1 (-0.1-0.1)	-2.2 (-0.1-2.1)	0.0 (0.0-0.1)	-0.1 (-0.1-0.1)	2.9 (0.2+2.7)	1.1 (0.0+1.2)
- Foreign ownership (E+C)	0.00	0.00	0.0 (0.0+0.0)	0.0 (0.0+0.0)	0.1 (0.0+0.1)	0.0 (0.0+0.0)	0.0 (0.0+0.0)	0.0 (0.0+0.0)	0.0 (0.0+0.0)
- Exporter (E+C)	0.27	0.38	-3.8 (0.2-4.0)	-0.1 (0.1-0.1)	-0.6 (-0.4-0.2)	0.3 (0.0+0.3)	-1.6 (0.1-1.7)	4.7 (-0.2+4.9)	0.9 (0.2+0.8)
Subtotal (E+C)			7.9 (-0.8+8.7)	-2.9 (-0.2-2.8)	-17.1 (-2.4-14.7)	1.5 (0.1+1.4)	2.8 (-0.2+3.0)	9.4 (2.9+6.5)	-1.4 (0.6-1.9)
Time (2005 dummy)			10.2	1.8	16.3	-2.4	-5.7	-22.7	2.4
Total			18.0	-1.2	-0.8	-0.9	-2.9	-13.3	1.1
Mean source – 2005			70.3	2.0	6.4	0.3	1.1	12.0	7.9
Mean source – 1999			52.3	3.2	7.3	1.2	4.0	25.2	6.8

Table VI.1: Deep restructuring, 1999-2005

Country group	Percentage of firms reporting that they:								
	Developed new product or service			Upgraded existing product or service			Discontinued a product line or service		
	1999	2002	2004/05	1999	2002	2004/05	1999	2002	2004/05
I. W. Germany			21			53			15
II. Cohesion			27			36			15
III. EU8	33	35	31	45	50	47	17	22	17
IVa. SEE	23	44	36	39	56	54	7	15	15
IVb. Mid inc CIS	33	41	38	36	53	56	16	21	15
V. Low inc CIS	24	36	38	24	47	45	13	23	15
nb: E. Germany			11			30			6

Table VI.2: Determinants of deep restructuring in TEs

Model:	1	2	3	4
Dependent variable:	Deep restr index (4)	Deep restr index (2)	Intro new prod	Discontinued prod line
Intercept	0.081**	0.098**	0.077	-0.009
	(0.026)	(0.030)	(0.047)	(0.038)
State	-0.085**	-0.123**	-0.128**	0.020
	(0.007)	(0.011)	(0.014)	(0.011)
Privatized	-0.037**	-0.068**	-0.087**	0.015
	(0.006)	(0.009)	(0.011)	(0.009)
Log employment	0.036**	0.040**	0.042**	0.018**
	(0.001)	(0.002)	(0.003)	(0.002)
Big city dummy	0.026**	0.030**	0.046**	0.016**
	(0.004)	(0.007)	(0.008)	(0.006)
No competitors	-0.018	-0.013	-0.019	0.013
	(0.011)	(0.017)	(0.021)	(0.017)
>3 competitors	-0.003	-0.003	0.007	0.017*
	(0.006)	(0.009)	(0.010)	(0.008)
Price inelastic	0.045**	0.069**	0.066**	-0.017
	(0.006)	(0.009)	(0.011)	(0.009)
Price slightly elastic	0.046**	0.073**	0.072**	0.004
	(0.005)	(0.008)	(0.009)	(0.008)
Price elastic	0.020**	0.027**	0.026*	0.018*
	(0.006)	(0.009)	(0.010)	(0.008)
Dom compet pressure	0.005*	0.012**	0.009*	0.006
	(0.002)	(0.003)	(0.004)	(0.003)
Foreign compet press	0.016**	0.020**	0.019**	0.021**
	(0.002)	(0.003)	(0.004)	(0.003)
Customer pressure	0.024**	0.035**	0.031**	0.015**
	(0.002)	(0.003)	(0.004)	(0.003)
Majority foreign ownership	-0.003	-0.009	-0.012	0.010
	(0.006)	(0.009)	(0.010)	(0.008)
Exporter dummy	0.069**	0.092**	0.096**	0.037**
	(0.005)	(0.008)	(0.009)	(0.008)
1999 dummy	-0.075**	-0.131**	-0.115**	-0.085**
	(0.007)	(0.010)	(0.012)	(0.010)
2005 dummy	-0.035**	-0.038**	-0.056**	-0.050**
	(0.006)	(0.008)	(0.010)	(0.008)
Sector dummies	Yes	Yes	Yes	Yes
Country dummies	Yes	Yes	Yes	Yes
R-sq.	0.169	0.151	0.104	0.066
Observations:	16,318	16,338	16,346	16,340

Note: The dependent variables are: strategic restructuring 4-variables index in (1), strategic restructuring 2-variables index in (2), introduction of new product in (3), and discontinuation of at least one product line in (4). "Very elastic" is omitted price elasticity category. Standard errors are reported in parentheses. Asterisks denote significance levels: ** - significant at 1%, * - significant at 5%.

Table VI.3: Determinants of restructuring in 2005, by country group

Dependent variable: 4-indicator deep restructuring index

Model:	W.Germany (I)	Cohesion (II)	EU8 (III)	SEE (IVa)	Mid inc CIS (IVb)	Low inc CIS (V)
Intercept	-0.032	-0.187**	0.087*	0.058	0.074	-0.013
	(0.044)	(0.035)	(0.037)	(0.047)	(0.044)	(0.071)
State	0.073	-0.094	-0.069**	-0.159**	-0.070**	-0.124**
	(0.046)	(0.055)	(0.023)	(0.028)	(0.023)	(0.028)
Privatized	-0.081	0.019	-0.010	-0.047*	-0.025	-0.056**
	(0.065)	(0.064)	(0.018)	(0.022)	(0.019)	(0.016)
Log employment	0.033**	0.041**	0.041**	0.052**	0.037**	0.042**
	(0.005)	(0.004)	(0.004)	(0.005)	(0.005)	(0.006)
Big city dummy	-0.046*	0.010	0.019	0.009	0.034*	0.044**
	(0.020)	(0.013)	(0.011)	(0.015)	(0.014)	(0.014)
No competitors	0.035	0.034	-0.023	0.015	-0.022	-0.008
	(0.042)	(0.040)	(0.026)	(0.034)	(0.025)	(0.023)
>3 competitors	0.025	-0.025	-0.020	0.001	0.018	0.032*
	(0.018)	(0.016)	(0.015)	(0.016)	(0.015)	(0.016)
Price inelastic	0.030	0.053**	0.024	0.073**	0.054**	0.041*
	(0.027)	(0.017)	(0.015)	(0.019)	(0.018)	(0.019)
Price slightly elastic	0.039	0.062**	0.032**	0.045**	0.039*	0.062**
	(0.020)	(0.014)	(0.012)	(0.017)	(0.017)	(0.017)
Price elastic	0.063**	0.018	0.018	0.007	0.020	0.046*
	(0.018)	(0.015)	(0.013)	(0.019)	(0.020)	(0.019)
Dom compet pressure	0.024*	0.017**	0.002	-0.007	0.006	-0.020**
	(0.010)	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)
Foreign compet press	0.033**	0.043**	0.014**	0.008	0.001	0.030**
	(0.009)	(0.006)	(0.005)	(0.006)	(0.007)	(0.007)
Customer pressure	0.003	0.018**	0.028**	0.035**	0.035**	0.020**
	(0.010)	(0.006)	(0.006)	(0.007)	(0.006)	(0.007)
Majority foreign ownership	-0.087**	-0.003	0.020	0.011	-0.042	-0.027
	(0.026)	(0.024)	(0.018)	(0.023)	(0.024)	(0.024)
Exporter dummy	0.047	0.10**	0.066**	0.073**	0.082**	0.023
	(0.025)	(0.018)	(0.012)	(0.018)	(0.020)	(0.021)
Sector dummies	Yes	Yes	Yes	Yes	Yes	Yes
Country dummies	No	Yes	Yes	Yes	Yes	Yes
R-sq.	0.238	0.285	0.192	0.201	0.165	0.208
Observations	807	1,953	2,070	1,358	1,621	1,213

Note: The dependent variable is strategic restructuring 4-variables index. "Very elastic" is omitted price elasticity category. Standard errors are reported in parentheses. Asterisks denote significance levels: ** - significant at 1%, * - significant at 5%.

Table VI.4: Deep restructuring and financing

Dependent variable: 2-indicator deep restructuring index

Model:	Pre-2001 EU members (I & II)		Transition economies (III-V)	
Intercept	0.329**	0.347**	0.306**	0.280**
	(0.075)	(0.076)	(0.020)	(0.019)
Privatized	-0.046	-0.052	0.064**	0.071**
	(0.106)	(0.105)	(0.014)	(0.015)
New private	-0.055	-0.060	0.129**	0.140**
	(0.068)	(0.069)	(0.013)	(0.013)
Majority foreign owned	-0.056*	-0.050	-0.011	-0.012
	(0.026)	(0.027)	(0.009)	(0.010)
No competitors	0.019	0.022	-0.008	-0.010
	(0.054)	(0.057)	(0.020)	(0.021)
>3 competitors	0.005	0.007	0.006	0.007
	(0.020)	(0.020)	(0.009)	(0.009)
Exporter dummy	0.165**	0.168**	0.089**	0.090**
	(0.021)	(0.021)	(0.009)	(0.009)
Big city dummy	-0.002	0.001	0.039**	0.033**
	(0.016)	(0.016)	(0.007)	(0.007)
Log employment	0.045**	0.043**	0.042**	0.046**
	(0.005)	(0.005)	(0.003)	(0.002)
No loan dummy	-0.065**		-0.071**	
	(0.015)		(0.007)	
No external finance		-0.093**		-0.058**
		(0.015)		(0.007)
Sector dummies	Yes	Yes	Yes	Yes
Country dummies	Yes	Yes	Yes	Yes
R-sq.	0.19	0.19	0.14	0.14
Observations	2,885	2,813	13,900	13,603

Note: The dependent variable is strategic restructuring 2-variables index. Data from 2004/5 for pre-2001 EU member states and from 2002 and 2005 for transition economies. Standard errors are reported in parentheses. Asterisks denote significance levels: ** - significant at 1%, * - significant at 5%.

Appendix: Decomposing Employment Growth

The decomposition method, commonly used in labor economics, attempts to attribute the difference in the dependent variable across two groups of observations into the difference in the explanatory variables (endowments), the difference in the relationship between the endowments and the dependent variable (coefficients), and a remaining factor which is the interaction between endowments and coefficients.[12] In particular, a differential can be decomposed as follows:

$$R = y_1 - y_2 = (x_1 - x_2)\beta_2 + x_2(\beta_1 - \beta_2) + (x_1 - x_2)(\beta_1 - \beta_2) = E + C + CE$$

where R denotes the raw differential between the means of the dependent variable **y** measured for two groups of observations, **x** is the row vector of the means of the explanatory variables $x_1,...,x_k$, and β_1 and β_2 the column vectors of the coefficient for the two groups. In the final part of the expression, E=Endowments, C=Coefficient, and CE=Interaction of C & E. The question that usually comes up is how to allocate CE. In the Oaxaca-Blinder decomposition, it is allocated along with coefficients, so that Explained = Endowments and Unexplained = Coefficients + Interaction. However, CE can also be allocated to E, or even divided between E and C. In what follows we allocate the interaction effect along with the coefficient effect.

We consider 3 sources of differences in growth: ownership, sectors, and size. The decompositions are performed for the following groups of countries:

- Cohesion group versus EU8 member states
- EU8 member states versus SEE group
- EU8 member states versus CIS group
- SEE countries versus CIS economies.

There are almost no privatized and state firms in our sample of cohesion countries, and we therefore drop any remaining privatized and state firms from the Cohesion group. The TE groups retain these. The benchmark category (excluded from the decomposition regressions) is new private firms. The regressions contain 2 dummy variables for the remaining ownership categories, privatized and state-owned firms. They also include 6 dummy variables for sectors. For simplicity of estimation and interpretation, we do not interact sector and ownership dummies thus assuming that the sector growth patterns do not vary by ownership. In contrast, size effects in our specifications can vary by ownership, since we want to separate size effects from ownership effects (for example, new private firms can grow fast because they are small and/or because they are entrepreneurial). Therefore, we interact size (average employment over 2002-05 measured in thousands) and ownership to get size-ownership effects for the TEs.

[12] We use Ian Watson's (2005) "decomp" addin for Stata for all our decompositions.

The results of the decomposition analysis, presented in Tables A1-A8 should be read the following way (using Table A1 as an example).
The first piece of information is the size of the differential to be explained (just above the main table). This is a percentage growth rate, e.g., in the first table the gap is 8.04% faster aggregate employment growth in Cohesion countries than in EU8 countries.

The first block of results is the "Amount attributable to" E, C, CE, and E+C+CE=total differential. Note that the E+C+CE total equals the total differential to be explained. These are grouped by: Sectors; Size (new private); Sectors + Size (new private; Ownership (levels and size effects);

The second and third blocks of results are the regression coefficients on which the decompositions are based (including their statistical significance), the means, and the coeff*mean = predicted values. Thus in the table for Cohesion vs. EU8 countries, the coefficient of 14.20 for Construction times the mean of 0.130 (=13% of total employment in construction) = 1.85 percentage points of the total Cohesion employment growth of 6.40%.

In the aggregate employment growth results, the total gap is about 8 percentage points. Sectoral differences explain about -4 percentage points, i.e., faster sectoral growth, and endowments of employment in faster growing sectors, actually shrink the Cohesion-EU8 gap (help the New EU countries close the gap). New private size effects are negligible. All the action is in ownership (mostly in levels though there is a privatized size effect): continued downsizing of state owned and new private firms in the New EU countries more than explains the employment growth stagnation.

The same results are visible in the Cohesion vs EU8 coefficients and means. The coefficients can be interpreted as aggregate growth rates for sectors, and the growth rate relative to the new private sector for ownership (state and privatized). The sum of the predicted values for Cohesion = 6.40%, which is the growth rate of total employment. The sum for the EU8 new private firms is 10.20%, which is faster than in the Cohesion. This is completely wiped out by the negative ownership effect of -11.85%.

Table A1. Decomposition of aggregate employment growth, Cohesion vs. EU8 countries.

Positive number = gap between Cohesion (high growth) and EU8 (low growth)
E=Endowments (employment in sector/category); C=Coefficient (growth in sector/category); CE=Interaction of C & E

Size-ownership interactions - WEIGHTED	
Cohesion growth	6.40
EU8 growth	-1.64
Differential=E+C+CE	8.04

	Amount attributable to					Cohesion				EU8			
Variables	E	C	CE	C+CE	E+ C+CE	Coef.	Sig.	Mean	Pred.	Coef.	Sig.	Mean.	Pred.
Construction	0.35	-0.10	-0.02	-0.12	0.23	14.20		0.130	1.85	15.12	***	0.107	1.62
Manufacturing	1.01	-2.18	-0.91	-3.09	-2.08	0.69		0.471	0.33	7.25	**	0.332	2.41
Transport	-2.25	-0.39	0.27	-0.12	-2.37	10.68	**	0.083	0.89	12.11	***	0.269	3.26
Trade	0.05	-0.83	-0.02	-0.85	-0.80	8.17	*	0.185	1.51	12.75	***	0.181	2.31
Real estate	0.02	0.96	0.03	0.99	1.01	22.22	***	0.083	1.84	10.31	**	0.080	0.83
Hotels & restaurants	0.04	0.12	0.07	0.19	0.22	5.84	**	0.048	0.28	1.99		0.030	0.06
Sectors (all)	-0.79	-2.41	-0.59	-3.00	-3.79				6.69				10.48
Size (new private)	-1.46	0.23	1.21	1.45	-0.02	-0.22		1.320	-0.30	-1.32		0.212	-0.28
Sectors/new private size	-2.25	-2.18	0.62	-1.56	-3.81				6.40				10.20
State	7.43	7.43	-7.43	0.00	7.43	n.a.		n.a.		-20.64	***	0.360	-7.43
Size (state)	-0.39	-0.39	0.39	0.00	-0.39	n.a.		n.a.		0.34		1.153	0.39
State/state size	7.04	7.04	-7.04	0.00	7.04	n.a.		n.a.					-7.04
Privatized	2.64	2.64	-2.64	0.00	2.64	n.a.		n.a.		-10.37	**	0.255	-2.64
Size (privatized)	2.16	2.16	-2.16	0.00	2.16	n.a.		n.a.		-2.70	***	0.801	-2.16
Privatized/privatized size	4.80	4.80	-4.80	0.00	4.80	n.a.		n.a.					-4.80
Total	9.60	9.65	-11.21	-1.56	8.04				6.40				-1.64
Memo item: number of obs						2,011				2,786			

*=10%, **=5%, ***=1%

Table A2. Decomposition of average firm employment growth, Cohesion vs. EU8 countries.

Positive number = gap between Cohesion (high growth) and EU8 (low growth)
E=Endowments (number of firms in sector/category); C=Coefficient (mean firm growth in sector/category); CE=Interaction of C & E

Size-ownership interactions - UNWEIGHTED	
Cohesion growth	7.70
EU8 growth	5.49
Differential=E+C+CE	2.21

	Amount attributable to					Cohesion				EU8			
Variables	E	C	CE	C+CE	E+ C+CE	Coef.	Sig.	Mean	Pred.	Coef.	Sig.	Mean.	Pred.
Construction	-0.10	0.50	-0.04	0.46	0.36	11.51	***	0.130	1.50	8.01	***	0.143	1.14
Manufacturing	0.21	-0.46	-0.07	-0.53	-0.32	3.97	***	0.265	1.05	5.97	***	0.229	1.37
Transport	-0.34	-0.26	0.06	-0.20	-0.54	13.50	***	0.078	1.05	16.10	***	0.099	1.59
Trade	-0.19	0.49	-0.05	0.44	0.24	7.29	***	0.284	2.07	5.75	***	0.318	1.83
Real estate	-0.21	0.70	-0.10	0.60	0.39	15.93	***	0.122	1.95	11.00	***	0.142	1.56
Hotels & restaurants	0.09	-0.04	-0.03	-0.08	0.01	1.14		0.121	0.14	1.77		0.070	0.12
Sectors (all)	-0.54	0.93	-0.24	0.69	0.14				7.75				7.61
Size (new private)	0.17	-0.15	-0.20	-0.35	-0.18	-0.62		0.089	-0.06	3.32		0.038	0.13
Sectors/new private size	-0.37	0.78	-0.44	0.34	-0.04				7.70				7.74
State	1.22	1.22	-1.22	0.00	1.22	n.a.		n.a.		-15.61	***	0.078	-1.22
Size (state)	0.05	0.05	-0.05	0.00	0.05	n.a.		n.a.		-1.38		0.035	-0.05
State/state size	1.27	1.27	-1.27	0.00	1.27	n.a.		n.a.					-1.27
Privatized	0.93	0.93	-0.93	0.00	0.93	n.a.		n.a.		-10.14	***	0.092	-0.93
Size (privatized)	0.05	0.05	-0.05	0.00	0.05	n.a.		n.a.		-2.13	**	0.025	-0.05
Privatized/privatized size	0.98	0.98	-0.98	0.00	0.98	n.a.		n.a.					-0.98
Total	1.88	3.02	-2.68	0.34	2.21				7.70				5.49
Memo item: number of obs						2,011				2,786			

*=10%, **=5%, ***=1%

Table A3. Decomposition of aggregate employment growth, EU8 countries vs. SEE countries

Positive number = gap between EU8 and SEE
E=Endowments (employment in sector/category); C=Coefficient (growth in sector/category); CE=Interaction of C & E

Size-ownership interactions - WEIGHTED	
EU8 growth	-1.64
SEE growth	-7.53
Differential=E+C+CE	5.88

	Amount attributable to					EU8				SEE			
Variables	E	C	CE	C+CE	E+ C+CE	Coef.	Sig.	Mean	Pred.	Coef.	Sig.	Mean.	Pred.
Construction	-0.50	-0.49	0.10	-0.39	-0.89	15.12	***	0.107	1.62	18.77	***	0.133	2.50
Manufacturing	-2.13	-4.36	1.21	-3.15	-5.28	7.25	**	0.332	2.41	16.74	***	0.459	7.69
Transport	2.21	-1.33	-0.90	-2.23	-0.02	12.11	***	0.269	3.26	20.37	***	0.161	3.28
Trade	0.36	-0.60	-0.08	-0.68	-0.33	12.75	***	0.181	2.31	16.53	***	0.159	2.63
Real estate	0.71	-0.31	-0.30	-0.61	0.10	10.31	**	0.080	0.83	17.91	**	0.041	0.73
Hotels & restaurants	-0.01	0.08	-0.03	0.05	0.05	1.99		0.030	0.06	0.29	*	0.046	0.01
Sectors (all)	0.64	-7.01	0.00	-7.01	-6.37				10.48				16.85
Size (new private)	-0.35	0.19	0.20	0.39	0.04	-1.32		0.212	-0.28	-3.15		0.101	-0.32
Sectors/new private size	0.30	-6.83	0.20	-6.62	-6.33				10.20				16.53
State	-1.60	5.44	0.73	6.17	4.56	-20.64	***	0.360	-7.43	-37.77	***	0.318	-12.00
Size (state)	0.57	-0.14	-0.30	-0.44	0.12	0.34		1.153	0.39	0.72		0.370	0.27
State/state size	-1.04	5.30	0.43	5.72	4.69				-7.04				-11.73
Privatized	3.93	9.15	-2.78	6.37	10.30	-10.37	**	0.255	-2.64	-35.37	**	0.366	-12.95
Size (privatized)	0.55	-1.76	-1.57	-3.32	-2.78	-2.70	***	0.801	-2.16	1.45		0.424	0.62
Privatized/privatized size	4.48	7.39	-4.35	3.05	7.53				-4.80				-12.33
Total	3.74	5.86	-3.72	2.15	5.88				-1.64				-7.53
Memo item: number of obs						2,786				1,654			

*=10%, **=5%, ***=1%

Table A4. Decomposition of average firm employment growth, EU8 vs. SEE countries.

Positive number = gap between EU8 and SEE
E=Endowments (number of firms in sector/category); C=Coefficient (mean firm growth in sector/category); CE=Interaction of C & E

Size-ownership interactions - UNWEIGHTED	
EU8 growth	5.49
SEE growth	9.37
Differential=E+C+CE	-3.88

	Amount attributable to					EU8				SEE			
Variables	E	C	CE	C+CE	E+ C+CE	Coef.	Sig.	Mean	Pred.	Coef.	Sig.	Mean.	Pred.
Construction	0.41	-0.11	0.04	-0.07	0.34	8.01	***	0.143	1.14	8.80		0.091	0.80
Manufacturing	-0.56	-2.76	-1.12	-3.88	-4.44	5.97	***	0.229	1.37	18.03	***	0.322	5.81
Transport	0.14	-0.33	0.03	-0.30	-0.15	16.10	***	0.099	1.59	19.39	***	0.090	1.74
Trade	-0.04	-2.64	-0.06	-2.69	-2.73	5.75	***	0.318	1.83	14.03	***	0.325	4.56
Real estate	0.55	-1.47	0.52	-0.95	-0.40	11.00	***	0.142	1.56	21.39	***	0.092	1.96
Hotels & restaurants	-0.02	-0.26	-0.04	-0.30	-0.32	1.77		0.070	0.12	5.48		0.080	0.44
Sectors (all)	0.49	-7.56	-0.63	-8.19	-7.70				7.61				15.31
Size (new private)	0.02	0.15	-0.03	0.12	0.14	3.32		0.038	0.13	-0.59		0.031	-0.02
Sectors/new private size	0.52	-7.41	-0.65	-8.07	-7.55				7.74				15.29
State	0.12	0.83	0.08	0.91	1.03	-15.61	***	0.078	-1.22	-26.20	***	0.086	-2.25
Size (state)	-0.01	0.25	-0.03	0.22	0.22	-1.38		0.035	-0.05	-8.59	*	0.031	-0.27
State/state size	0.12	1.08	0.05	1.13	1.25				-1.27				-2.52
Privatized	0.37	1.33	0.53	1.86	2.23	-10.14	***	0.092	-0.93	-24.59	***	0.129	-3.16
Size (privatized)	0.02	0.12	0.05	0.17	0.19	-2.13	**	0.025	-0.05	-6.84		0.036	-0.24
Privatized/privatized size	0.40	1.44	0.58	2.03	2.42				-0.98				-3.41
Total	1.03	-4.89	-0.02	-4.91	-3.88				5.49				9.37
Memo item: number of obs						2,786				1,654			

*=10%, **=5%, ***=1%

Table A5. Decomposition of aggregate employment growth, EU8 countries vs. Middle/Low Income CIS

Positive number = gap between EU8 and CIS
E=Endowments (employment in sector/category); C=Coefficient (growth in sector/category); CE=Interaction of C & E

Size-ownership interactions - WEIGHTED	
EU8 growth	-1.64
CIS growth	4.80
Differential=E+C+CE	-6.45

	Amount attributable to					EU8				CIS			
Variables	E	C	CE	C+CE	E+ C+CE	Coef.	Sig.	Mean	Pred.	Coef.	Sig.	Mean.	Pred.
Construction	-1.05	-0.50	-0.33	-0.83	-1.88	15.12	***	0.107	1.62	19.83	***	0.176	3.49
Manufacturing	-0.86	-3.34	-1.19	-4.53	-5.39	7.25	**	0.332	2.41	17.31	***	0.450	7.80
Transport	1.41	-0.12	0.05	-0.07	1.34	12.11	***	0.269	3.26	12.55	***	0.153	1.92
Trade	0.66	-0.69	0.20	-0.49	0.17	12.75	***	0.181	2.31	16.55	***	0.129	2.14
Real estate	0.19	-0.42	0.10	-0.33	-0.14	10.31	**	0.080	0.83	15.55	**	0.062	0.97
Hotels & restaurants	0.00	-0.41	0.03	-0.39	-0.38	1.99		0.030	0.06	15.53	*	0.028	0.44
Sectors (all)	0.35	-5.48	-1.15	-6.63	-6.28				10.48				16.77
Size (new private)	0.25	0.24	0.21	0.44	0.69	-1.32		0.212	-0.28	-2.43	*	0.400	-0.97
Sectors/new private size	0.60	-5.25	-0.94	-6.19	-5.59				10.20				15.80
State	-1.44	-0.18	0.04	-0.14	-1.59	-20.64	***	0.360	-7.43	-20.15	***	0.290	-5.85
Size (state)	0.18	0.06	-0.03	0.03	0.21	0.34		1.153	0.39	0.28		0.617	0.18
State/state size	-1.26	-0.12	0.01	-0.11	-1.37				-7.04				-5.67
Privatized	0.49	1.58	0.30	1.87	2.37	-10.37	**	0.255	-2.64	-16.56	***	0.302	-5.01
Size (privatized)	-1.24	-1.43	0.82	-0.61	-1.85	-2.70	***	0.801	-2.16	-0.92		0.341	-0.31
Privatized/privatized size	-0.75	0.15	1.11	1.27	0.52				-4.80				-5.32
Total	-1.41	-5.21	0.18	-5.03	-6.45				-1.64				4.80
Memo item: number of obs						2,786				3,728			

*=10%, **=5%, ***=1%

Table A6. Decomposition of average firm employment growth, EU8 vs. Middle/Low Income CIS countries.

Positive number = gap between EU8 and CIS
E=Endowments (number of firms in sector/category); C=Coefficient (mean firm growth in sector/category); CE=Interaction of C & E

Size-ownership interactions - UNWEIGHTED	
EU8 growth	5.49
CIS growth	11.99
Differential=E+C+CE	-6.50

	Amount attributable to					EU8				CIS			
Variables	E	C	CE	C+CE	E+ C+CE	Coef.	Sig.	Mean	Pred.	Coef.	Sig.	Mean.	Pred.
Construction	-0.01	-1.59	-0.01	-1.60	-1.61	8.01	***	0.143	1.14	19.11	***	0.144	2.75
Manufacturing	-0.37	-3.08	-0.84	-3.92	-4.30	5.97	***	0.229	1.37	19.43	***	0.291	5.66
Transport	0.38	0.34	-0.08	0.26	0.64	16.10	***	0.099	1.59	12.63	***	0.075	0.95
Trade	-0.06	-3.56	-0.11	-3.68	-3.73	5.75	***	0.318	1.83	16.95	***	0.328	5.56
Real estate	0.43	-0.83	0.23	-0.60	-0.17	11.00	***	0.142	1.56	16.88	***	0.102	1.73
Hotels & restaurants	0.02	-0.97	0.15	-0.82	-0.80	1.77		0.070	0.12	15.64	***	0.059	0.92
Sectors (all)	0.40	-9.69	-0.67	-10.36	-9.96				7.61				17.57
Size (new private)	-0.01	0.25	0.01	0.26	0.25	3.32		0.038	0.13	-3.24		0.039	-0.13
Sectors/new private size	0.39	-9.44	-0.66	-10.10	-9.71				7.74				17.45
State	0.12	0.29	0.03	0.32	0.43	-15.61	***	0.078	-1.22	-19.30	***	0.086	-1.65
Size (state)	-0.01	-0.03	0.01	-0.02	-0.03	-1.38		0.035	-0.05	-0.54		0.028	-0.02
State/state size	0.11	0.26	0.03	0.29	0.40				-1.27				-1.67
Privatized	0.88	1.06	1.00	2.06	2.94	-10.14	***	0.092	-0.93	-21.72	***	0.178	-3.87
Size (privatized)	0.01	-0.12	-0.02	-0.14	-0.13	-2.13	**	0.025	-0.05	2.50		0.029	0.07
Privatized/privatized size	0.88	0.95	0.98	1.93	2.81				-0.98				-3.79
Total	1.38	-8.23	0.35	-7.88	-6.50				5.49				11.99
Memo item: number of obs						2,786				3,728			

*=10%, **=5%, ***=1%

Table A7. Decomposition of aggregate employment growth, SEE countries vs. Middle/Low Income CIS

Positive number = gap between SEE and CIS
E=Endowments (employment in sector/category); C=Coefficient (growth in sector/category); CE=Interaction of C & E

Size-ownership interactions – WEIGHTED	
SEE growth	-7.53
CIS growth	4.80
Differential=E+C+CE	-12.33

	Amount attributable to					SEE				CIS			
Variables	E	C	CE	C+CE	E+ C+CE	Coef.	Sig.	Mean	Pred.	Coef.	Sig.	Mean.	Pred.
Construction	-0.80	-0.14	-0.05	-0.19	-0.99	18.77	***	0.133	2.50	19.83	***	0.176	3.49
Manufacturing	0.14	-0.26	0.01	-0.26	-0.11	16.74	***	0.459	7.69	17.31	***	0.450	7.80
Transport	0.16	1.26	-0.06	1.20	1.36	20.37	***	0.161	3.28	12.55	***	0.153	1.92
Trade	0.50	0.00	0.00	0.00	0.50	16.53	***	0.159	2.63	16.55	***	0.129	2.14
Real estate	-0.38	0.10	0.05	0.15	-0.24	17.91	**	0.041	0.73	15.55	***	0.062	0.97
Hotels & restaurants	0.01	-0.71	0.27	-0.43	-0.43	0.29		0.046	0.01	15.53	***	0.028	0.44
Sectors (all)	-0.39	0.25	0.22	0.47	0.09				16.85				16.77
Size (new private)	0.94	-0.07	-0.22	-0.29	0.65	-3.15		0.101	-0.32	-2.43	*	0.400	-0.97
Sectors/new private size	0.55	0.18	0.01	0.18	0.74				16.53				15.80
State	-1.04	-5.60	0.48	-5.11	-6.15	-37.77	***	0.318	-12.00	-20.15	***	0.290	-5.85
Size (state)	-0.18	0.16	0.11	0.27	0.09	0.72		0.370	0.27	0.28		0.617	0.18
State/state size	-1.22	-.543	0.59	-4.84	-6.06				-11.73				-5.67
Privatized	-2.25	-6.88	1.20	-5.69	-7.94	-35.37	***	0.366	-12.95	-16.56	***	0.302	-5.01
Size (privatized)	0.12	1.00	-0.20	0.81	0.93	1.45	***	0.424	0.62	-0.92		0.341	-0.31
Privatized/privatized size	-2.13	-5.88	1.00	-4.88	-7.01				-12.33				-5.32
Total	-2.79	-11.14	1.60	-9.54	-12.33				-7.53				4.80
Memo item: number of obs						1,654				3,728			

*=10%, **=5%, ***=1%

Table A8. Decomposition of average firm employment growth, SEE vs. Middle/Low Income CIS countries.

Positive number = gap between SEE and CIS
E=Endowments (number of firms in sector/category); C=Coefficient (mean firm growth in sector/category); CE=Interaction of C & E

Size-ownership interactions - UNWEIGHTED	
SEE growth	9.37
CIS growth	11.99
Differential=E+C+CE	-2.62

	Amount attributable to					SEE				CIS			
Variables	E	C	CE	C+CE	E+ C+CE	Coef.	Sig.	Mean	Pred.	Coef.	Sig.	Mean.	Pred.
Construction	-0.46	-0.94	-0.54	-1.48	-1.95	8.80		0.091	0.80	19.11	***	0.144	2.75
Manufacturing	0.55	-0.45	0.04	-0.41	0.14	18.03	***	0.322	5.81	19.43	***	0.291	5.66
Transport	0.29	0.61	-0.10	0.51	0.79	19.39	***	0.090	1.74	12.63	***	0.075	0.95
Trade	-0.05	-0.95	-0.01	-0.96	-1.01	14.03	***	0.325	4.56	16.95	***	0.328	5.56
Real estate	-0.23	0.41	0.05	0.46	0.23	21.39	***	0.092	1.96	16.88	***	0.102	1.73
Hotels & restaurants	0.12	-0.82	0.22	-0.60	-0.48	5.48		0.080	0.44	15.64	***	0.059	0.92
Sectors (all)	0.22	-2.14	-0.35	-2.49	-2.27				15.31				17.57
Size (new private)	0.01	0.08	0.02	0.10	0.11	-0.59		0.031	-0.02	-3.24		0.039	-0.13
Sectors/new private size	0.22	-2.06	-0.33	-2.38	-2.16				15.29				17.45
State	-0.01	-0.59	0.00	-0.59	-0.60	-26.20	***	0.086	-2.25	-19.30	***	0.086	-1.65
Size (state)	-0.03	-0.25	0.02	-0.23	-0.25	-8.59	*	0.031	-0.27	-0.54		0.028	-0.02
State/state size	-0.04	-0.84	0.03	-0.82	-0.85				-2.52				-1.67
Privatized	1.22	-0.37	-0.14	-0.51	0.71	-24.59	***	0.129	-3.16	-21.72	***	0.178	-3.87
Size (privatized)	-0.05	-0.33	0.06	-0.27	-0.32	-6.84		0.036	-0.24	2.50		0.029	0.07
Privatized/privatized size	1.17	-0.70	-0.08	-0.78	0.39				-3.41				-3.79
Total	1.36	-3.60	-0.38	-3.98	-2.62				9.37				11.99
Memo item: number of obs						1,654				3,728			

*=10%, **=5%, ***=1%