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Economic Crisis and Employment Change: The Great Regression

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[−] Abstract and Keywords

The chapter examines labour market outcomes of the economic crisis from 2007 to 2010. Of all 18 nations compared, three saw much larger reductions of employment than elsewhere: Estonia, Ireland and Spain. The main common trait of these three cases is their boom and bust pattern of development, with a strong economic expansion leading into the recession, so that the subsequent downturn was comparatively steep. At lower levels, the same kind of cyclical fluctuations characterize the crisis experience of other countries as well. Institutional traits have also been important to some degree. Due to their comparatively low economic volatility, countries with equality promoting labour market institutions had relatively small employment declines during the crisis, but net of volatility employment fell more in equal societies than elsewhere. In addition, high labour market flexibility, uncorrelated with labour market equality, was associated with a larger employment fall in the crisis.

Introduction

The introductory chapter of the book gave an overview of how the economic crisis evolved from its early phase in 2007 to more recent years. In this and the following chapter we will focus on the first part of the contraction, from 2007 through 2010, and we will compare developments across the eighteen countries that were included in the European Social Survey (ESS) waves of 2004 and 2010. The data from ESS then form the empirical basis for all other chapters of the book.

There are two main questions to be answered in the present chapter. First, what countries were hit hardest, in GDP and un/employment, by the economic crisis? Second, why were some countries hit harder than others? With regard to the second question, we attempt to distinguish between economic and institutional factors that might have been of importance for the magnitude of employment decline.

We use the word 'explain' in a cautious way, as a synonym of 'account for' in the sense of assessing the degree of empirical association between outcomes and potential explanatory factors. Hence, we provide evidence of correlation, not causation. Our topic is much too broad, and our data much too coarse, to allow any rigorous test of which causal mechanisms are at work. Nonetheless, some of the patterns that emerge from our empirical analysis are sufficiently clear to indicate promising lines of explanation that might be pursued further in future research.

The present chapter deals with cross-national variation in general developments of the labour market during the crisis, while the next chapter looks at differences in adverse employment change across population groups and **(p.31)** examines how these differences vary by country. We begin by briefly outlining a conceptual frame to be used in the empirical analysis, drawing a distinction between economic and institutional factors of interest when accounting for international variance in contraction magnitude and impact. Descriptive and more explanatory empirical patterns are then reported in tandem as the story unfolds. The chapter concludes with a summary and some remarks on how the general picture painted by the data and our analysis of them can be interpreted.

The magnitude and labour market impact of the crisis—a conceptual frame

Economic life in general and the labour market in particular has two fundamental properties: growth and distribution. These two stand in a complex relationship to each other. To economists of an orthodox variety, there is an inevitable trade-off between efficiency and equality, implying that very narrow distributions of rewards reduce rates of economic growth by destroying micro-level incentives. While economic incentives are obviously important to some degree, the more exact nature of the trade-off is not easily determined. In the other causal direction, rising rates of growth might lead to increasing inequality (at least in the short run) to the extent that expansion is driven by actions of uneven intensity across the economic structure.

In this conceptual context, what is an economic recession? The standard definition is negative growth (falling output) over some extended period of time (like two consecutive quarters). In itself, this definition is thus related to growth only, without any reference to distribution. But even if there is no logical (conceptual or definitional) link between recession and distribution, is there nonetheless a strong empirical connection?

In thinking about this issue it is useful to consider the concept of institutions, defined as rules of the game, both formal and informal (cf. North 1990). Institutions are formed, reformed, and moulded on the basis of purposeful action (including the unintended consequences of such action). Growth and distribution therefore relate differently to institutions: while growth is essentially uncontested (with few exceptions, high growth is always preferred over low growth, *ceteris paribus*), the wideness of distribution is highly contested, with large differences in preferences across population groups and between organized interests (partly on the basis of beliefs about how distribution affects growth). Labour market institutions are formed mainly to affect distribution, not growth. To achieve or maintain a high growth rate (a general desire) is a restriction on the design and redesign of labour market institutions, but the main purpose of institutions is to modify distribution (a contested desire).

(p.32) Still, some aspects of growth are socially contested. First, some argue that growth—at least in most of its current forms—is detrimental for the natural environment, and should therefore be kept low. Second, some argue that while high growth is desirable, it is less important to achieve than is a more equal distribution, so even if equality reduces growth it is a price worth paying (see e.g. Layard 2005). This view is based on the belief that individual well-being is more affected by relative than absolute rewards. Third, growth rate volatility—the frequency and width of cyclical swings—is typically less tolerated by those who prefer relatively equal distributions, because worker categories with low labour market rewards to begin with tend to be more harshly treated than others by economic downturns.

Of these three aspects we will disregard the first two since they concern the value and costs of long-run growth which in turn is a structural characteristic of the economy. As such it is not directly linked to recessions, by definition expected to be cyclical (temporary or short-term) events rather than structural (more permanent). Recessions are negative deviations from long-run growth, and our interest here lies in the deviation —its causes, magnitude, and consequences—not the trend.

The institutional connection between distribution and recessions leads us to expect the following empirical regularity: in countries with an institutional structure favouring low inequality in labour market rewards, the magnitude of the recent contraction has been relatively small. Minimizing cyclical swings around a given long-run growth rate is desirable for the same reasons as minimizing inequality in job rewards more generally, since low monetary rewards tend to go together with high unemployment risks (a pattern closely tied to inequalities in skill).

There are several mechanisms that link equalizing institutions and low employment

volatility, including trade union strength and employment protection. Low wage inequality may reduce the variance in worker productivity (Acemoglu and Pischke 1999; Tåhlin 2004) and thereby the relative number of marginal workers. High rates of social insurance provide automatic stabilizers that help maintain general demand in economic downturns. However, there are also mechanisms that may lead to negative employment effects of equality-promoting institutions. For example, high replacement rates and long entitlement periods in unemployment insurance, without active measures to encourage job search, are empirically associated with relatively long durations of individual unemployment, perhaps due to reduced incentives to look for work (see e.g. Nickell 1997). High wage floors raise the productivity hurdles that workers must pass to get a job. In general, equalizing institutions might produce barriers between insiders with good employment conditions and outsiders who are not allowed to compete by offering to work at lower reward levels (Lindbeck and Snower 1988). But note that mechanisms of the **(p.33)** insider–outsider kind can be expected to adversely affect employment levels rather than employment fluctuations. Indeed, although the overall impact of raising reward floors on the rate of labour market inequality may be theoretically mixed and empirically uncertain, its specific impact on employment volatility should go in the same direction as the mechanisms mentioned earlier, i.e. reducing fluctuations.

The reduction of volatility produced by equality works similarly in downturns and upturns. Just as lay-off rates during recessions can be expected to be relatively low if equality-promoting institutions are in place, hiring rates in periods of recovery can likewise be expected to be relatively low, to a large extent for the same reasons. While the expected overall impact on long-run employment is therefore not positive (but may be negative according to some views), the net outcome of low rates of both lay-offs and hiring is nonetheless desirable because the negative effect of losing a job is seen as larger than the positive effect of finding one. In part, this may be an instance of what Kahneman and Tversky (1984) call loss aversion, but also reflects a real (rather than merely subjective) difference in value: the average job lost has a longer realized duration than the expected duration of an average job found, and is correspondingly difficult to replace.

Aside from the hypothesis that distribution affects volatility (via institutions) we expect that growth affects volatility. This may be called the regression hypothesis: in countries where recent growth has been relatively high, the magnitude of the downturn as well as its employment consequences will be relatively large. As in the distributional (or institutional) case, there are several mechanisms involved. The first is statistical and is called regression to the mean (see e.g. Tversky and Kahneman 1974; Stigler 1997). Any two variables that are imperfectly correlated will display the tendency that the more extreme (higher or lower) the value of one variable, the larger will be the difference in value between the variables. In our case, this means that the higher the rate of growth was in a given country just before the recession, the larger (on average) the fall in growth will be in the recession, and vice versa. The tendency comes about due to the role of chance variation. Think of a test of some kind, with individual performance measured at two occasions. For each individual and occasion, the test result is the joint outcome of two factors, ability and luck (such as guessing the right answer). Luck is by

definition randomly distributed across individuals, but will be concentrated among individuals with relatively good results on the test, since luck increases the proportion of correct responses. While luck may randomly hold for any individual across occasions, by definition it will not hold on average and therefore benefit other individuals at the second occasion. Hence, while ability produces a positive correlation of test results across occasions, luck produces a negative correlation between the test result at the first occasion and the **(p.34)** change in results between occasions. The latter tendency is called regression to the mean, and will be stronger the larger the role played by random factors in producing the outcome of interest. Since random factors play at least some role for almost all outcomes, and often play a large role, regression to the mean is a practically universal phenomenon and is in many cases (or even typically) of considerable numerical size.

A second kind of mechanism producing a negative correlation between growth rates before and during recessions is related to systematic rather than random variation. There are two main instances of such mechanisms which may metaphorically be labelled bursting bubbles and infant mortality. Bubbles are price increases that exceed sustainable levels. While easy to observe after bursting they are notoriously difficult to identify beforehand. Indeed, the identification problem is present almost by definition, since the price increase occurs due to a continued rise in demand. Even observers who believe that the price increase is unsustainable in the long run are tempted to invest in the short run in order not to forgo profits that other investors are conspicuously making and, by giving in to temptation, contribute to blowing up the bubble. At the micro level this behaviour may certainly be rational, which would appear to be the main reason for why it occurs, but may in the aggregate lead to strongly undesirable consequences. The evolution of housing and real estate markets in some (but far from all) countries is the chief example of the recent recession. When bubbles burst, dramatic repercussions throughout the economy and the labour market may occur, especially if the bubble is located in a central economic position such as housing and construction. Sudden brakes on construction activity are an important direct cause of rapidly increasing unemployment. Indirect effects may be even bigger. Since housing is the major component of personal wealth, large falls in its value—perhaps below the mortgage level—may heavily curtail the spending capacity of households and hence general domestic demand.

By infant mortality is meant the strong tendency of new jobs and firms to last a shorter period of time than older ones (see e.g. Dunne et al. 1989; Brüderl et al. 1992; Rosenfeld 1992; Cressy 2006). For many reasons, new jobs and firms are relatively vulnerable. For firms, the market's weeding out of non-competitive units is especially harsh among newcomers, since a relatively large fraction of these are trying their luck for the first time with correspondingly immature products and methods. For jobs, many of the newly formed matches between employers and employees are try-outs or otherwise time-limited in their contract form, and even if not formally temporary are typically vulnerable in the face of weakened labour demand due to their short tenure. In economic recessions, negative employment change will therefore tend to be especially large in

labour markets with a large fraction of recent hires, i.e. in markets with strong employment expansion in the years preceding the downturn.

(p.35) To sum up, we have two main expectations regarding cross-national variation in the magnitude of the recent recession and its labour market outcomes. First, countries with an institutional structure favouring equality in labour market rewards have experienced comparatively mild deteriorations in their employment levels. Second, countries with a relatively strong economic expansion in the period preceding the recession have experienced comparatively large subsequent falls in output and employment.

These two expectations are linked in the sense that the first predicts a negative association between equality and volatility and the second predicts a pattern of continuing volatility over time with positively correlated sizes of upturns and downturns. Hence, an additional expectation is that countries with a strong economic expansion before the recession (and a correspondingly strong contraction in the recession) are relatively unequal societies.

There is, however, a possible counter-argument concerning the effects of equality on employment reduction. It appears reasonable to expect that the size of the employment fall during the crisis *given* pre-recession growth rates has been relatively large in countries with equality-promoting institutions. The presumed mechanisms are related to labour market rigidities of which at least three aspects are relevant here, concerning wages, working hours, and employment contract form, respectively. As an alternative to laying workers off (or ceasing to hire) in the face of weakened demand for the firm's output, employers might consider reducing employment costs by cutting wages or working hours. These options would seem to be more available in contexts where organized labour is relatively weak, since trade unions are typically not prepared to accept significant reductions in benefit levels. Therefore reduced labour demand translates to a relatively large extent into reductions of employment (rather than wages or hours) in countries with strong labour organizations. This line of reasoning is commonly referred to as Krugman's unified theory, intended to account for rising wage inequality but fairly low unemployment in the United States in the 1980s and the converse pattern—rising unemployment but low wage inequality—in Europe (Krugman 1994). The third aspect of flexibility, contract form, is directly related to dealing with the rigidity problems created by sharp insider–outsider boundaries. Expanding the scope for time-limited employment contracts as a middle form between insiders and outsiders has been a common way to deal with unemployment in some countries, notably Spain but also, for example, in Scandinavia. Workers on temporary contracts, by definition as well as in practice, run much higher risks than others of losing their job.

All these mechanisms—downwardly inflexible wages, downwardly inflexible working hours, and a sizeable proportion of workers on temporary contracts—would appear to lead to comparatively large employment reductions in economic downturns in countries with equality-promoting **(p.36)** institutions. This tendency, then, runs counter to the one spelled out above, that equality reduces employment volatility. The combined expectation

is that the employment fall during the crisis has been relatively small in equal countries due to a fairly low degree of employment volatility, but given volatility, employment reduction has been relatively large in equal countries.

A General Picture of Employment Fall in the Crisis

When examining how employment has changed during the economic crisis, it is relevant to consider both the employment rate, expressed as the proportion employed of the population, and the unemployment rate, expressed as the proportion unemployed of the labour force (where the labour force consists of all employed and unemployed but excludes the remaining population). The employment rate alone is not sufficient because many individuals have chosen not to work, due to involvement in other activities, such as education or child care, while others may be unable to work for health reasons. The unemployment rate is not sufficient either, since many individuals who would prefer to work are not in the labour force because they have given up (at least temporarily) on trying to find a job.

Reporting both employment and unemployment rates, however, leads to a rather inaccessible presentation, with large amounts of information to digest. In addition, much of the presentation would be redundant due to overlap, since the pattern of variation across countries or population groups tends to be fairly (though not completely) similar for employment and unemployment rates.

We therefore use a summary indicator of employment and unemployment rates by subtracting the unemployed share of the labour force from the employed share of the population. This measure can take values from 100 (per cent), when everyone in the population is employed and no one is out of work, to minus 100 when no one is employed and everyone is looking for work. In practice, most countries in most years have values between 40 and 75 on this summary indicator. In the years prior to the recession, the top performers on the employment index were Denmark, Sweden, the Netherlands, and the UK, all with a value of around 70, while Poland and Slovakia (around 45) and Greece and Spain (around 55) were at the bottom end.

The starting year of the contraction is set at 2007 if unemployment rose from 2007 to 2008, which was the case for six countries (Estonia, Hungary, Ireland, Spain, Sweden, and the UK), while the starting year is set at 2008 if unemployment fell from 2007 to 2008, which was the case for the other twelve countries. In all eighteen countries unemployment rose from 2008 to 2009 and in all countries except Germany unemployment continued to rise from 2009 to 2010.
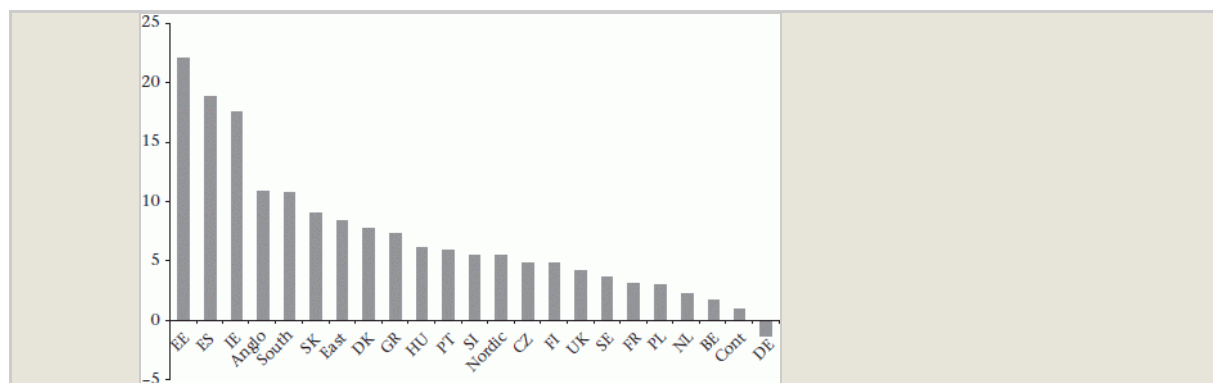
(p.37)

Figure 2.1. Employment fall 2007/8–2010 in 18 European countries. Percentage points, summary indicator of employment and unemployment

In addition to distinguishing individual countries, we group them into traditional clusters or 'regimes'. In the following figures, 'Anglo' includes Ireland and the UK, 'Cont' (for Continental) includes Belgium, Germany, and the Netherlands, 'East' includes the Czech Republic, Estonia, Hungary, Poland, Slovakia, and Slovenia, 'Nordic' includes Denmark, Finland, and Sweden,[1] and 'South' includes Greece, Portugal, and Spain. France is not included in any country group due to its special pattern of institutional characteristics, essentially a mix of Continental and Southern elements.

Figure 2.1 shows the change from 2007/8 to 2010 in the overall employment indicator (the employment rate minus the unemployment rate) by individual country as well as averages for country groups. (Unless otherwise indicated, all numbers in the following are based on aggregate data from the European Union Labour Force Surveys, EULFS.) It is striking that three countries—Estonia, Spain, and Ireland—have been hit much harder than all others. (In the diagram, these countries' large employment losses affect the country group averages more or less strongly, depending on the number of countries in each group. The Anglo group, with Ireland and just one other country, the UK, is affected the most.)

(p.38) Aside from Ireland and Denmark, all the countries of Europe's rich north-west have seen total employment losses of less than 5 per cent, a stark contrast to the fate of the three hardest hit. The positively extreme country group is the Continental category, with all its members—Germany, Belgium, and the Netherlands—being better performers on this score than all other fifteen countries.

Accounting for Cross-National Variation, Part 1: The Great Regression

We now turn to an attempt to explain (or at least account for) the large variation across countries in the labour market outcomes of the economic crisis. As discussed above, we have two main expectations regarding the pattern of cross-national variation: (a) countries with equality-promoting institutions have seen relatively small employment reductions in the crisis period and (b) countries with relatively strong rates of economic expansion before the recession have suffered from relatively large subsequent employment reductions. We start by empirically evaluating the second of these expectations.

Figure 2.2 shows rates of economic growth from 1990 to 2010. The three countries with extremely large falls in employment are singled out in the

Figure 2.2. Comparative economic growth 1990–2010. GDP/capita in constant prices, 1990 = 100
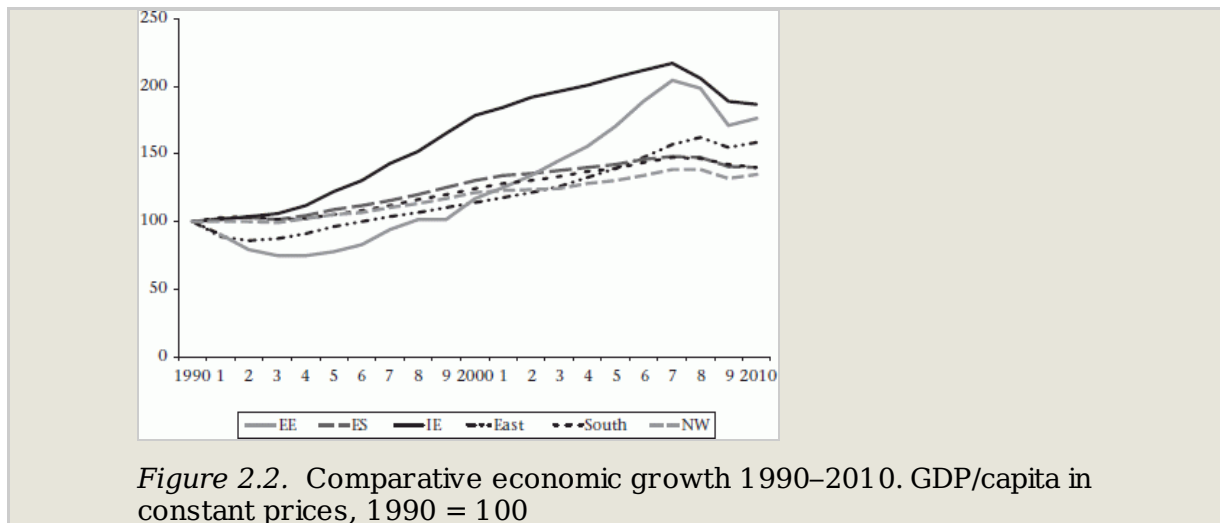
Source: The Conference Board Total Economy Database™, January 2012, http://www.conference-board.org/data/economydatabase/.

(p.39) figure, with the remaining countries grouped as above, except that the Continental and Nordic countries together with France and the UK form a large North Western category with fairly small internal variation in this regard. In this way, each of the three cases of largest interest—Estonia, Spain, and Ireland—are compared to their respective geographical or institutional cluster.

It is immediately evident that Estonia and Ireland are truly exceptional in their outstandingly high pre-recession growth rates relative to all others. These two countries had—by far—the highest rates of economic growth of all eighteen countries considered, as measured by the change in GDP per capita from the 1990s to the 2000s until 2007. Spain apparently fits less well into this pattern. While its growth rate in the period considered was higher than in most other countries, the difference is not large.

Among the three country groups, it can be noted that the richest category, the North West, had the slowest growth, while the poorest category, the East, had the fastest growth. But the variation across these categories pales in comparison to the extreme growth rates of Estonia and Ireland.

The very steep downturns in GDP in Estonia and Ireland as the recession hits are also evident from the figure. If all individual countries are considered (not shown in the figure), the overall correlation between the GDP rise from the 1990s to 2007/8 and the GDP fall from 2007/8 to 2010 is 0.60. Poland is an outlier in this respect, being the only country of all eighteen with a positive growth rate through 2010, despite a relatively high growth rate from the 1990s into the 2000s. With Poland excepted, the correlation between pre-recession economic growth and subsequent economic contraction rises from 0.60 to 0.86. This high correlation is not only due to the difference between

Estonia/Ireland and all others. All countries except Poland line up in a rather orderly fashion to produce the strong association. Hence, a general pattern of regression is clear.

A second factor that was singled out above as potentially important when accounting for the magnitude of employment reduction in the wake of the recession is the housing sector. As an indicator of boom and bust—or bubble bursting—we look at how employment size in the construction industry evolved in the years leading into and through the recession. Figure 2.3 clearly shows how all the three cases of main interest had construction booms before the recession that were much stronger than among their neighbours. Here Spain fits the picture better than in the GDP comparison. It is striking that all of the strong construction expansion in Ireland and Spain was lost during the economic crisis, and a very large fraction in Estonia as well. As evident from the figure, none of the comparison country groups comes close to the dramatic development of the extreme trio. This remains true if all countries are examined individually (not shown in the figure).
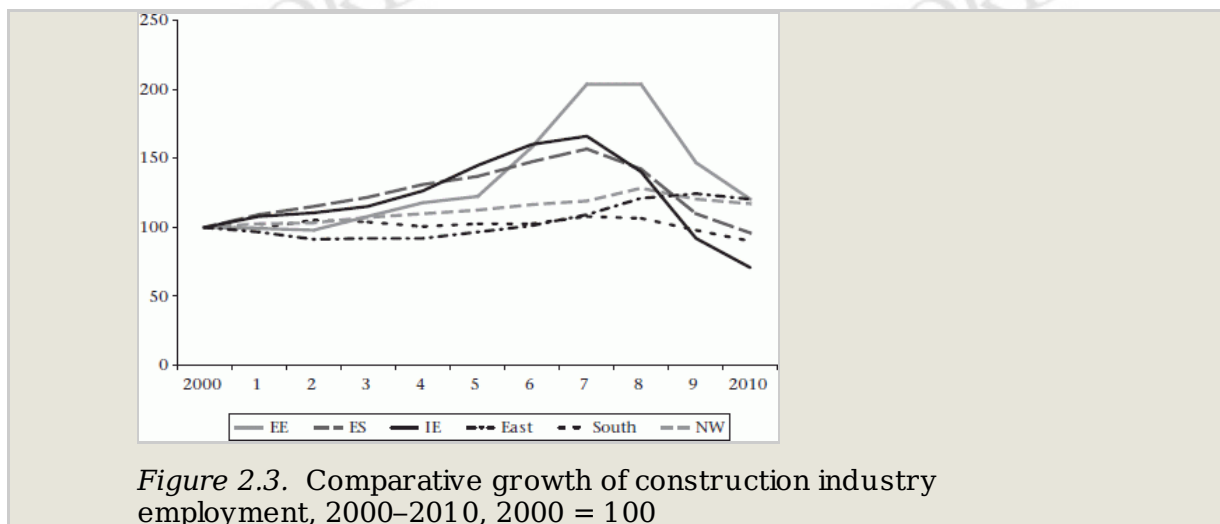
(p.40)

Figure 2.3. Comparative growth of construction industry employment, 2000–2010, 2000 = 100

The third factor of interest in predicting employment reduction in the crisis is the evolution of general employment levels prior to the recession. Due to limited space the pattern of cross-national variation is not shown in figure form. While the differences between countries in pre-recession employment growth are smaller than the differences in GDP growth and construction expansion shown above, Estonia and Spain stand out as having added many more jobs than other countries in the pre-recession years and then losing all of them in net terms by 2010. In contrast, Ireland did not expand its employment numbers much more than others did, but still suffered comparatively large losses in the following crisis.

In summary, Estonia, Ireland, and Spain all showed strong signs of booming economies before the recession. This sets them clearly apart from all comparison countries and is likely to have contributed greatly to the very large reductions of their employment numbers during the course of the crisis. Although at much lower levels, the pattern of

expansion magnitude before the recession mirroring contraction magnitude in the crisis appears to hold even in the larger set of countries in the comparison. To examine how strong this overall pattern is, we run a regression with employment change from 2007/8 to 2010 as outcome and three predictors: (a) GDP fall in the crisis (in turn strongly correlated with GDP rise pre-recession), (b) the size of the construction sector at the eve of the recession (2007), and (c) employment rise preceding the recession, 2004–7 (the lagged dependent variable). Table 2.1 shows the results.

(p.41)

Table 2.1. Employment fall 2007/8–2010 predicted by three factors (R = 0.96, R^2 = 0.91; n = 18)

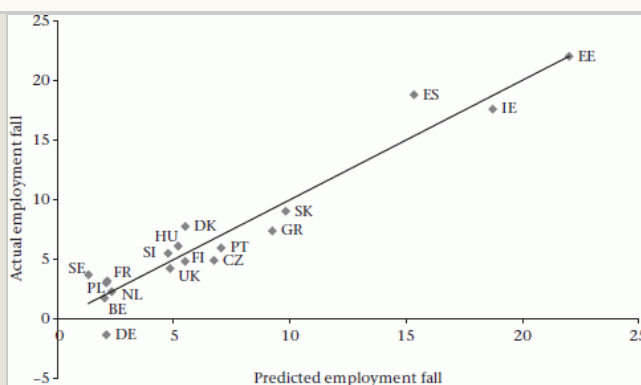|	B	SE	beta	t	sign.
GDP fall 2007–10	0.68	0.12	0.50	5.6	0.000
Construction ind. size 2007	1.58	0.22	0.62	7.3	0.000
Employment rise 2004–7	0.33	0.09	0.27	3.5	0.004

Figure 2.4. Predicted (from Table 2.1) and actual employment change 2007/8–2010

The predictive power of this regression is very large: more than 90 per cent of the variance in employment change is accounted for by the three predictors.[2] Figure 2.4 provides the country pattern.

The expectation that the magnitude of employment reduction in the crisis can be accounted for by the strength of economic expansion before the recession is hence clearly borne out by the data. We refer to this development of boom and bust across the downturn border as The Great Regression. Next, we examine our second main expectation regarding how to explain employment fall by looking at the impact of institutional structure.

(p.42) Accounting for Cross-National Variation, Part 2: Labour Market Institutions

Constructing a scale of equality-promoting institutions

A common point of departure in examining the role of institutional factors in cross-nationally comparative research is regime models of various kinds (see Gallie 2011 for a recent and comprehensive overview). The regimes typically resemble the country groups we distinguished above, with institutionally based clusters of nations that also tend to be geographically proximate. Despite their merits, such models suffer from well-known weaknesses of which one is regime internal heterogeneity.

Here, we use a different approach. The idea is to build, via factor analysis, a continuous scale of institutional traits on which each country has a value rather than produce a set of country categories. There are several advantages of the scale approach. First, regime internal heterogeneity is not a problem, since each country has its own value. Second, a continuous scale is easier and more efficient to use statistically than is a set of categories, especially when estimating associations with other variables. Third, a scale based on a number of items is more reliable than single items, since it is based on the common variance of the items and thus excludes item-specific error variance. Fourth, by using only common variance across indicators, measurement validity is enhanced because theoretical interest in a set of related items is typically tied to an underlying concept which cannot be measured perfectly but is reflected approximately by each item; the partial validities of individual indicators are thus combined into a theoretically superior common factor. Fifth, related to validity, extracting a common factor from a set of individual items accords well with the notion of institutional structure, i.e. with interrelated parts forming a larger entity rather than an aggregate of independent pieces.

The defining feature of labour market regimes is the institutional structure of inequality, i.e. the structural modification of market distribution. There are two main aspects of inequality in the labour market: prices (wages) and quantities (employment). Labour market regimes are located in a space defined by these two dimensions of inequality. As it happens, the wage (price) dimension is more readily measured by a single scale than the employment (quantity) dimension turns out to be. We return to the quantity dimension in a later section of the present chapter, in the context of looking at flows between labour market states. But we concentrate on the wage dimension by following the route laid out below.

On the basis of previous research on labour market and welfare state regimes, a set of indicators were selected each of which is related to the modification **(p.43)** of inequality in labour market rewards. From an initial set of around a dozen items, seven were selected to form a single scale (based on factor analysis in its principal component form). There were two guiding principles of item selection: (a) each selected item should be strongly associated (correlated) with wage dispersion (since the scale should reflect equality-promoting institutions), and (b) the selected items should form a single factor. In addition, given that the particular purpose of the present analysis is to examine the importance of labour market institutions for the change in employment and unemployment rates during the recession, it is of interest to include an indicator of employment protection legislation.

Among the discarded items we find wage bargaining centralization, wage bargaining

coordination, government involvement in bargaining, and public sector employment size. While these are certainly important for several outcomes of interest related to inequality, they did not conform as well to the guiding principles above as did other items. Seven indicators were finally chosen, as shown in Table 2.2. For each item, its correlation (factor loading) with the underlying scale (principal component) is shown. The highest loading is for low wage dispersion, measured as the ratio between decile 1 and the median (decile 5) of the earnings distribution. Of the purely institutional indicators, collective bargaining coverage is most strongly correlated with the scale. Active labour market policies, union density, welfare state redistribution, and left party cabinet share all have substantial loadings. In contrast, employment protection legislation (EPL) correlates only weakly with the equality scale, reflecting the well-known fact that EPL is strictest not in the most equal countries (such as in Scandinavia), but rather in Southern Europe, in turn showing that legislation is sometimes a substitute for bargaining power.

Table 2.2. Items of scale measuring equality-promoting labour market institutions. Loadings on primary principal component, unrotated

Low wage dispersion (d1/d5)	0.93
Collective bargaining coverage	0.91
Active labour market policies	0.73
Union density	0.69
Welfare state redistribution	0.67
Left party cabinet share	0.58
Employment protection legislation	0.28

Sources: Wage dispersion (d1/d5), Active labour market policies (share of GDP) and Employment protection legislation (general scale), OECD; Collective bargaining coverage and Union density, ICTWSS Database version 3.0 (AIAS, University of Amsterdam, J. Visser, variables adjcov and ud); Welfare state redistribution, Dolls et al. (2011), table 3, col. 4; Left party cabinet share, Comparative Political Data Set III (Institute of Political Science, Bern University, K. Armingeon et al.), weighted average of variables gov_right2, gov_cent2 and gov_left2, weights = 0, 1, 2 resp.). All data refer to 2007 except Left party cabinet share which refers to average values for 1990–2007.
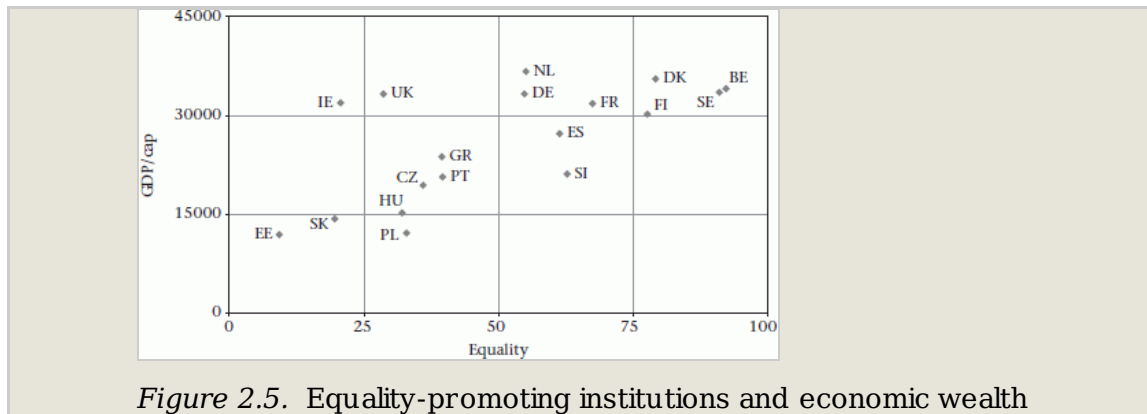
(p.44)

Figure 2.5. Equality-promoting institutions and economic wealth

Sources: Equality scale, see Table 2.2; GDP/capita (average 1990–2007), see Figure 2.2.

The values on this equality index for each of the eighteen countries are shown in Figure 2.5, cross-classified with economic wealth level (GDP/capita). As indicated earlier in this chapter, it is important to consider these two dimensions (equality and wealth, or distribution and growth) together, since they are interrelated in various ways which should be taken into account when attempting to examine the role they play in economic life. Accordingly, Figure 2.5 makes clear that equality and wealth are quite strongly associated with each other, an issue we will soon return to.

When combined with economic development level, the continuous equality scale orders the examined countries in a manner according well with established categorical groupings. The nine richest countries, half of the entire group of eighteen nations, are geographically located in the north-west of Europe. These nine can be subdivided into three categories dependent on their degree of institutionalized equality, with Ireland and the UK being least equal, Germany, France, and the Netherlands in a mid-level category, although somewhat closer to the equality than inequality pole, and finally the Nordic countries (Denmark, Finland, Sweden) and Belgium being most equal. The only slightly anomalous case here is Belgium, which usually is categorized with other Continental European countries rather than with the Nordics. But note that the equality dimension is exclusively tied to class-based criteria, meaning that gender inequality and family policies are not defining features of the scale. This sets it apart from Esping-Andersen's (1990) three worlds of welfare capitalism, for instance, in which the distinction between Scandinavia and Continental Europe is based in important part on gender relations.

(p.45) The nine less wealthy countries are located to the south and east of Europe. In their case as well, a division into three subcategories can be made on the basis of their degree of equality. Estonia and Slovakia are the least equal countries, and rather close to Ireland along this dimension. A second category consists of Greece, Portugal, the Czech Republic, Hungary, and Poland, which are not far from the inequality level of the UK. Most equal of the less wealthy countries are Spain and Slovenia, rather close to the equality level of Continental Europe. Notably, there is no category among the Southern and Eastern countries that matches the high equality level of the Nordics and Belgium. Also notably, there is no case of a large or poor equal country. All highly equal countries

are small and rich.

Among all eighteen countries there is a clear positive correlation between equality and wealth, since the richest nations are on average more equal than the less rich. But the association is hardly causal in any simple manner, at least not running from equality to wealth. The association comes about for historical and political reasons, with the older democracies of the north-west having had more time to develop their economies than those to the south and east. Among the older democracies, which are also the nine richest countries, the correlation between equality and wealth is close to zero as evident from Figure 2.5. This confirms the finding from earlier research (see e.g. Kenworthy 2010) that equality and efficiency are not incompatible with each other.

Since the correlation between equality and wealth is nonetheless substantial across all the eighteen countries, with more equal countries on average being much richer than others, the equality scale needs to be adjusted in order for its associations with other factors to be interpretable. A simple way to do this is to run a regression with equality as outcome and wealth as predictor and estimate the residual, which will accordingly be uncorrelated with wealth, and to use this residual as a purified measure of equality-promoting institutions. The country variation of this adjusted equality scale is shown in Figure 2.6.[3]

The main difference in country pattern between the first equality scale and its wealth-adjusted version is that Ireland, the UK, and the Netherlands have moved closer to the inequality pole of the scale, while especially Slovenia but also Finland have moved in the other direction. We now have a pattern where both Anglo countries are highly unequal, the Nordics are uniformly **(p.46)**
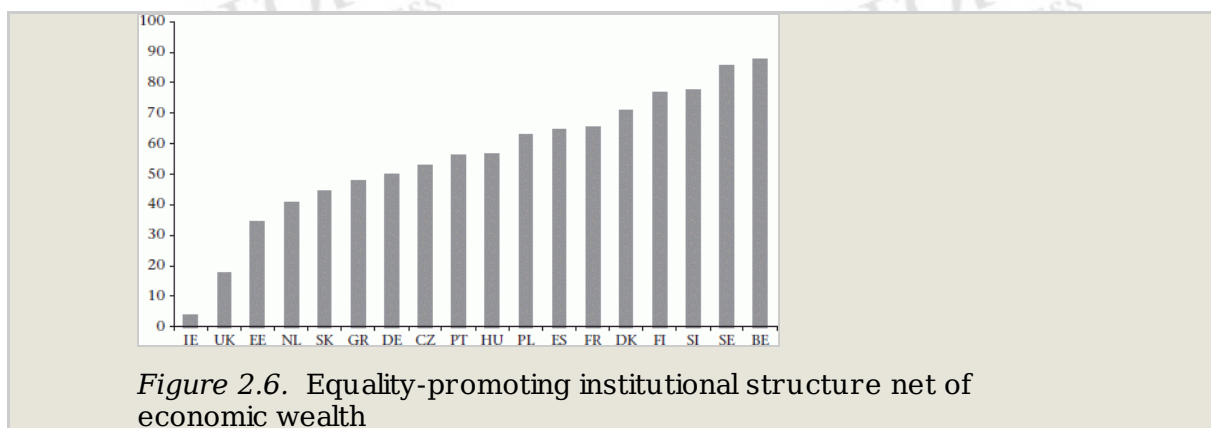

Figure 2.6. Equality-promoting institutional structure net of economic wealth

Sources: Equality scale, see Table 2.2; GDP/capita (average 2000–2007), see Figure 2.2.

equal (although with Sweden clearly higher on the scale than Denmark), while the Southerners draw towards the middle and both the Continental and Eastern countries are markedly heterogeneous with respect to equality. For example, Estonia and Slovenia are very far apart, and the same goes for the Netherlands and Belgium. It is also notable that all the large countries except the UK, i.e. Germany, Poland, Spain, and France, tend to be close to the middle of the scale. At least among the European nations examined here, then, it seems to take a small country to be extreme with respect to equality, in

either direction.

Labour market inequality and general outcomes of the crisis

We are now prepared to empirically examine the expectation formulated earlier that countries with equality-promoting institutions have experienced a relatively small reduction of employment in the period of contraction. A natural starting point is to simply look at the association between these two factors—equality and employment fall—without any control variables involved (but recall that the equality scale is now purged of its correlation with wealth). The outcome is shown in Figure 2.7.

As expected, the association is negative (the regression line is sloping downward), implying that equal countries have experienced relatively small employment declines in the course of the crisis. The correlation is minus 0.41. There are six countries that are rather far from the regression line: The most severely struck trio—Ireland, Estonia, and Spain—are a good distance above the line, meaning that their employment fall has been much larger **(p.47)**
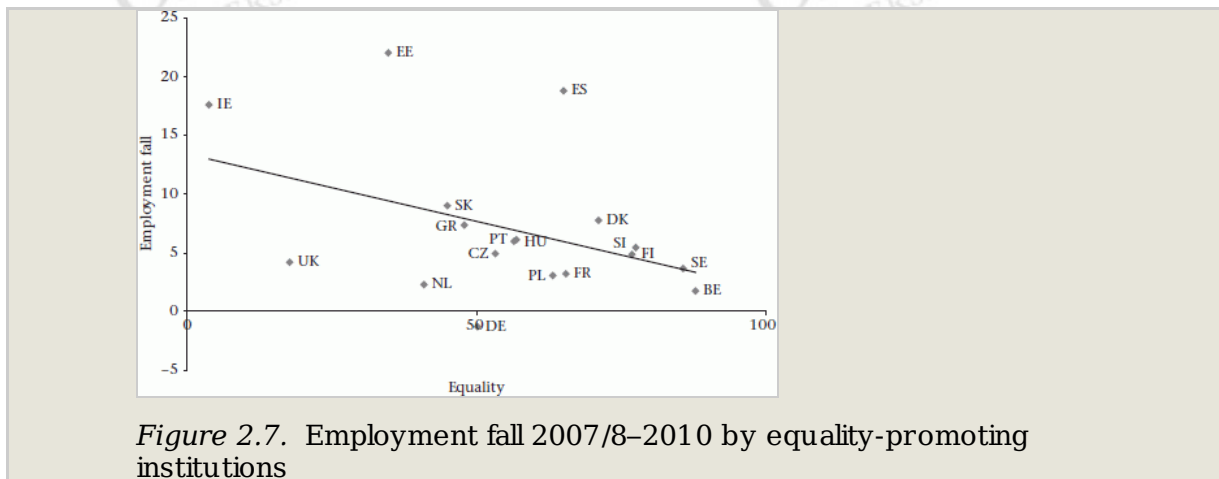

Figure 2.7. Employment fall 2007/8–2010 by equality-promoting institutions

than would be expected from their equality-related institutional structure alone. Conversely, the UK, the Netherlands, and Germany have a much better employment record in the contraction than their institutional structure would predict. Among the remaining twelve countries, which all lie fairly close to the regression line, the correlation between equality and employment decline is minus 0.64.

We have not yet taken a closer look at what mechanisms may be involved in producing the association in Figure 2.7. In the earlier discussion, two kinds of mechanisms were suggested to be important, with counteracting impacts. On the one hand, countries that institutionally promote equality should also attempt to dampen employment volatility, especially in order to minimize employment declines in economic downturns. On the other hand, these countries' relative lack of flexibility with regard to adjusting wages and working hours in the face of weakened general demand, as well as their reliance on temporary work contracts to mitigate insider–outsider problems, might exacerbate employment losses.

A convenient way to empirically isolate the importance of volatility in examining the association between equality and employment decline is to correlate equality with two different measures of employment fall: (a) the reduction in employment predicted by the volatility indicators used in the previous section (GDP fall in the crisis, construction industry size at the eve of the recession, and employment expansion pre-recession), and (b) the reduction in employment given (residual from) this volatility. According to the suggested mechanisms above, equality should be negatively associated with **(p.48)**
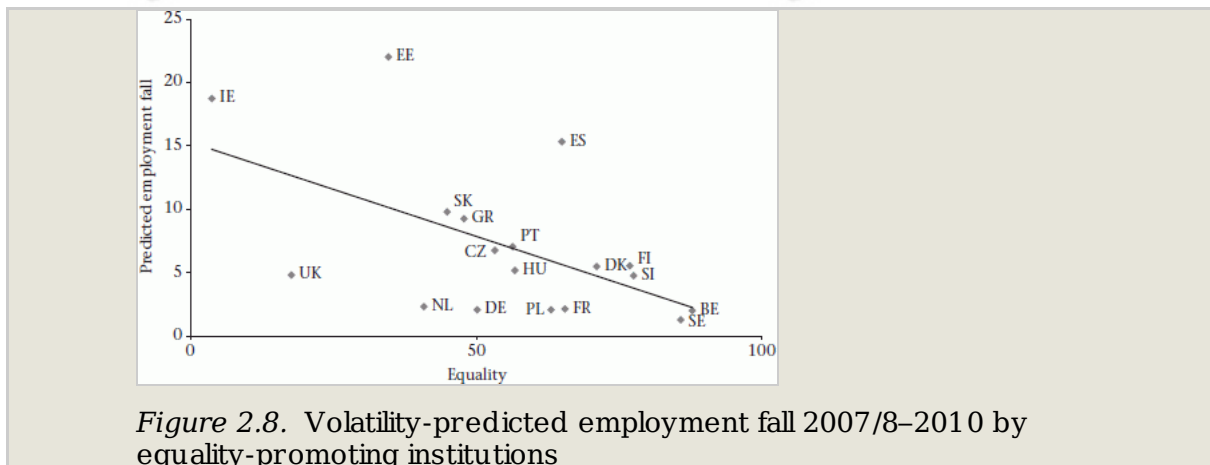

Figure 2.8. Volatility-predicted employment fall 2007/8–2010 by equality-promoting institutions

(press down) volatility-driven employment decline but positively associated with (push up) non-volatility-driven employment decline. The first of the two associations is displayed in Figure 2.8.

The association is indeed, as expected, clearly negative. Since the predictive power of the regression, as we saw in the previous section, is very strong (recall that more than 90 per cent of the variance in employment decline is accounted for; see Table 2.1), it is not surprising that the negative association from Figure 2.7 is largely reproduced here. But it is notable that the slope of the regression line is slightly steeper in Figure 2.8—the correlation between equality and volatility-predicted employment decline is minus 0.55 while the raw correlation was minus 0.41. This indicates, in line with the expectations formulated earlier, that the negative association between equality and employment fall is entirely—indeed more than entirely—due to volatility mechanisms, thus suggesting that employment decline given volatility has actually been larger in equal countries than in others.

To check whether this interpretation holds, the association between equality and non-volatility-driven employment reduction is displayed in Figure 2.9. The association is positive, just as expected, with a correlation of rather sizeable magnitude, 0.43. Still, this result must be seen as highly tentative. First, to repeat, since volatility is such a powerful predictor of employment decline, there is not very much left to explain given volatility. Second, as evident from the figure, several countries are located quite far from the regression line. At the high end, Spain has lost much more employment in the crisis than can be accounted for by equality-promoting institutions. Denmark and Sweden are similar to Spain in this regard, but with smaller numbers involved. At the **(p.49)**
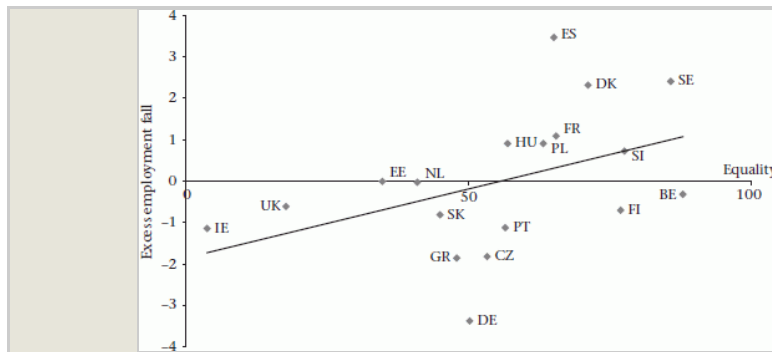
Figure 2.9. Excess (given volatility) employment fall 2007/8–2010 by equality- promoting institutions

other end, Germany is the single most successful case, with a clearly better employment evolution going through the downturn than predicted. But several other countries have performed above expectations, with a very wide 'regime' variation: two Southern countries (Greece, Portugal), one Eastern country (the Czech Republic), one Continental country (Belgium), and one Nordic (Finland). But their internal order tends to follow the line in the diagram, with less equal countries performing better.

To sum up our examination of the association between institutional structure and employment performance in the crisis, the expectations formulated earlier are essentially confirmed. More equal countries have seen smaller employment reductions than other countries have, and this is mainly or even entirely due to less volatility in labour markets where institutional structures promote equality. In short, the boom and bust pattern of economic expansion and contraction in the period leading into and through the downturn is primarily a characteristic of fairly unequal societies. Aside from these volatility-driven employment fluctuations, there is not very much employment change during the crisis to explain. Nonetheless, the limited residual variation across countries does to some extent appear to be tied to equality-related institutions, but in the opposite direction to the case of volatility, such that more equal societies have experienced relatively large employment reductions.

In the conceptual discussion above on the institutional structure of inequality, a distinction was made between prices and quantities, or between wages and employment. The scale of equality-promoting institutions that we just used in the empirical examination is primarily tied to the wage dimension **(p.50)** of inequality, and we made a brief earlier remark on the apparent difficulty of constructing a parallel scale of the employment dimension of inequality. Before turning to the final section of the chapter, containing a summary and concluding discussion, we attempt below to at least partly fill the identified gap by looking at flows between labour market states. The purpose is to use data on individual mobility to estimate rates of job separations, job finding, and labour force entries and exits. These dynamic features are likely to reflect institutional characteristics of national labour markets that are not visible from the equality-related indicators used so far in the chapter. They might therefore provide clues to complementary structural dimensions of inequality that would help us understand how employment contractions evolve in institutionally different countries.

The Structure of Labour Market Flows

In the European Labour Force Surveys, respondents are asked about not only their current labour market activity but also what employment situation they were in twelve months earlier. The answers to these retrospective questions thus provide data on labour market dynamics—how individuals move between employment, unemployment, and other activities (such as education or child care). In this section, we make use of these flow data in order to complement the picture given above on how the labour market is structured in different countries and, in turn, how those differences have affected the employment record during the recession.[4] Of the eighteen countries examined above, dynamic data are available for fifteen; we lack data for France, Ireland, and the Netherlands.

We begin by estimating two fundamental dynamic characteristics of labour markets—the rates of job separation and job finding. The separation rate is measured as the number of employed workers at time-point 1 who have lost their job by time-point 2 (one year later) divided by all employed workers at time-point 1. Similarly, the job finding rate is the number of non-employed workers (either unemployed or outside the labour force) at time-point 1 who have become employed by time-point 2 (one year later) divided by all non-employed workers at time-point 1. Figure 2.10 shows these rates for the year prior to the start of the recession (2006–7 if the downturn started in 2007 and 2007–8 if the downturn started in 2008; see above).

The job finding rate is on average clearly higher than the job separation rate, around 16 per cent versus 6 per cent. This difference is due to the variation **(p.51)**

Figure 2.10. Rates of job separation and job finding one year prior to the start of recession
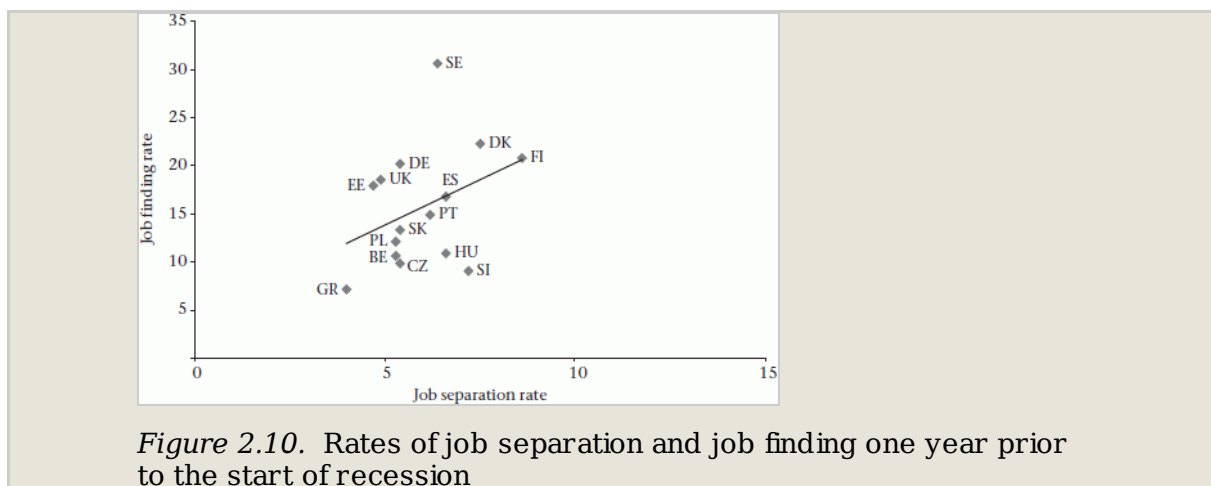
in group size: the employed are a larger category than the non-employed. As proportions of the whole population, job finders and losers tend to be equally numerous, between 4 and 5 per cent on average.

There are large differences across countries in both rates. Sweden had by far the highest job finding rate of all the examined countries: around 30 per cent of all non-employed individuals (age 20–64) in 2006 had found employment by 2007. At the other end we find Greece, where the job finding rate was only 7 per cent in the year preceding the

recession. Job separations were most frequent in Slovenia, Finland, and Denmark, where between 8 and 10 per cent of all employed in 2007 had lost their job by 2008 (prior to the onset of the recession). Greece was again lowest, with a separation rate of around 4 per cent.

A modest positive association is evident between the rates of job finding and job separation. We will later make use of this pattern by constructing a measure of labour market flexibility. The correlation in Figure 2.10 is a moderate 0.36, but as can be noticed, Hungary and Slovenia tend to break the pattern and with those two countries excluded the positive correlation rises substantially to 0.55. The Nordic countries stand out as clearly more flexible than others with relatively high rates of both job finding and job separation.

In all countries, the most dramatic economic decline occurred from 2008 to 2009. It is therefore of interest to examine how the employment flow rates of entries and exits changed from the year just prior to recession (Figure 2.10) to the deep downturn. Figure 2.11 shows the rates of job finding and separation between 2008 and 2009.
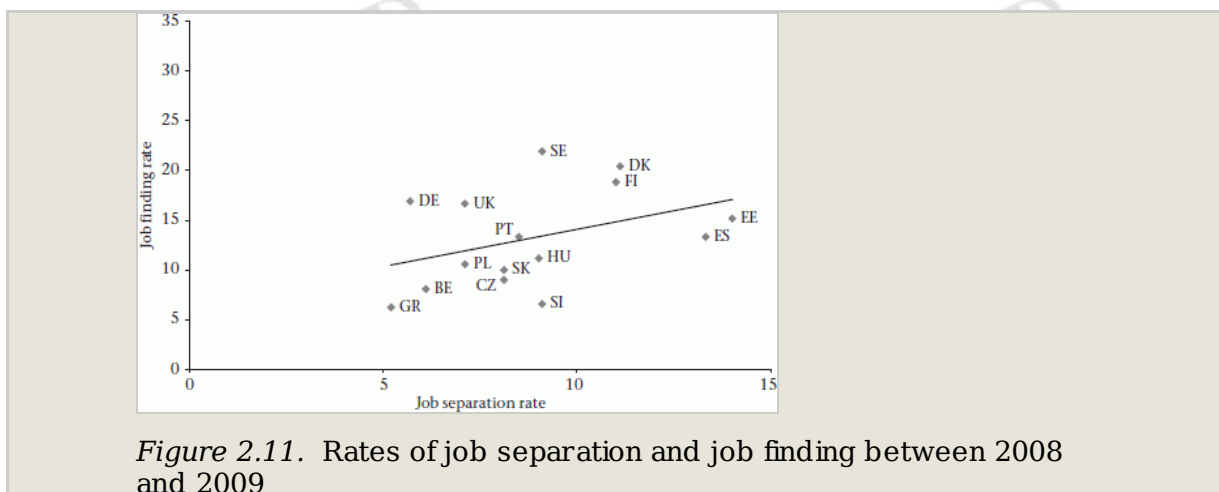
(p.52)

Figure 2.11. Rates of job separation and job finding between 2008 and 2009

Several things may be noted from this pattern. First, Estonia and Spain stand out from all others by having very high job separation rates. The special position of these two countries is of course not surprising given their extreme employment declines as documented in detail above (recall that the third hard-hit country, Ireland, is not included in this dynamic comparison due to its lack of flow data in the European Labour Force Surveys). Second, job finding rates are very far from zero even in this year of dramatic economic decline. As we will soon show more explicitly, employment entries fell in frequency almost everywhere from their pre-recession level to the economic trough in 2009, and in some cases markedly, but the average rate in Figure 2.11 is still as high as 13 per cent, down from 16 per cent in the earlier comparison year. Third, with Estonia and Spain as exceptions, the country pattern of entry and exit flows remained rather similar between the two time-points. Hence, the Nordics held their position as relatively flexible in this sense, and the same goes for Greece at the inflexible pole.

To sharpen the picture of how flow rates changed as the recession deepened, Figure 2.12 displays the difference in rates between the two comparison years. In the research literature on labour market cycles there has been an ongoing debate in recent years over whether fluctuations in employment and unemployment are mainly due to changes in job finding or job separation. So far, this literature has been inconclusive. Shimer (e.g. 2012) claims that shifts in the likelihood of job finding are the driver of aggregate unemployment numbers while others (e.g. Elsby et al. 2010) take the more agnostic view that job finding and job separation rates are both important, with a differing weight across time and place. We make a tentative contribution to this debate **(p.53)**
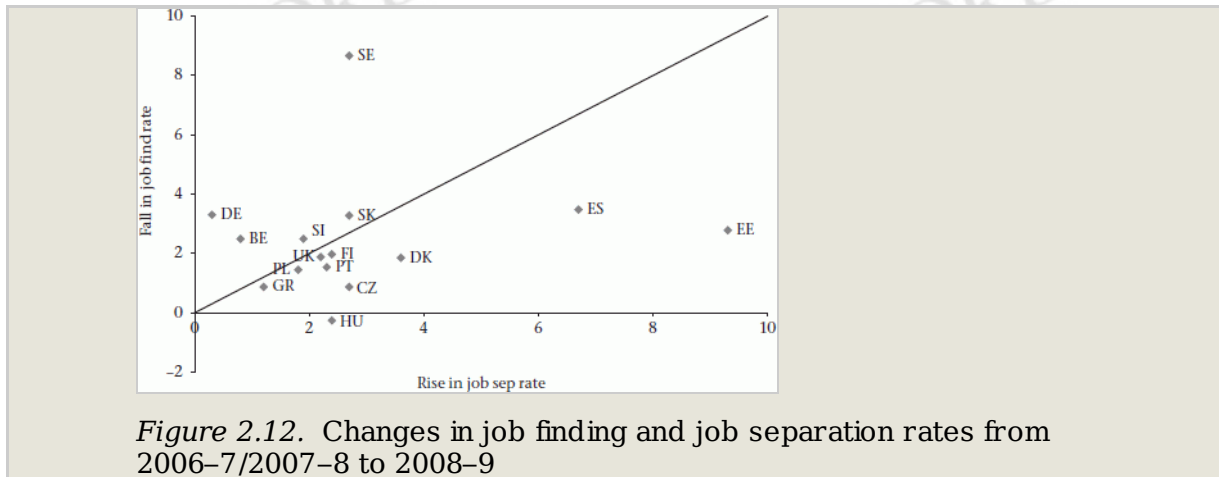

Figure 2.12. Changes in job finding and job separation rates from 2006–7/2007–8 to 2008–9

here by looking at how much job finding and job separation changed in frequency in the fifteen examined countries going into 2009.

For the majority of countries, job separations rose more than job finding fell from pre-recession to 2009, as can be seen from the fact that most nations are below the diagonal line in Figure 2.12. The relative importance of job separations is especially clear for Estonia and Spain. Sweden stands out as an exceptional case, with a much larger fall in job finding than a rise in job separations, but then Sweden's rate of job finding was extremely high in the year preceding the recession (see Figure 2.10), so regression to the mean is apparently involved in its outlier position here.

The main conclusion from the pattern in Figure 2.12 is that job separations played a dominant role for overall employment decline in the recession. Not only did most countries (ten out of the fifteen compared) experience larger changes from 2007/8 to 2009 in job separation rates than in job finding, but, as noted earlier, the number of individuals involved tends to be larger for employment exits than entries, since a majority of the population is employed in most countries (i.e. the base on which the flow rates is estimated is larger). Further, there is a strong correlation between the relative importance of job separation rise over job finding decline and the fall of aggregate employment during the recession. Among all fifteen countries this correlation is 0.75, which increases to 0.85 with the deviant case of Sweden omitted. (This correlation is not immediately apparent from Figure 2.12.) Even without the extreme cases of Estonia and Spain the correlation is 0.50, and with Sweden excluded 0.63.

(p.54)

Figure 2.13. Two dimensions of labour market institutions: equality and flexibility
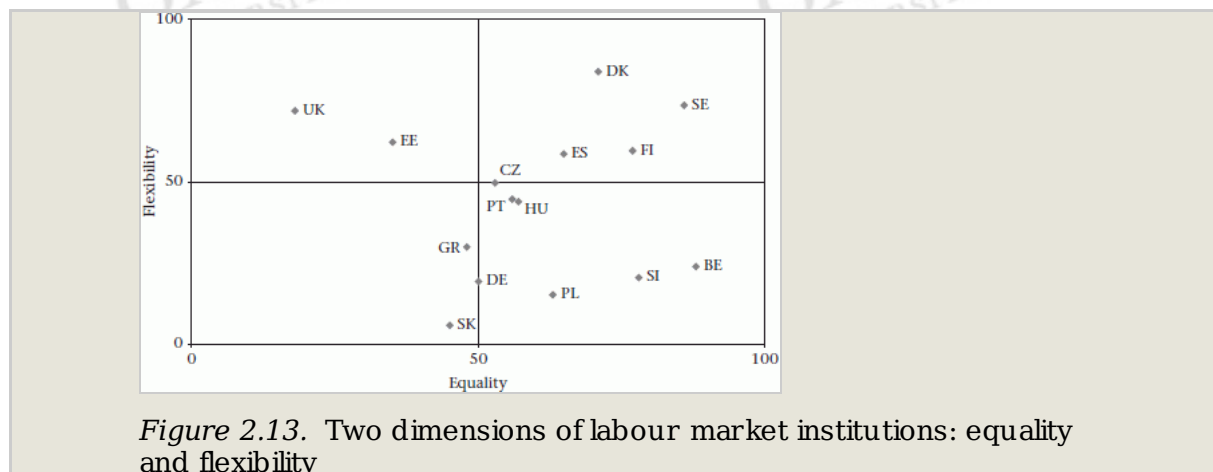
Returning now to the issue of flexibility, an important task is to construct an overall measure of how dynamic the labour market is with respect to flows across the employment border. Such a measure would provide a vital piece of the puzzle in revealing the institutional structure of inequality. We build a measure of flexibility by combining four rates of flows and retention: (a) job finding, (b) job separation, (c) unemployment retention (staying in unemployment from one year to the next), and (d) moves from unemployment to outside the labour force (a sign of giving up on job search). The construction is a ^ b minus (c + d), meaning the overlap (exchange) between job finding and separation, indicating flexibility, minus the proportion of the population trying but failing to achieve employment, indicating rigidity.[5] The failure to find employment is obviously not only a sign of labour market rigidity but is also, depending on the level of the business cycle, a result of low labour demand. In order to isolate the rigidity component, we measure the retention rate of unemployment at a neutral or high point of the cycle, in this case in the year preceding the recession.

Figure 2.13 shows how this measure of flexibility is associated with the scale of equality-promoting institutions used in the preceding section of the chapter. In combination, the two scales provide a more elaborate and useful characterization of labour market institutions than either one in isolation. The flexibility measure can be seen as one possible way of scaling the dimension of employment quantities discussed earlier, so that we now have **(p.55)** a combination of the price (wages) and quantity (employment) sides of the institutional structure of inequality.

The figure has been divided into four quadrants by marking the midpoint lines of each dimension. The two right-hand boxes, with relatively high values of equality, are more densely populated than the two quadrants towards the inequality pole, partly reflecting that Ireland and the Netherlands are not included here (due to their lack of flow data), but neither is France (which would be on the equality side of the figure) present.

There are several interesting observations to be made from the overall pattern. The correlation between the two dimensions is close to zero (minus 0.03). There are three

basic types of countries: unequal and flexible (primarily the UK but also Estonia), equal and inflexible (Belgium, Slovenia, and to some extent Poland), and equal and flexible (primarily the Nordics but also Spain to some extent). In addition, there are countries that are close to the average on equality and low on flexibility (Slovakia, Germany, Greece) and finally a group near the middle on both dimensions (Czech Republic, Hungary, Portugal). The empty part of the map is the lower left, the corner of low equality and low flexibility, which would appear to be a quite unattractive place.

In a standard economic view of how labour markets work, a negative association between equality and flexibility might be expected. The members of the upper left and lower right quadrants essentially conform to this orthodox expectation of a trade-off between distribution and growth. But it is well known that the Nordic countries tend to break this pattern in important ways, and their place to the upper right in Figure 2.13 supports this impression. More surprising, perhaps, is that Spain shows up as a fairly close neighbour to the Nordics. One particular feature that these countries have in common is the wide use of time-limited employment contracts, partially used as a device to climb north from the lower right of the figure. We do not have space here to pursue the detailed mechanisms (like the design and mix of employment contracts) that could account for each country's location on the institutional map, but leave that essential task to future work.

We conclude this section by revisiting the attempt to account for the cross-national variation in employment decline during the crisis. As shown above, to a very large extent this variation is associated with what can be called The Great Regression: the tendency that the magnitude of economic expansion before the recession is mirrored by the degree of economic contraction in the downturn, with large employment declines as a consequence. Given this cycle of boom and bust, equality-promoting institutions appeared to be associated with larger rather than smaller employment falls. Aided by the measure of flexibility we now have at our disposal we can probe somewhat deeper into this question. What is the relation between excess (i.e. residual **(p.56)**
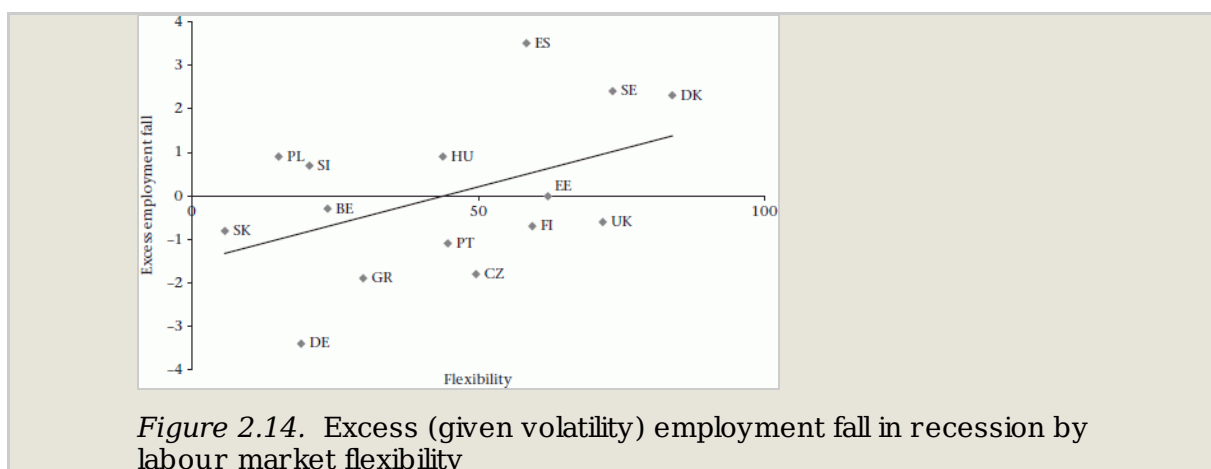

Figure 2.14. Excess (given volatility) employment fall in recession by labour market flexibility

to The Great Regression) fall in employment and the degree of labour market flexibility? Figure 2.14 gives the answer.

The association is clearly positive, implying that higher labour market flexibility contributed to a larger employment fall in the crisis. The correlation is 0.46, about the same order of magnitude as the positive relation shown above between equality and excess employment decline. Since equality and flexibility are basically uncorrelated, they should together account for a sizeable fraction of the employment outcome, which turns out to be the case. If the two dimensions are combined into a single scale, the association with excess employment decline increases to a correlation of 0.63 (this is not shown in figure form).

It is essentially not surprising that more dynamic (flexible) labour markets take a harder employment hit from economic downturns than more rigid labour markets do. It is to be expected that as the cycle eventually turns upward, flexibility will be an asset in terms of employment expansion. Still, as discussed earlier, volatility tends to be disliked by those who favour equitable distributions since the workers affected by employment downturns are often the same as the workers with low rewards in other respects. The benefits of flexibility may nonetheless be substantial. In the years preceding the recession, there was a clear positive connection between labour market flexibility as measured here and the level of aggregate employment. This relation is obviously much too complex to be sorted out further here, but there seems to be a rather close empirical association between high general employment levels and the size of labour market flows. In turn, this might indicate that **(p.57)** employment losses in the contraction in countries with dynamic labour markets before the recession are likely to be more temporary than in other places.

Summary and Conclusions

We have examined labour market outcomes of the economic crisis in Europe through 2010. Among the eighteen countries considered, three were hit much harder than all others: Estonia, Ireland, and Spain. The main common trait of these three cases is their strong economic expansion in the years leading into the downturn of 2007–8. Estonia and Ireland had extremely high rates of economic growth prior to the crisis, while Spain's growth rate was only slightly above the EU average. All three, however, had strong construction booms in the pre-recession period. Estonia and Spain also saw large employment expansions in the years leading into the recession. The dramatic employment decline from 2007 to 2010 in all three nations, much larger than anywhere else in Europe, is almost completely accounted for by this pattern of initial expansion and subsequent contraction. At lower levels, the same kind of cyclical fluctuations tend to characterize much of the crisis experience of other countries as well. We refer to this general development of boom and bust across the downturn border as The Great Regression.

Most of the variation in labour market outcomes of the crisis is thus explained by economic factors such as growth rate volatility, industrial structure, and general demand. But institutional traits have also been important to some degree. In particular, countries characterized by equality-promoting labour market institutions have seen smaller employment reductions than other countries have. This is mainly or even entirely due to less volatility in more equal labour markets.

Aside from these volatility-driven employment fluctuations, the variation across countries in employment experience appears to be tied to equality-related institutions, but in the opposite direction to the case of volatility, such that more equal societies have experienced relatively large employment reductions. In addition, higher labour market flexibility—essentially uncorrelated with labour market equality—appears to have contributed to a larger employment fall in the crisis.

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Notes:

(1) Norway is excluded in this chapter and the next due to its highly special economic situation, with large long-run surpluses in government budgets arising from abundant natural resources (oil), greatly reducing vulnerability to external economic shocks.

(2) An alternative specification limited to predictors referring to pre-recession years only would be to replace GDP change 2007/8–10 with GDP change 1990–2007 (i.e. the time perspective applied in Figure 2.2). In this alternative specification as well, the multiple correlation with the outcome (employment decline 2007/8–10) is very high (R = 0.92, adj. R^2 = 0.82), with large impacts of GDP change (partial correlation 0.39, t = 2.9) and construction industry size (partial correlation 0.66, t = 5.2), although the coefficient of employment rise 2004–7 is not significant.

(3) Most correlations between the equality scale and its constituent indicators remain of similar size to those reported in Table 2.2. There are two main exceptions. The correlation with employment protection legislation (EPL) is clearly higher with the wealth-adjusted scale (0.54 compared to 0.28 with the unadjusted scale) and the correlation with active labour market policies (ALMP) is clearly lower with the wealth-adjusted scale (0.38 compared to 0.73 with the unadjusted scale). These changes in correlations occur because EPL tends to be stronger in the less rich equal countries, while the rate of ALMP tends to be higher among the richer equal countries.

(4) These data were skilfully prepared by Hande Inanc to whom we are most grateful.

(5) Job finding and separation rates are estimated on the whole population (age 20–64) as a base in this construction, in order to more accurately measure the overlap (exchange) between them by using a common denominator.

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