

Structural Change and Labour Reallocation Across Regions: A Review of the Literature

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Abstract The focus of this chapter is on the microeconomic foundations of structural change and its spatially asymmetric impact on labour markets. EU economies are undergoing dramatic industrial restructuring due to a number of causes, such as the Eastward enlargement and economic integration of Central and Eastern European countries, as well as a more general process of integration of emerging economies into world trade. In turn this is causing technical change, relocation of economic activities and reallocation of capital and labour resources. An overly optimistic view of the ability of the market economy to sustain economic development has long neglected the labour market consequences of structural change, but the availability of new data sets and the specific nature of economic transition in new member states has once again brought this issue to the fore, suggesting that it might also provide an explanation of several typical features of regional imbalances in old member states. The old and new literature suggests theoretical reasoning and empirical evidence to confirm this.

Keywords Structural Change · Labour Turnover · Regional Unemployment · Optimal Speed of Transition · Eastward Enlargement of the EU

JEL Classification J6 · P2 · R1 · R23

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1 Introduction

Almost 10 years after the beginning of the new century the economic and political geography of the European continent appears to be completely different from what it used to be only a decade earlier. Most former socialist countries in Central and Eastern Europe (CEE) have already joined the European Union.¹ Other countries in the area are likely to follow in the near future yielding further restructuring of the European economy.²

The eastward enlargement of the EU has represented for most CEECs what Fabrizio et al. (2009) have called a second transition, following that from plan to market. In the meantime, while both transitions are still producing their effects, the global financial crisis has exploded promising to bring new tensions in the production structures of all the countries in the world. What will the social consequences of these changes be? How should the losers of the transition cope with the crisis? What types of policy interventions should be implemented to prevent the explosion of the global financial crisis on local labour markets?

This paper aims to answer such questions by studying the consequences of the three transitions outlined above on local labour markets. More specifically, it aims to summarise recent research ideas and outcomes on the notion that the reallocation of labour resources spawning from industrial restructuring is one of the most important factors shaping the geographical distribution of unemployment. Although being addressed in a large number of studies, there has never been to date an effort to work out the common hypotheses and findings of the link between structural change, worker reallocation and regional unemployment. In addition, the literature has pursued different hypotheses from time to time and country to country without comparing all of them. Particularly complex is the analysis of the sources of structural change. The more recent literature on transition in Eastern Europe has provided a new perspective that also invites to reconsider the previous literature.

The chapter is structured as follows. Section One motivates the paper by surveying the most recent literature in search for the new results on the pattern of regional imbalances in Europe and of structural change. Section Two gives a simple theoretical framework with which to examine the link between structural change, worker reallocation and regional imbalances, while also providing some measures

¹In 2004, the EU saw its biggest enlargement to date when Malta, Cyprus, Slovenia, Estonia, Latvia, Lithuania, Poland, the Czech Republic, Slovakia and Hungary joined the Union. On 1 January 2007, Romania and Bulgaria became the EU's newest members and Slovenia adopted the euro.

²Notwithstanding Turkey, currently, Croatia and the Former Yugoslav Republic of Macedonia are candidate countries, though accession negotiations have started only for the former country in 2005. All the other Western Balkan countries are potential candidate countries: Albania, Bosnia and Herzegovina, Montenegro, Serbia as well as Kosovo under UN Security Council Resolution 1244/99. The EU has repeatedly reaffirmed at the highest level its commitment for the European perspective of the Western Balkans, provided they fulfill the accession criteria.

of worker reallocation across several EU regions. The following two sections deal with the issues of labour and capital migration. Section Five discusses the policy implications of the analysis. Some summary remarks follow.

2 Motivation

Recent research relative to the new EU member states gives important insights that contribute to developing our knowledge of the causes of emergence of regional unemployment and the mechanisms that might lead to its persistence. The results of such studies are partly in line with the research developed previously to understand the link between structural change and regional unemployment in market economies (see, above all, Lilien 1982; Armstrong and Taylor 1985; Abraham and Katz 1986; Samson 1990; Holzer 1991; Layard et al. 1991; Burgess 1993; Hyclak 1996), but adds new elements deepen. First of all, research on new EU member countries has contributed to reduce the tendency to neglect *gross* in favour of *net* measures of turnover flows highlighted in Elhorst (2003) in his extensive survey of research on determinants of regional unemployment differences.

Boeri (2000) notes that despite massive structural change, especially in the beginning of economic transition from plan to market, most early studies on labour reallocation across regions report that it has been relatively low. Using an argument à la Burgess (1993), he explains this apparently bizarre finding assuming that the unemployed are partially crowded out by employed job seekers with the consequence that the outflow rate from unemployment increases by much less than one-for-one with respect to the newly established private companies. He points also to labour supply constraints and rigid labour market institutions to explain high local unemployment: in fact, the crowding out of the unemployed is increasing with their reservation wage, which is affected, in turn, by the level of non-employment benefits, whose bite is greater in high unemployment regions. Boeri (2000, Chapter 3) argues, in fact, that long-term unemployment and the low degree of mobility of unemployed workers from rural to urban areas are also important factors in explaining the regional unemployment distribution in Poland. He finds evidence that: (a) the distribution of the reservation wage by levels of education is much flatter in rural areas, suggesting that highly educated workers expect a very low wage premium in those areas; and (b) it is higher for low-educated workers in rural rather than in urban areas, suggesting that low-skilled workers are better off in rural areas. They prefer to be involved in home production or family-run businesses, often in the informal sector, rather than move or commute to urban areas. For the same reasons, in rural areas the low-skilled unemployed tend to flow to non-participation, rather than to unemployment, as is instead the case in urban areas.

Bornhorst and Commander (2006) provide comprehensive empirical evidence relative to different dimensions of labour market flexibility in six major transition countries. The evidence is in favour of the hypothesis that labour market flexibility

is low, but not lower than the EU average. However, in their view, this is already enough evidence to explain the low convergence of regions in new member states.

Boldrin and Canova (2003) study convergence in new EU member states in order to assess the degree to which different policy options, including, for instance, an increasing degree of labour market flexibility and migration, increasing economic integration of goods and capital markets as well as the EU regional policy, would be more effective to stimulate convergence between old and new EU members. Marelli (2007) finds circumstantial evidence of increasing convergence between old and new member states.

Huber (2007) focuses on the empirical literature. He concludes that capital cities and regions closer to EU-borders developed better. More generally, increased economic integration has contributed to convergence with the EU at a country level, but also to internal divergence between more and less developed regions within the same new EU members. In fact, spillovers within countries tend to be small. Regional disparities are also unlikely to diminish through migration, wage flexibility and capital mobility. Migration is lower in most transition economies than in the EU and capital mobility tends to reinforce existing regional disparities. Only wage flexibility is higher than in most European labour markets.

Ferragina and Pastore (2008) appeal to the Optimal Speed of Transition Literature (Aghion and Blanchard 1994; and Boeri 2000) to argue that regional unemployment differences may be due either to similar labour reallocation across regions with a different unemployment rate, in which case high local unemployment is due to low job creation rates unable to absorb the initial asymmetric shock, or to persistently higher labour reallocation in high unemployment areas due to the inability to create stable jobs. They find that the evidence available in the literature relative to the first decade of economic transition, back in the 1990s, is in favour of the latter hypothesis and argue that this is due, in turn, to the competitive advantage of urban as opposed to peripheral regions in attracting trade and capital flows from abroad, due to their higher human capital endowment and several positive location factors.

A recent contribution by Munich and Svejnar (2009), based on estimates of matching functions in a number of CEECs, shows that industrial restructuring is still a major cause of local (and national) unemployment in several cases, although in other cases low demand and inefficient matching are also important factors.

The specific focus of this survey is to show that, notwithstanding important differences, the labour market dynamics experienced in new member states are similar to those traditionally witnessed in the old backward regions of Southern Europe. As several authors put it (see, among others, Boltho et al. 1997; Sinn and Westermann 2006; Kostoris Padoa-Schioppa and Basile 2002; Caroleo 2006), the transition has yielded, among other consequences, another Mezzogiorno, which includes not only the Eastern Länders of Germany, but arguably the peripheral regions of other new member states as well.

In both old and new EU regions, in fact, transition has triggered a massive and perpetual process of industrial restructuring with dramatic labour market consequences that inflexible labour markets have made persist over a long period

of time. In new member states, the engine of persistent industrial restructuring is to be found in the economic transition from a planned to a market economy and the economic integration with the EU after accession, whereas in old member states it is to be found not only in the access to world markets of CEECs and East Asian countries, but also in the ensuing process of technical and organisational change. This last has caused, since the early 1980s, the process of de-industrialisation and the move towards the post-fordist model of an economy based on advanced services. Finally, it is likely that the factors that fuel structural change in old member states will also fuel it in new member states. Nonetheless, there seems to be a separation between the literature of the 1980s and the 1990s on western market economies and the more recent one on new EU members.

Therefore, going beyond previous similar attempts (Boeri 2000; Boldrin and Canova 2003; Huber 2007, Marelli and Signorelli 2007; Ferragina and Pastore 2008), this survey emphasises especially those contributions that elaborate on the microeconomic foundations of structural change and its spatially asymmetric impact on local labour markets. In addition, it attempts to establish a link between the literature relative to old EU members (see, among others, for the UK, Armstrong and Taylor 1985; Layard et al. 1991, Chapter 6; Burgess 1993; for Denmark, Albaek and Hansen 2004; for Finland, Böckerman et al. 2004; for Italy, Naticchioni et al. 2006) and the United States (see, above all, Lilien 1982; Abraham and Katz 1986; Hyclak 1996), on the one hand, and the more recent one on transition countries (see the earliest studies contained in OECD 1995; and the ensuing ones by Boeri and Scarpetta 1996; Newell and Pastore 1999, 2006; Boeri 2000, Chapter 3; Faggio and Konings 2003; Lehmann and Walsh 1999; Walsh 2003; Munich and Svejnar 2009), on the other hand. The availability of new data banks and the specific nature of economic transition in new member states have suggested re-considering the role of structural change in shaping regional unemployment differentials, suggesting that it might also provide an explanation of several typical features of regional imbalances in old member states.³

Notwithstanding different theoretical approaches, methodological tools, nuances and conclusions, the common underlying hypotheses of these studies are that: (a) a number of reasons are causing industrial restructuring, including aggregate disturbances, sectoral shifts and labour market institutions; (b) industrial restructuring, in turn, is causing worker reallocation across labour market statuses; and (c) not every region is able, in the same way as other regions, to re-absorb in the new sectors the labour resources that were released in the old sectors, which causes different extents of spatial labour market imbalances.

One question underlying point (a) above is whether it is actually possible to disentangle sectoral shifts, aggregate disturbances and labour market institutions (see for a discussion of these issues, Lilien 1982; Abraham and Katz 1986). In turn, addressing this issue requires: (1) finding sources of sectoral shifts that are in nature

³Until recently, according to Böckerman and Maliranta (2001, p. 87), the research on job reallocation was only based on United States manufacturing industries (so-called “manucentrism”).

independent of aggregate disturbances; (2) finding econometric measures suitable to the scope (see, for instance, Samson 1990; Neumann and Topel 1991; Holzer 1991; Hyclak 1996).

Point (b) above assumes that although the sources of industrial restructuring are continuously changing over time and from country to country, nonetheless the effect on labour markets is supposedly the same. Specific causes of structural change include: the move from agriculture to manufacturing and the service sector like in old and new theoretical models of growth; globalisation and the economic and monetary integration of diverse economies; a process of technical change that is more or less biased in terms of the resource (or more specifically skill) requirements of new technologies and production methods; the privatisation of the state sector, especially in countries that have experienced economic transition from plan to market; and also a financial crisis like the one that is ongoing after the failure of the US mortgage market due to the diffusion of sub-prime loans.

The reasons of the difficulties mentioned under point (c) above include: a different degree of attractiveness to foreign direct investment; the existence of economies of scale in the use of labour and capital resources in more advanced regions; and the ensuing tendency of resources to move towards more (not less) developed regions, therefore reinforcing existing geographical patterns. This study therefore also witnesses the changed perspective of research on such issues as labour and capital migration as factors of the adjustment process that should lead to income and employment convergence across regions. In the traditional way of thinking, the migration of inputs was supposed to play an important part in the adjustment process causing convergence in the long run (Blanchard and Katz 1992; Boldrin and Canova 2001, 2003, and Barro and Sala-i-Martin 2004). In a more recent literature, internal labour migration is a cause of further divergence among advanced and backward regions. This is because higher returns to production factors are expected to be paid in those regions where these factors already concentrate. Economies to scale and social returns to human capital explain this in turn (Reichlin and Rustichini 1998; Funck and Pizzati 2002, 2003; Moretti 2004). In addition the internal capital flow and direct investment from abroad tend to concentrate in the most “attractive” advanced regions where they obtain higher returns, contributing in this way to reinforce regional imbalances (Overman and Puga 2002; Puga 2002; Basile 2004).

3 The Link Between Local Worker Reallocation and Unemployment

The underlying question of these studies was: How did structural change affect the regional distribution of unemployment in the new EU members? The basic Aghion and Blanchard (1994) model can be used as a general theoretical framework to answer the question and study the consequences of structural change on unemployment in a

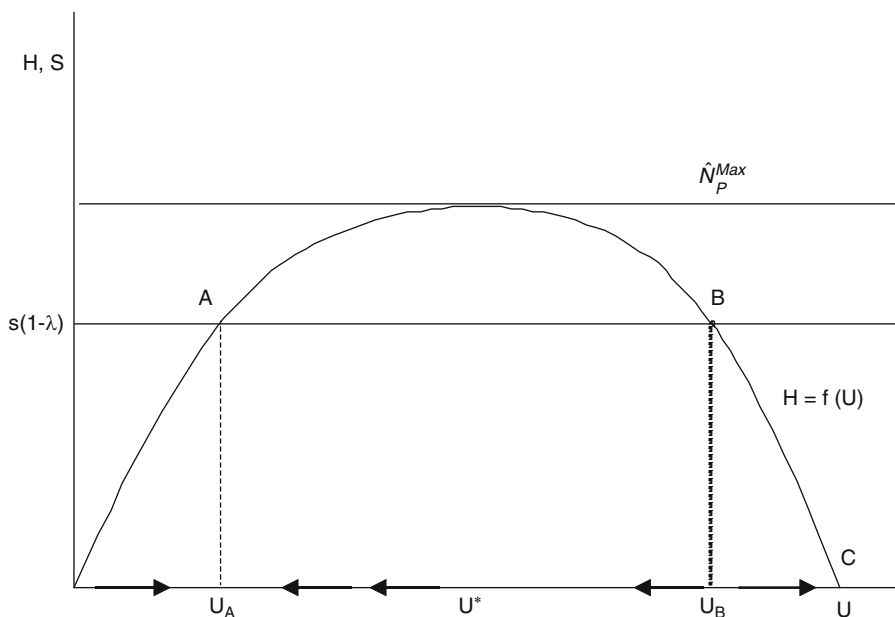


Fig. 1 Unemployment as a function of separation and hiring rates

relatively simple way.⁴ In Fig. 1, the hiring rate is represented as a bell-shaped function of unemployment. This non-linearity depends on the double effect of unemployment on the hiring rate. As the hiring rate depends on the profit earned by private firms, it is negatively related to wages and taxes. On the one hand, unemployment reduces wages, and therefore fosters private sector growth, since with unemployment increasing there is greater competition for jobs by the unemployed and downward pressure on wages.⁵ However, on the other hand, unemployment also has adverse effects on private job creation, because it increases the level of taxes per worker, thus reducing the level of profits. In fact, the higher the level of unemployment the higher is also the overall expenditure on unemployment benefits. However the separation rate is a straight line, as it is decided by the government. The evolution of unemployment depends on the separation rate: when this is above the hiring rate, unemployment increases; vice versa, if there is more hiring than separations, then unemployment shrinks.

According to the Aghion and Blanchard model, the most common case is when two equilibrium unemployment levels are possible, of which only *A* is stable. For any level of unemployment lower (higher) than U_A , the separation rate exceeds (is lower than) the hiring rate and unemployment increases (shrinks). Unemployment

⁴For a more accurate account of the model see, among others, Roland (2000); Boeri (2000) and Ferragina and Pastore (2008).

⁵In this model, employed workers exert no job-search activity.

is steady when it reaches the level U_A , where the flows in and out of unemployment equal each other. In U_A , unemployment is stable until the point when the source of structural change is exhausted.⁶ Conversely, if unemployment reaches the level U_B , the negative effect on taxes offsets the positive effect on wages, which causes the reforms to fail. In fact, for levels of unemployment higher than U_B , the flow into unemployment exceeds that out of unemployment, which makes unemployment grow indefinitely.

Aghion and Blanchard (1994) introduced the model in Fig. 1 to derive the national unemployment rate in a period of transition, although it could also be used to derive implications on regional labour markets of structural change (Ferragina and Pastore 2008). Assuming that local labour markets are sufficiently separated from each other, then, the model can be used to understand how unemployment is shaped in different regions/sectors of the same country. Different sets of hypotheses can be formulated and tested based on the above model. More specifically, the literature discusses two alternative hypotheses regarding the link between labour reallocation and local unemployment:

H₁ Worker reallocation correlates positively with regional unemployment

H₀ Worker reallocation is independent of regional unemployment

Before discussing each hypothesis in detail, it is perhaps important to make a note on the terminology used. First, in equilibrium, or with a stable unemployment rate, hiring and separation rates should be equal to each other and hence it is possible to focus on labour reallocation, meant as the sum of the hiring and separation rates, rather than on each of them alone.⁷ Following Davis et al. (1996), it is typical in the literature to distinguish worker reallocation, meant as the sum of hiring and separation rates, and job reallocation, meant as the sum of job creation and job destruction rates. While the worker reallocation rate is generally computed using individual level data, the job reallocation rate is computed using firm level data. As shown in greater detail below, some studies use job and others worker flows.

According to H₁, there are different rates of separation and hiring in regions with a different unemployment rate. More specifically, with an increase in local unemployment rate the rate of worker reallocation also increases: it means that in regions experiencing a higher unemployment rate more jobs are destroyed and created at the same time. The underlying question is: What causes such regional differences in the rate of worker reallocation and unemployment? In the spirit of the model, one

⁶In the model under consideration, the source of structural change is the transition from plan to market. However, as already noted previously, there are many possible sources of structural change and the model can be taken as a theoretical framework to study the labour market impact of structural change.

⁷It is a finding of many studies in this branch of literature that the inflow to and outflow from unemployment exhibit a high correlation rate both across regions (see, for instance, Böckerman et al. 2004, Figs. 3 and 4) and across industries (Greenaway et al. 2000, Fig. 4).

may assume that each region has a specific rate of structural change, but other hypotheses are also possible, as discussed in greater detail in the next section.

According to H_0 , instead, the same aggregate shock has yielded different effects in different regions. The fact that some regions have a higher unemployment rate than others is due to the fact that as a consequence of the initial high destruction of job matches, some regional labour markets are overcrowded with a stagnant unemployment pool, despite the fact that at a later stage the degree of labour turnover becomes the same in all regions. High unemployment regions have experienced an unsuccessful transition process, with a too high separation rate at the beginning of transition, so that the unemployment rate exceeds its equilibrium level. Only at a later stage separation rates converge across regions. The fact that the rest of the country is posited on point A weakens the feedback mechanisms, which would lead the reforms to fail, since the speed of reforms is decided centrally.

It is worth mentioning that the above alternative hypotheses are reminiscent of the sectoral shifts versus aggregate disturbances hypotheses in the debate on Lilien (1982) contribution, transposed at the level of labour market flows. As shown in the next section, in fact, if the sectoral shift hypothesis holds true, then we assume that each region experiences a specific shock, whereas if the aggregate disturbances hypothesis holds true, then we assume that an initial aggregate shock is generating asymmetric effects at a regional level.

Ferragina and Pastore (2008) suggest that the above hypotheses configure an empirical law to detect the case when unemployment is due to some region-specific shock, namely when the high degree of labour turnover in high unemployment regions is caused by industrial restructuring, and when it is due to labour market rigidities.

Last, but not least, the policy implications of these alternative hypotheses are partly different. Whilst a low job finding rate essentially indicates the need for supply side policies in favour of the long-term unemployed, namely increasing labour market flexibility and/or educational reforms and active labour market policy on a large scale, H_0 also requires interventions on the demand side. For instance, assuming that the government is able to do so, it should reduce the rate of separation and/or increase the life expectancy of private businesses in the high unemployment regions. This might in turn require removing the sources of structural change in high unemployment regions.

The empirical evidence available in the literature on the geographical link between worker reallocation and unemployment is neither large nor unambiguous. The main reason is the limited availability of suitable longitudinal data to measure labour market dynamics at a local level. In addition, it should also be noted that the sign of the relation under consideration might change over time. Some studies, in fact, find evidence of a positive correlation in some periods and an insignificant one later on.

Robson (2001) find no correlation between the rate of worker reallocation and that of unemployment across the UK macro-regions in the decade 1984–1994. In the case of transition countries, some authors (such as Boeri and Scarpetta 1996; Boeri 2000; the World Bank 2001; Rutkowski 2003) interpret the low rate of worker reallocation of high unemployment regions as a consequence of low labour

market dynamism. In fact, high unemployment would concentrate in rural areas, where a small number of job opportunities would force jobless people towards non-employment (unemployment or inactivity) or the hidden economy (Boeri and Garibaldi 2007).

Other studies find evidence that high unemployment regions are those where the degree of worker turnover is higher. For instance, Newell and Pastore (2006) have compared average transitions from employment to unemployment, and vice versa, with regional unemployment rates in 49 Polish voivodships¹³ during the period 1994–1997, which was before the reform that reduced the number of administrative units to 16. They use labour force survey data to compute annual gross worker flows and find a correlation coefficient between the job separation rate and the unemployment rate of 0.76, significant at the one-percent level. Not surprisingly, the job finding rate also displays a similar degree of correlation to the unemployment rate. Overall, high unemployment voivodships tend to be regions of large-scale transitions from employment to unemployment.

A positive correlation is also found in old member states where unemployment rate imbalances are dramatic. For the UK, Armstrong and Taylor (1985) use male unemployment monthly inflow data from Manpower Services Commission at Employment Offices and Jobcentres and find that they directly correlate to local unemployment rates. In the case of Italy, Contini and Trivellato (2006) find that the traditionally high unemployment regions in the South have a higher (not a lower) degree of worker turnover as compared to low unemployment regions in the North. Naticchioni et al. (2006) find similar clear evidence of H_1 using the ISFOL panel based on ISTAT Labour Force Survey data. Figure 2 confirms by means of a

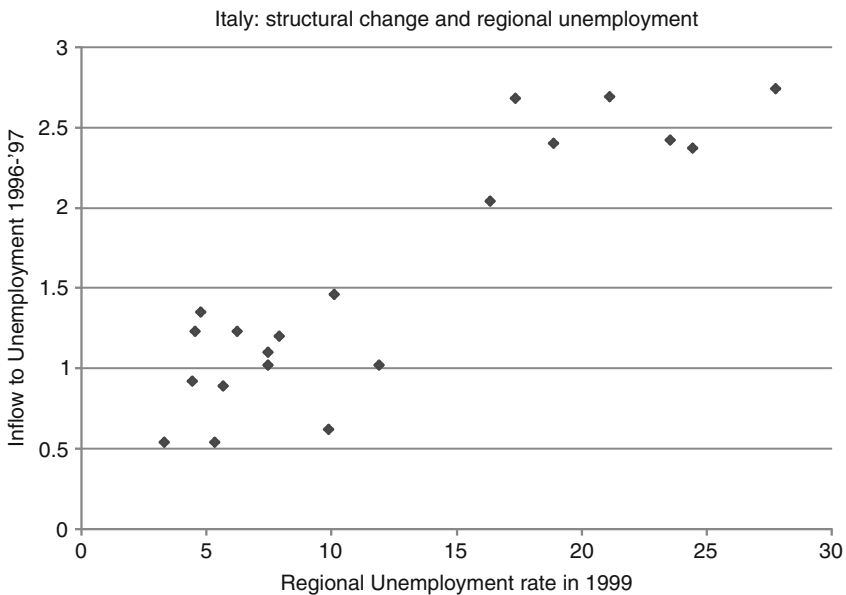


Fig. 2 Worker reallocation and unemployment rate in Poland at a NUTS3 level

graphical representation the findings of these last studies using the same data relative to the second half of the 1990s.

How is it possible to reconcile different results, sometimes relative to the same country? First, as already noted, the degree of dispersion of the unemployment rate might change over time. Moreover, the type of data used and the time unit of the analysis might importantly affect the results. It is well known, that the flow rate over a given time unit provides only a rough approximation to the true transitions probability. Not only measurement errors and attrition, but, as Kiefer (1988) highlights, also unrecorded spells affect the available measures of worker flows (so-called censorship problem). In fact, there is not a unique and unambiguous measure of the changes happening between different statuses of the labour market. More importantly, because of the various factors affecting longitudinal data, such as the loss of representativeness of the matched sample, the problems generated in the matching procedure and the presence of unrecorded spells, annual flow rates cannot be obtained summing up quarterly or monthly rates. They actually measure different phenomena.

As noted also in Blanchard and Portugal (2001), the choice of the time period has important implications for the analysis. Compared to quarterly flows, annual flows tend to underestimate short spells, but tend to estimate long spells more accurately. Table 1 provides a synoptic view of the differences between annual and quarterly transitions. On the one hand, more than annual flows, quarterly, and monthly flows are especially affected by short spells, which tend to go unrecorded in the case of annual flows, because of the longer time span between the two interviews considered. In turn, the size of short spells depends on various institutional factors, such as legislation on unemployment benefits, on employment protection, on temporary employment and so on. The higher the degree of protection enjoyed, for instance, by workers involved in temporary jobs, the higher their diffusion and the higher the quarterly and monthly flows. The same relationship does not necessarily hold true

Table 1 Annual vs. quarterly labour market flows

	Annual transitions	Quarterly transitions
Advantages	<ul style="list-style-type: none"> – Better estimates of long spells – Less affected by institutional arrangements, especially short term, fixed contracts – More useful to study the effects of restructuring – More appropriate for international comparisons 	<ul style="list-style-type: none"> – Mirror more accurately institutional factors of the labour market – Less affected by attrition, classification and other measurement errors
Disadvantages	<ul style="list-style-type: none"> – Underestimation of short spells – More affected by attrition – More affected by classification and other types of measurement errors – Less accurate 	<ul style="list-style-type: none"> – Overestimation of short spells – Affected by institutional arrangements, including short term contracts, length of unemployment benefits etc. – Mirrors spurious transitions when studying numeric flexibility – Censoring of long spells

in the case of annual flows. Of course, the size of short spells is to be considered accurately when drawing any conclusion on the degree of labour market flexibility, verifying what share is due to temporary work.

On the other hand, measurement errors and attrition are more sizeable in the case of annual flows, as their construction implies matching files relative to interviews a year apart. Yet, annual flows are more affected by long spells, which tend to be censored in flow rates computed over shorter periods. The so-called censorship problem is less relevant in the case of annual flows, as a smaller number of long spells ending in a change of status go unrecorded. Being affected less by short spells is probably an advantage of annual flows when the aim is to understand the determinants of unemployment, as the interest is on permanent rather than transitory moves. Only permanent moves affect permanently employment.⁸

4 The Sources of Worker Reallocation

One question was left unanswered in the previous section: if H_1 holds true, namely if the rate of worker reallocation positively correlates with the unemployment rate, what are the sources of the reallocation? In other words, why should some regions experience a greater degree of structural change than others? Several hypotheses have been raised in the literature, namely that the correlation is due to:

H₁₃ Different sectoral shifts across regions (Lilien hypothesis).

H₁₂ Aggregate disturbances that cause spatially asymmetric effects (Abraham and Katz hypotheses).

H₁₁ the unemployed are crowded out by employed job seekers in low unemployment regions (Burgess hypothesis).

H₁₀ Role of labour market institutions (regional Krugman hypothesis).

Note that two numbers identify each hypothesis, of which the first one refers to hypothesis one in the previous section. According to H_{13} , some sectors/regions experience a permanent reduction in labour demand that cause local unemployment.⁹ In his study of the determinants of unemployment in the US, Lilien (1982)

⁸A similar opinion is expressed in McIntire (cited in Flaim and Hogue 1985, p.16). He is reported to note that “the measurement of months-to-months flows, in addition to being affected by sampling and response errors, are also a reflection of transitory or insignificant movements, the inclusion of which limits the value of the flow data spanning over longer time periods, focusing on changes in “usual” or “primary” labour force status”. See on this point also Blanchard and Portugal (2001, p. 4).

⁹As discussed in greater detail in the next section, there could be many reasons why structural change might be region specific.

found a strong positive correlation over time between the aggregate unemployment rate and the cross-industry dispersion of employment growth rates. Indeed, the first issue to address when attempting to verify Lilien hypothesis is the type of index used to measure industrial restructuring.¹⁰ Even when they take a microeconomic approach to the issue, most studies use some variation of the Lilien index, despite the criticisms that it would be unable to disentangle sectoral shifts from aggregate disturbances (Abraham and Katz 1986; Neelin 1987).

For each region of the country, the Lilien index measures the variance in industry employment growth:

$$\text{Lilien} = \left[\sum_{i=1}^n \left(\frac{x_{irt}}{x_{rt}} \right) (\Delta \log x_{irt} - \Delta \log x_{rt})^2 \right]^{\frac{1}{2}} \quad (1)$$

where i is the industry, r is the region and t is time. The evidence of a positive correlation between the Lilien index of employment change and the rate of unemployment is large.

Samson (1985) was among the first studies to confirm Lilien analysis for the case of Canada. Newell and Pastore (2006) provide similar evidence for voivodship unemployment in Poland. They find that high unemployment is related to high rates of destruction of job-worker matches and low unemployment is related to greater job stability, which seems to contradict the received wisdom according to which the greater the degree of flexibility in local labour markets, the lower the level of unemployment. This is as one would expect if industrial turbulence is a major cause of the regional pattern of unemployment and suggests that higher rates of separations derive from the higher-than-average speeds of transition of some regions. Krajnyák and Sommer (2004) find a strong correlation between the same index of industrial turbulence and the local unemployment rate in the Czech Republic over the years 1998–1999, when restructuring actually started. As suggested by Berg (1994), Barbone et al. (1999) find evidence in favour of the role of structural change in explaining regional unemployment in Poland, using a new data set including a detailed industry classification. They decompose the labour productivity growth of various two-digit sectors of industry, finding that structural determinants of the recovery outweighed cyclical ones. This would suggest that restructuring, rather than the output fall was responsible for the relevant loss of jobs the country experienced in the early 1990s. Robson (2009, p. 282) computes the Lilien index for macro-regions of the UK during the years from 1975 to 2001 and finds a positive correlation with the unemployment rate. Lehmann and Walsh (1999) suggest a possible explanation of why sectoral shifts are associated with higher unemployment, arguing that labour turnover is linked to the level of human capital: where

¹⁰Armstrong and Taylor (1985) use different indices of cyclical and structural factors of unemployment in the UK, finding that they explain over 70% of the cross-regional variation of their male inflow rates into unemployment. Instead labour supply factors seem to explain only a minor part of the dependent variable.

human capital is interchangeable, workers do not oppose restructuring, which takes place generating unemployment, but also fast output recovery.

However, one underlying assumption of the Lilien hypothesis, namely that sectoral shifts can take place as independent sources of labour demand reduction, has been criticised by Abraham and Katz (1986). According to these authors, sectoral shifts are the consequence of the same aggregate shock which has a different impact on different sectors/regions: in other words, what we observe, namely a greater variance of employment shares in some regions, is the consequence of asymmetric effects of the same aggregate shock. The *causa causarum* of dispersion in the local unemployment rate distribution is not a specific region-specific shock, but a common aggregate shock (so-called Abraham and Katz hypothesis). Different from Samson (1985) study for Canada, Fortin and Araar (1997) find that aggregate disturbances were more important than sectoral shifts to explain short-term fluctuations in unemployment.

To overcome these criticisms, the ensuing research in the field has pursued the objective of finding empirical ways of disentangling sectoral shifts and aggregate disturbances. At least two different approaches have been taken. First, using a macroeconomic approach, Neumann and Topel (1991) develop a model where the equilibrium level of unemployment in a region depends on its exposure to the risk of within-industry employment shocks and on their degree of industrial diversity: in fact, if the covariance of labour demand shocks between industries is low, then workers are able to counter the adverse effect of local demand shocks through inter-sectoral mobility. Their approach has stimulated further research (see, for instance, Chiarini and Piselli 2000; and Robson 2009).

The above discussion shows the existence of a clear link between Lilien's argument and Simon (1988) and Simon and Nardinelli's (1992) hypothesis of a *portfolio effect* in the labour market. The hypothesis is that the higher the degree of industry diversification, the lower the impact on the local production structure of a sectoral shift and the higher the probability for dismissed workers to find employment in other sectors. They found evidence of a portfolio effect in the US labour market using the Herfindahl index to measure the degree of industry concentration in estimates of the determinants of States unemployment. Other studies relative to advanced market economies and transition economies also find a strong correlation between the index and various measures of local labour market distress (see for surveys Elhorst 2003, p. 735; and Ferragina and Pastore 2008, p. 91).

Hyclak (1996, p. 655) proposed another index to disentangle sectoral shifts and aggregate disturbances and assess the relative importance of the former in the case of the United States. The peculiarity of this index is that it is based on establishment level data, on gross job flows.¹¹ The total reallocation of jobs across

¹¹As Dunne et al. (1989, p. 49) note: "Since the transition of workers between positions in different plants is not frictionless it is the gross rather than the net employment changes that are of primary importance in analysing the costs, such as unemployment, of fluctuations in labour demand".

establishments, meant as the sum of gross job creation and gross job destruction rates ($T_t = |GJC_t| + |GJD_t|$), can be decomposed in three terms:

$$T_t = |\Delta L_t| + \left(\sum_j |\Delta L_t^j| - |\Delta L_t| \right) + \sum_j (T_t^j - |\Delta L_t^j|) \quad (2)$$

where J represents a region. The first term to the right end side of the equation is gross job turnover as measured by the difference of gross job creation and gross job destruction rates ($\Delta L = |GJC_t| - |GJD_t|$); the second term measures the job reallocation rate across sectors resulting from shifts in employment from declining to expanding sectors (index of structural change); and the third term measures the employment turnover generated by job shifts across establishments within sectors (index of frictional job reallocation). Note that the second term, the measure of structural change, by definition equals zero when all sectors are growing or declining and therefore should capture only sector specific shifts. Hyclak (1996) reports estimates relative to a sample of 200 US metropolitan areas over the years 1976–1984 and finds a negative correlation of -0.72 between sectoral shifts and net job growth. In addition, in panel estimates of the determinants of the local unemployment rate, he finds a positive statistically significant impact of sectoral shifts, but not of frictional job turnover, concluding that it was the sectoral rather than the cyclical component of the shocks to affect the local unemployment rate.¹²

Holzer (1991) proposes an alternative measure of sectoral shifts, namely the sales growth rates, used to disentangle shifts between and within local markets. The econometric analysis shows that the former have a much greater impact than the latter.

According to Burgess (1993), the fact that worker reallocation is greater in high unemployment regions could be related to the lower job opportunities for unemployed job seekers in low unemployment regions. In these regions, in fact, the unemployed are crowded out by employed job seekers who are encouraged to search for better jobs. Consequently, one would observe a higher worker turnover in high unemployment regions simply because in these regions the unemployed who find jobs are a larger relative number with respect to their peers in low unemployment regions.

A number of studies aim to test the Burgess hypothesis. Van Ours (1995) finds only partial evidence of competition between employed and unemployed job seekers exploiting data relative to the Netherlands in the first half of the 1980s. Broersma (1997) finds evidence of a similar degree of competition between employed and unemployed job seekers in the flexible UK and rigid Netherlands. For the UK, Robson (2001) finds evidence of the tendency of employed job seekers to crowd out the unemployed especially in low unemployment regions. Bruggess and Profit (2001) find that high unemployment levels in neighbouring areas raise

¹²Dunne et al. (1989), the first authors to devise the index, found similar rates of structural change.

the number of local vacancies but lower the local outflow from unemployment. Eriksson and Lagerström (2006) study the Swedish Applicant Database and find evidence that in Sweden unemployed job seekers face a lower contact probability, and receive fewer contacts, than an employed job seeker. The authors also note though that this does not mean that they accept jobs less easily than the latter, due to their lower reservation wage.

In some way related to the Burgess theory is the last hypothesis relative to the role of labour market institutions. According to several scholars, the correlation between worker reallocation and the unemployment rate might be due to the fact that in high unemployment regions the composition of workers is such that there are more workers with a higher probability of losing their job due to the spatially asymmetric impact of labour market institutions. Extensive literature highlights, among other things, the role of rigid wages and legislation protecting employment, non-employment subsidies and early retirement schemes as factors affecting labour supply decisions (see, among others, Boeri 2000; World Bank 2001; Rutkowski and Przybila 2002; Funck and Pizzati 2002, 2003).

According to the well-known Krugman hypothesis, the higher the degree of labour reallocation experienced in a country or in a given period of time, the lower the unemployment rate. Blanchard and Summers (1986) claim that a higher degree of cyclical of the hiring rate is behind fluctuations in the United States unemployment rate. Burda and Wyplosz (1994) note that European countries differ in terms of the degree of cyclical of hiring and firing rates. While some EU countries follow US trends, others, instead, have a cyclical firing rate. Layard et al. (1991) summarise this research partly confirming the hypothesis that a low job finding rate is behind high unemployment rates, due to the increase in long-term unemployment and its persistent impact on average unemployment.

Translating the Krugman hypothesis to a regional level would imply that the rate of labour reallocation should be higher in low unemployment, boosting regions. In fact, high unemployment regions should be those regions where the degree of job finding is lower. However, as discussed until now, theoretical reasoning and, as the next section will show, also empirical evidence proves that exactly the opposite hypothesis holds true. The role of labour market institutions in shaping the regional pattern of worker reallocation has been at the core of the debate on regional unemployment in transition countries, as the next sections will discuss in greater detail.

Confirming these labour market hypotheses at a regional level, some scholars find results that are in apparent contrast with the Lilien hypothesis. Garonna and Sica (2000) find a negative association between the Lilien index of structural change and the unemployment rate in Italy: in particular, sectoral and interregional reallocations in Italy reduce unemployment, rather than increasing it. Böckerman (2003) finds results that dramatically differ from the ones reported above using establishment level data of Finland from 1989 to 1997. He studies the correlation between the local NUTS4 level unemployment rate, on the one hand, and the rate of excess job reallocation, the churning rate and the rate of simultaneous inward and

outward migration,¹³ on the other hand, controlling for a number of other typical regional characteristics. He finds a negative (not a positive) correlation of these variables with the local unemployment rate and takes this result as evidence of the Schumpeterian “creative destruction” hypothesis.

In conclusion of this section, it should be noted that no study compares all the above hypotheses regarding the possible sources of worker reallocation across industries in the same theoretical framework. Most studies provide evidence of only one source or, in several cases, they contrast two hypotheses. This implies that important developments in the literature might come from contemplating all the hypotheses made above in one single theoretical and empirical framework. Many studies report a positive correlation between the local rate of unemployment and that of industrial change.

5 The Weakness of Backward Regions

Assuming also the existence of a positive correlation between local shocks, worker reallocation and regional unemployment that do not depend on aggregate disturbances, the question arises as to why some regions experience such shocks more frequently or with greater intensity than others. The literature has raised a number of explanations as to why this might be the case. There are sources of structural change that tend to be transitory and others that are permanent features of high unemployment regions. These shocks represent the “weakness” of high unemployment regions. The transitory sources of structural change include:

1. The opening up to international trade of new competitors
2. The introduction of new technologies causing some productions to go out of market (Caballero and Hammour 1994)

Due to their specialisation in low-skill intensive productions, high unemployment regions tend to be much more exposed than average to international competition arising from the opening up to international trade of emerging market economies. These last, in fact, tend to have the same type of product specialisation as emerging market economies. In turn, this often implies that to survive international competition firms have to diversify their activities and delocalise important production phases from the least developed regions of advanced economies to the most advanced regions in emerging economies, with important labour market consequences in both areas.

¹³By excess job reallocation, it is meant the difference between the gross job reallocation rate (the sum of job creation and destruction) and the absolute value of the net rate of change in employment (the difference between job creation and destruction). The churning rate measures the excess of gross worker flow (sum of separations and job finding) over the gross job reallocation rate.

There is no specific reason why technical change should be relatively more harmful for the employment prospects of backward regions, but the lower degree of product diversification of these regions. In fact, technical change is likely to generate less unemployment in those regions where the economic structure is heavily dependent on obsolete production. This argument is based on the aforementioned portfolio effect in the labour market (Simon 1988; Simon and Nardinelli 1992). In other words, technical change might generate more structural change in backward regions where economic activities are marginal and easy to exit from the market.

Considering these sources of structural change transitory does not mean that they happen only for a short period of time. For instance, the economic integration of CEECs productions on EU markets began in the late 1980s and is still ongoing; the same also applies to the European integration of the so-called Chindia. In turn, this means that the actual impact of transitory sources of structural change depends ultimately on specific structural and permanent “weaknesses” of high unemployment regions, namely their:

1. Low competitiveness and low local attractiveness to investment from abroad due to:
 - (a) Low human capital endowment
 - (b) Low social capital endowment
 - (c) High crime rate, including organised crime
2. Weakening of adjustment mechanism of migration
3. Their economic dependence on more developed regions
4. Poverty traps

5.1 Globalisation and Regional Imbalances

The already mentioned low competitiveness of backward regions in advanced economies, due also to their low endowment of human and social capital, makes them more exposed to international competition because of similarity in product specialisation. Furthermore, it might also reduce the attractiveness of backward regions to direct and indirect investment from abroad, while increasing the brain drain. However, investment from abroad might importantly contribute to job creation, especially Greenfield investment, and reduce job destruction by increasing productivity via technological and organizational knowledge transfer, especially acquisitions (Basile 2004, p. 13–14).

In this perspective, will trade expansion and capital flow from abroad tend to increase or reduce the degree of structural change in backward regions of advanced economies? What would be the impact on local employment prospects? This is a complex issue, often discussed in policy debate, but still neglected in scientific literature (Suedekum 2003) also because of the lack of statistical data with a sufficient degree of regional disaggregation. Overman and Puga (2002) and Puga

(2002) argue that international trade and inflow of capital from abroad tend to reinforce, not weaken the existing pattern of unemployment. In other words, trade and FDI are factors of regional divergence, not convergence, which is consistent with both the post-Keynesian hypothesis of cumulative causation and the New Economic Geography theories of location with economies of scale. In addition, the unemployment level of a region is more related to that of neighbouring regions (independent of the country to which it belongs) rather than to that of other regions within the same country (club convergence).

In fact, despite the short-run costs of adjustment to trade liberalization, in a number of new member states that successfully integrated into global markets, export-led growth has eventually brought large employment dividends. However, due to the strong polarisation of FDI, employment dividends have been localised in more advanced, urbanised regions (Fazekas 2000, 2003; Newell et al. 2002; Martin 2003; Basile 2004; Cieřlik 2005; Tondl and Vuksic 2008). In such countries as Italy, Spain and Greece, as well as in many new EU members, exports are concentrated in low value added, slow-growing products, poorly linked to global production networks and FDI flow. Nonetheless, as Dasgupta et al. (2007, p. 330) argue, while the impact of trade expansion on employment is highly significant in countries that are large FDI recipients, trade adds little to job creation in countries that receive only small amounts of FDI.¹⁴

To meet the employment challenge, along with continuing trade liberalization, companion policies would need to strengthen the investment climate and upgrade the quality of trade-related services, so as to improve the attractiveness of backward regions or countries as a place to invest. In this direction, after the past emphasis on macroeconomic stabilisation, a new growing body of literature is focusing on corporate governance, institutional microeconomic framework, infrastructure, social capital, and crime rates as factors able to affect FDI location.

Basile (2004) provides an enlightening analysis of the factors that are able to boost FDI expansion in backward Italian regions. He demonstrates by way of simulation analysis that Southern provinces (with high unemployment rates) have a high potential attractiveness, which might be implemented with a strong investment in public infrastructures. Contrary to traditional wisdom, foreign acquisitions are affected not only by the supply of acquisition candidates, but also by other location characteristics, such as the market size, public infrastructure, stock of foreign firms and unit labour costs. Cieřlik (2005) also argues that investment in infrastructure might be more important than fiscal incentives to trigger the location of FDI in backward eastern regions of Poland. In his case study of Ireland, Barry (2003) shows that FDI have made a crucial difference with respect to Spain, Portugal and Southern Italy, able to explain the country's convergence to the EU levels. The author shows that a high and increasing supply of skills, a high expenditure to increase the country's infrastructures, but also a lower than EU average tax rate have been factors able to attract investment from abroad.

¹⁴In New Economic Geography theories, trade and capital flows are complement not substitute.

Analysis of the geographical location of foreign direct investment highlights the importance of policy intervention. The positive impact of fiscal incentives on the location of economic activities would suggest re-considering their role as a policy instrument in favour of backward EU regions. In fact, fiscal incentives are not necessarily distortive of competition, but are a form of compensation for the lower infrastructural level of backward EU regions.

5.2 *Adjustment Through Migration?*

In the early 1990s, a number of influential contributions re-launched the role of internal migration as a tool to achieve convergence in unemployment rates. Blanchard and Katz (1992) find that labour mobility, as driven by the need to escape unemployment in depressed areas, rather than by higher wages in booming regions, has been decisive in achieving regional convergence in unemployment rates across the United States. However, Decressin and Fatàs (1995) suggest that in old member states (if any) unemployment convergence across regions was achieved through an increase in inactivity rates in high unemployment regions. These findings have been uttered in recent research relative to other advanced economies (see, for a survey of the literature, Elhorst 2003, p. 727–729).

Recent studies have attempted to assess the role of internal labour migration in the case of new EU member states. According to Bornhorst and Commander (2006), the available information on labour mobility in new member states points to very low interregional flow, which further declined during transition. Gross migration rates are similar to those typical of low mobility EU countries, such as Spain and Italy. As a consequence, the net migration flow is positive in low unemployment regions, as would be expected, but the rate is low and therefore insufficient to compensate large unemployment differentials (see also Rutkowski and Przybila 2002; and Kertesi 2000; Boldrin and Canova 2001, 2003; Paci et al. Chapter in this book).

The debate has also addressed the issue of factors hindering internal migration. The research on the wage curve suggests that wages respond to local labour market conditions also in emerging market economies (Blanchflower and Oswald 1994, 2005; Blanchflower 2001).¹⁵ What is then the reason for low interregional mobility in Europe? In the early 1990s, together with linguistic and cultural differences, the high cost of housing and a poorly functioning rental market were decisive factors in the EU. In transition countries, these were also the consequences of other factors, such as the dominance of owner-occupied housing, the lack of clarity over property

¹⁵An interesting consideration relative to the Italian Mezzogiorno is whether there is a wage curve in Italy and whether wage differentials are able to generate sufficient incentives for regional migration (Lucifora and Origo 1999; Devicienti et al. 2003).

rights and the absence of long-term housing finance. Nonetheless, there is currently no systematic analysis of these factors.

In addition, Boeri (2000) and Rutkowski and Przybila (2002) ascribe low labour mobility to differences in reservation wages by skill and the mismatch between the unskilled workers residing in high unemployment regions and the demand for skilled work in low unemployment areas. In rural areas, the low-skilled unemployed tend to flow to non-participation, rather than to unemployment, which occurs in urban areas. These studies (Bornhorst and Commander 2006; Huber 2004) suggest that low participation rates might be the way by which transition countries will absorb negative shocks in the long-run, as in the case of old member states depicted in Decressin and Fatàs (1995).

Proposing a different perspective, Fidrmuc (2004) adds that gross migration, both inbound and outbound, is more sizeable in developed than in peripheral regions, suggesting that migration might contribute to increasing rather than reducing regional differentials, by pooling high skill workers in developed regions and separating them from depressed regions. Böckerman (2004) estimates a fixed effect model of the determinants of local unemployment rates at a NUTS5 level in Finland and finds that the gross migration rate negatively correlates with the unemployment rate, but not with the share of long-term unemployment, suggesting that a reorganisation of labour resources between local units might still generate efficiency in the labour market hence reducing the waste of labour resources. Nonetheless, this process of reallocation does not seem to affect the long-term unemployment rates.

There are a number of reasons why the traditional adjustment mechanism might not work anymore. First, the migration of unskilled labour is stopped up by the low return to this factor of production in potential destination areas. Instead, it is skilled labour to move frequently from high to low unemployment areas, which further weakens the economic conditions of high unemployment regions. Second, one common factor of the low internal migration is the increasing attractiveness of international migration. The effects of this last on regional unemployment imbalances are ambiguous though, since, as Bonin et al. (2007) and Zimmermann (2009) note, migration is more and more selective in favour of skilled labour. Consequently, there is an increasing risk that international migration is causing a brain drain from high to low unemployment and from backward to advanced regions and countries. Furthermore, as noted in the previous section, capital resources tend to flow to more advanced regions where they pay higher returns. This might be due to the economies to scale that the diffusion of non-competitive markets generate especially in more advanced regions.

The accumulation of human capital is one of the major determinants of economic growth and development (Mankiw et al. 1992). In the last decades, theoretical and empirical literature have analysed this issue in depth providing interesting and innovative results. On the wake of these results, new studies have recently focused more specifically on the role of human capital accumulation in spurring growth and convergence between regions. The aim of this session is to describe the latest results of studies on this issue, and more generally on the role of human

capital accumulation as a key determinant of economic development and as a means to enhance both absolute and relative convergence.

Discussion is also quickly developing on the mechanisms through which human capital might cause or, conversely, hinder regional convergence. Generalizing the Nelson and Phelps catch-up model of technology diffusion, Benhabib and Spiegel (1994, 2005) claim that cluster is more realistic than absolute convergence because human capital is not only a productive factor, but also an engine of technological innovation. They show that education plays an important role in the catch-up process. A recent strand of literature also suggests that human capital concentration in urbanised regions is an important competitive factor to attract FDI in advanced sectors and reduce the cost of restructuring, as the case of Ireland and of several transition countries has shown (Lehmann and Walsh 1999; Newell et al. 2002; Barry 2003; Walsh 2003; Fazekas 2003).

Moreover, Izushi and Huggins (2004) find that those European regions with a higher level of investment in tertiary education tend to have a larger concentration of ICT sectors and research functions. These regions have low unemployment rates. Di Liberto and Symons (2003), World Bank (2004), Newell (2006) and Jurajda and Terrell (2009), among others, note a strong negative correlation between regional unemployment rates and the share of workers with a high level of education in Italy, in Poland and in other new EU members. Complementarity between high technology industries and human capital might contribute to generate persistence in unemployment differentials with respect to depressed rural areas. And this result may be reinforced by migration and commuting flows, as Fidrmuc (2004) notes.

Confirming previous hypotheses regarding the role of human capital migration, Moretti (2004) finds evidence of social returns to human capital in more developed urban regions in the USA. Causing economies to scale, this would tend to reinforce regional imbalances. With some exceptions (see, for the case of the Czech Republic, Jurajda 2005), several other studies find similar evidence of social returns to human capital all over the world, including old and new EU members (see, for the case of Italy, Ciccone et al. 2006; Dalmazzo and De Blasio 2007).

5.3 Poverty Trap Mechanisms

Poverty trap mechanisms might also be behind the backwardness of peripheral regions in advanced economies (see the Chapter of Basile in this book). In new growth theories, in fact, regional divergence may arise as a consequence of the hypothesis of increasing returns to scale in the advanced regions or sectors, also assuming frictionless labour markets. Instead of convergence, then, there are multiple equilibria, since backward regions or sectors might experience persistently lower growth rates.

Carillo et al. (2008) explore different mechanisms that might lead to poverty trap. For instance, Capasso (2008) proposes a theoretical model of a credit market

with asymmetric information where firms prefer to invest in traditional, low profit businesses for which access to credit is easier; in backward regions, where credit markets show greater information asymmetries, only the least innovative businesses are financed, with apparent consequences on the local growth rate. In Carillo (2008) threshold effects generate from the different incentive effects that the search for social status has on the decision to invest in human capital accumulation in low and high growth regions.

Papagni (2008) aims to test for the presence of multiple equilibria in Italy due to the inability of the regions of Mezzogiorno to overcome several threshold effects. First, he finds evidence that the Southern regions are on a different growth path from the Northern regions. Second, he finds that positive externalities tend to reduce production costs only when they are sufficiently high, which is not the case of Southern regions.

6 Policy Implications

The novelties contained in the approach to regional unemployment emerging from recent research calls for more state intervention than ever in favour of backward regions. Two sets of interventions are envisaged. First, the process of worker reallocation should be made less costly for workers via passive and active labour market schemes. Second, it is necessary to reduce the “weakness” of high unemployment regions by increasing their factor endowment and infrastructures.

6.1 *Benefit Systems and Their Interaction with ALMP*

Income support and/or pro-active schemes have been at the core of the debate on old and new member states as instruments to facilitate labour turnover and ease the social consequences of structural change. In the Aghion and Blanchard (1994) model, unemployment benefits play an important role, that of a temporary pit stop during the reallocation process. Conversely, Boeri (2000) claims that passive income support from the State has made unemployment persistent.

Only from the late 1990s, when transition seemed to have become irreversible and state budgets were suffering dramatic imbalances, the debate has shifted from the issue of gradualism versus shock therapy to that of the optimal design of labour market institutions. Two streams of literature have emerged. Echoing an on-going debate in mature market economies (OECD 1994; and the ensuing literature), some scholars (Boeri 2000) started pointing at passive schemes not only as a threat to financial and monetary stability, but also as a disincentive to work and, therefore, a factor for slowing down reforms. Boeri (2000) claimed that the right sequence for implementation of non-employment benefits should be the

opposite of that actually followed: governments should have started from low passive income support schemes to facilitate the flow from the state sector to non-employment and back to employment in the private sector. Only at a later stage, when unemployment was really involuntary, governments should have provided income support to the losers of transition, namely those who were actually not employable in the private sector.

Other scholars (Micklewright and Nagy 1999, 2002; Lehmann and Walsh 1999) advocated that the sequence of reforms was correct and that income support schemes in the early stages of transition were indeed necessary to help people bear the dramatic early stages of the transformation.

Confirming that different types of policy interventions and institutional contexts decisively affect the tendency of structural change to translate into high unemployment, Jurajda and Terrell (2008) contrast the gradualist Czech and the rapid Estonian approach to the transition from central planning to the market economy and find that gradual job destruction combined with job creation support allows extensive reallocation to concur with low unemployment. Drastic job destruction, on the other hand, need not slow down job creation as long as unemployment benefits are kept very low. Bruha et al. (Chapter in this book) reach similar conclusions comparing two coal mining regions in the Czech Republic and Romania.

There is widespread consensus on the fact that a shift from passive to pro-active schemes is necessary to boost the job finding rate and reduce the unemployment rate. As Boeri and Lehmann (1999) note, if skill mismatch is mainly responsible for low outflows from unemployment, then offering training and retraining courses to the unemployed might mitigate the problem. Active labour market policy is also called for reducing the gap of work experience between youths and adults. Fiscal incentives for hiring the long-term unemployed, on-the-job training and a number of other schemes are becoming more and more common all over Europe, although evaluation of their net impact on job finding rates is not always positive (Martin 2000; Peters et al. 2004; Kluve 2005; OECD 2006, Lehmann and Kluve (Chapter in this book)).

In addition, macroeconomic evaluation suggests that pro-active schemes may have asymmetric effects at a regional level, especially when regional economic structures differ markedly within countries (Altavilla and Caroleo 2006).

6.2 EU Regional Policy

To compensate for the deflationary and asymmetric effects of EU monetary policy, especially after the introduction of the Euro, the EU is enforcing Structural and Cohesion Policy. Past experience of the implementation of EU regional policy has had mixed success. However, surely the eastward enlargement will put further constraints on the EU budget.

In spite of national and EU regional policy, though, old and new member states experience remarkable and persistent regional inequalities (Decressin and Fatàs

1995; Elhorst 2003; Ferragina and Pastore 2008; Bornhorst and Commander 2006). Boldrin and Canova (2001, 2003) have questioned the very need itself of EU regional policy, suggesting that it is totally ineffective in reducing regional disparities. Regional policy should therefore be abolished or conceived only as a redistributive tool to transfer wealth from rich to poor regions.

This position has provided fodder for debate. On the one hand, some scholars have attempted to quantify the impact of EU regional policy on regional convergence (see, among others, Garcia-Solanes and Maria-Dolores 2002; several contributions in Funck and Pizzati 2003; Marelli and Signorelli 2007). On the other hand, others have suggested that EU regional policy should be based on new growth and new economic geography theories. It should be re-launched on the basis of the fact that funds should be carefully spent, increasing the local level of human and social capital, of expenditure in research and development, and of infrastructures (Martin 2003).

Much emphasis has been put on the comparison of successful implementation of EU regional policy. As already noted, the case of Ireland has stimulated a good deal of attention (Barry 2003). The EU imposes strong constraints on the introduction of fiscal incentives on a territorial basis as it is considered in opposition with EU competition law. However, there is a large stream of literature, especially rooted in the debate on the Italian Mezzogiorno, on optimal fiscal incentives to favour the localisation of (also foreign) new investment in backward regions. Now, the local attractiveness of backward regions is also a consequence of the low quality of infrastructure and public services, which fiscal incentives should counterbalance.

7 Concluding Remarks

This paper has summarised research on the causes of regional imbalances in the labour market focusing on the role of structural change. The analysis has been organised around three main questions: Is there a relation between the rate of unemployment and the rate of worker reallocation across regions? What are the causes of such correlation? What is making high unemployment regions more exposed to structural shocks? Answering these questions has requested studying the way structural change emerges and develops its effects.

The results of research on the link between local unemployment and worker reallocation are mixed: some studies find a positive correlation, others no correlation and a third strand a negative correlation. These striking differences in findings can be explained by the nature of the underlying process under study or by the nature of the statistical data used for the analysis. During periods of structural change worker reallocation is more apparent, but it reduces at later stages. However, the lack of suitable data only rarely allows for the comparison of results over time. Monthly and quarterly data tend to give lower flows and an overrepresentation of short spells.

Several possible explanations have been raised of the spatial correlation between the degree of reallocation of labour and unemployment: first is the higher degree

of structural change; second is the presence of asymmetric effects of aggregate disturbances; third is the competition of employed job seekers and their crowding out of the unemployed; fourth is the high degree of labour market rigidity. No study has compared the four hypotheses now mentioned. The empirical findings are once again mixed, with some studies emphasising structural change and others aggregate disturbances or labour market institutions. A number of other studies highlight the possibility that the competition of employed job seekers is greater in low unemployment regions because of the greater job opportunities available in those areas.

The literature highlights a number of “weaknesses” of high unemployment regions that might explain their greater exposure to industrial restructuring and their higher volume of worker reallocation: a lower endowment of human and social capital, the higher crime rate, the presence of organised crime, poverty trap mechanisms.

All these weaknesses should be counterbalanced by those factors favouring the adjustment process. Nonetheless, as recent literature highlights, the factors considered to favour regional convergence, namely labour and capital mobility, are seen as factors of endogenous development. In fact, labour and capital resources tend to concentrate in advanced regions. This is not because of state failure or rigid labour market institutions, but rather because of the higher returns enjoyed by labour and capital in advanced regions where they tend to pool. In other words, regional divergence is a consequence of market failure.

The new approach to regional unemployment emerging from the previous analysis calls for state intervention in favour of backward regions more than in the past. Two sets of interventions are envisaged. First, from the supply side, it is necessary to increase the factor endowment of high unemployment regions, through investment in the development of their human and social capital as well as of their infrastructures. Second, the process of worker reallocation should be made less costly for workers via passive and active labour market schemes.

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