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Long-Term Unemployment After the Great Recession: Causes and remedies

Edited by Samuel Bentolila and Marcel Jansen

A VoxEU.org Book

CEPR Press

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Foreword

Since the Great Recession of 2008, decreasing the unprecedented rise of long-term unemployment (LTU) has been a priority for countries in the European Union. Even after falling from its peak in 2013, the long-term unemployment rate remains persistently high. In recent quarters the situation has improved, but with economic growth rates stagnating across Europe, this problem is bound to persist.

This new eBook attempts to throw light on the source of this phenomenon. It looks at the costs arising from long-term unemployment and the policies to fight it. It then summarises recent trends in eight European countries. In doing so, this eBook tries to answer such questions as: What countries and age groups are most affected by LTU? What policies would help to reintegrate the long-term unemployed into work? When should they be used? And whom should they target?

The authors unveil important lessons gained from experiences across different countries. Their main finding is that the rigid labour markets that exist in many European countries contribute significantly towards high LTU, but that good policies can help to alleviate this. The eBook calls on researchers and policymakers to make good of European governments' recent reactions to this problem.

CEPR is grateful to Samuel Bentolila and Marcel Jansen for their joint editorship of this eBook. Our thanks also go to Simran Bola and Sophie Roughton for their excellent handling of its production. CEPR, which takes no institutional positions on economic policy matters, is delighted to provide a platform for an exchange of views on this crucially important topic.

Tessa Ogden
Chief Executive Officer, CEPR
November 2016

1 Introduction

Samuel Bentolila and Marcel Jansen
CEMFI and CEPR; Universidad Autónoma de Madrid and Fedea

The resurgence of long-term unemployment

The economies of most industrialised countries are slowly recovering from the recent economic and financial crisis, however this recovery is far from complete, with the incidence of long-term unemployment (LTU) remaining high in many countries. The figures are particularly striking in the case of Europe. In 2014, LTU – defined as the number of people who are out of work and have been actively seeking employment for at least one year – affected more than 12 million workers, or 5% of the labour force in the European Union (EU), 62% of whom had been jobless for at least two consecutive years. Since then the unemployment figures have improved somewhat, but almost 50% of the unemployed and 4.6% of the labour force were still long-term unemployed at the end of 2015. These figures indicate that LTU is the main legacy of the Great Recession.

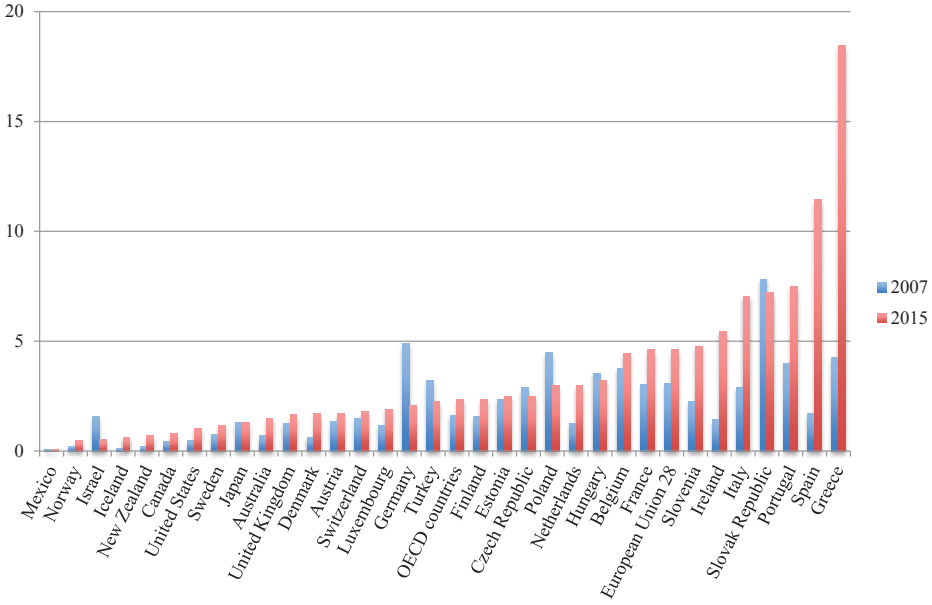
Closer inspection of the data reveals a substantial degree of cross-country variation. Panel A of Figure 1 displays the LTU rates[1] of most OECD member states for the years 2007 and 2015. The reported figures reveal an exceptionally pronounced rise of 3.5 percentage points (pp) or more in the LTU rates of four so-called programme countries – Ireland, Greece, Portugal, and Spain – and also of Italy; a rise which is strong compared to the average of 1.6 pp for the EU and 0.7 pp among OECD countries. These numbers contrast sharply with the comparatively modest rise in the LTU rate in most Anglo-Saxon countries. Nonetheless, even in the US the issue of LTU is cause for concern. The LTU rate reached unprecedented levels in the aftermath of the crisis (e.g.

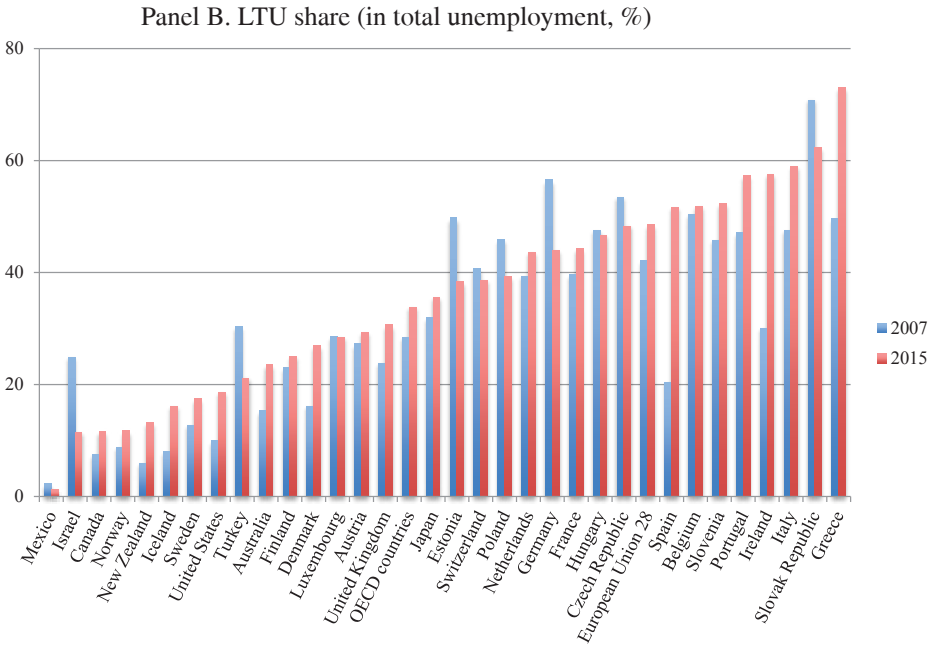
1 The long-term unemployment rate is defined as the share of the labour force that is unemployed for more than twelve months.

Krueger *et al.* 2014) and nowadays the share of long-term unemployed is still almost 20%, as shown in Panel B of Figure 1. On top of this, participation rates in the US continue well below their pre-crisis levels, suggesting that many discouraged workers have abandoned the labour market. Finally, in countries like Germany or Poland, LTU is a structural problem that persists, despite the profound labour market reforms that were implemented prior to the outbreak of crisis. Lastly, the crisis has interacted with longer-run, worldwide forces such as skill-biased and task-biased technological progress and globalization, which tend to hit older and low-skilled workers harder, thereby lowering their chances of re-employment.

Figure 1. Incidence of long-term unemployment in OECD countries

Panel A. LTU rate (share of labour force, %)





Source: OECD.Stat (Annual Labour Force Statistics).

The presence of such large numbers of long-term unemployed represents a fundamental challenge to policymakers. There is abundant evidence that the job-finding probability of the unemployed tends to deteriorate over time. Many of the long-term unemployed may, therefore, soon find themselves at the margin of the labour market, with limited options to return to employment and, at the aggregate level, this may translate into low growth rates and high structural unemployment. Indeed, at the current growth rates of OECD economies, the problem of high LTU is unlikely to go away anytime soon and it could actually worsen if growth falters. The question is, what can policymakers do to avoid this outcome and to foster the reintegration of the long-term unemployed? What policies work? When should they be implemented and whom should policymakers target? The answers to these questions depend crucially on an accurate diagnosis of the causes of LTU that helps to understand the large variation in the incidence of LTU, both across countries and across workers with different characteristics.

Questions of this kind were the subject of intense debates in the late 1980s and early 1990s. As was the case then, economists now, once again, disagree about the degree to which the low job-finding probabilities of the long-term unemployed are the outcome

of duration dependence as opposed to dynamic selection.[2] Similarly, the persistently high levels of unemployment have revived interest in the role of active labour market policies (ALMPs) and their effectiveness in the case of the long-term unemployed. Finally, since the crisis of the late 1980s, some European labour markets have undergone profound changes. The current crisis provides a test to verify whether these reforms have made labour markets more resilient.

This ebook collects the views of labour economists from across Europe and the US on these issues. The majority of the chapters are case studies, each analysing a specific European country, but the ebook opens with three chapters on themes relevant for any country that struggles with a high incidence of LTU. The latter chapters reflect the findings of published research, while the country studies mostly correspond to original contributions of a more descriptive nature. The countries are selected to offer a representative description of the problems faced by European member states. Each of the case studies includes a brief description of the incidence of LTU, relevant institutional features that help the understanding of its evolution during the crisis, and a brief discussion of policy. The latter may be either descriptions of novel measures implemented in recent years or proposals of policies that could help to mitigate the problems associated with the high incidence of LTU. It is important to stress that the contributions reflect the personal views of the authors. Our overriding goal is that they serve both as a wake-up call for policymakers and as a stimulus for researchers. More research that offers guidance to policymakers in the design of policies to combat LTU and to prevent its resurgence in future recessions is sorely needed.

Overview of the chapters

The eBook opens with two contributions reviewing the literature on impact evaluations of ALMPs. The opening chapter by David Card, Jochen Kluve, and Andrea Weber is based on their most recent meta-analysis of the impact of ALMPs, which includes evidence collected during the Great Recession. While their original research considers

2 Duration dependence takes place when exit rates fall as duration increases, due to skill depreciation, lower search effort, and other factors. There is dynamic selection when selective hiring, based on unobservable worker characteristics, leads to a deterioration in the quality of the pool of unemployed.

all groups of unemployed workers, for this chapter the authors centre their discussion upon the long-term unemployed. Among their many interesting conclusions, the authors show that the average programme effects are larger for the long-term unemployed than for alternative target groups at all time horizons. Moreover, training programmes and subsidised private sector employment are shown to have the largest long-run impact on subsequent employment outcomes. However, as stressed in the second contribution, by Lawrence Katz, Kory Kroft, Fabian Lange, and Matthew Notowidigdo, the impact estimates vary enormously from one study to another and relatively little is known about how this variance relates to the details of programme designs and participant selection. In practice, the existing evidence therefore provides little guidance for the precise design of effective ALMPs. Next, Rudolf Winter-Ebmer reminds us of the considerable size of displaced worker effects, as measured in plant-closure studies. Not only does displacement lead to a persistent drop in employment rates and wages, but it also negatively affects workers' health, mental wellbeing, and fertility rates.

As mentioned above, the rest of the eBook consists of eight country studies. In the first one, Torben Andersen illustrates how the flexicurity model helped to keep the incidence of LTU under control in Denmark, despite a pronounced drop in the country's GDP. At the height of the crisis, large flow rates and early activation allowed even youth and older workers to exit unemployment relatively quickly. Germany managed to reduce the incidence of LTU in the years prior to the crisis, but the process has since stagnated. Alexander Spermann discusses the causes of this lack of progress as well as recent changes in the German strategy to reinsert the core of long-term unemployed, who often face multiple barriers, such as health problems, excessive debt or housing needs.

In France LTU is also an unresolved problem, as discussed by Pierre Cahuc and Stéphane Carcillo. Their analysis points to the adverse impact of high minimum wages, stringent employment protection and generous unemployment insurance as factors that explain the relatively high incidence of LTU among vulnerable groups, such as youth and older workers. They also criticise some of the recent measures adopted in France, such as public employment schemes for youth and poorly targeted hiring subsidies, and point at the modest improvements introduced by the recent labour market reform. Federico Cingano, Giovanni Pica and Alfonso Rosolia discuss the role of Italian labour market institutions and recent reforms in the rapid buildup of long-term unemployed

during the second recession to have struck Italy in recent years. Their conclusion is that this strong rise can only be understood as the outcome of a dramatic drop in demand, which may have caused the breakdown of job-search networks.

In his chapter, Jan van Ours sheds light on recent developments in the Netherlands. His analysis indicates that Dutch LTU is mainly an age-related phenomenon, affecting older workers. Old age is a prime risk factor in almost all countries. Van Ours' discussion illustrates the difficulties found in resolving this problem, other than through strong growth, because the unfavourable position of older workers persists, despite ambitious measures to stimulate active search on their part and to make their employment more attractive to firms. The next country in line is Poland. Piotr Lewandowski and Iga Magda discuss the drop in the incidence of LTU before the crisis and the resilience of the Polish labour market during the crisis. However, the authors criticise the fact that LTU is not a policy priority for the Polish government, despite the fact that the LTU rate structurally lies above 5%.

Jointly with José Ignacio García-Pérez, we provide a discussion of the alarming rise in LTU in Spain. Since the institutional setup in Spain is similar to that in France, we focus our discussion on the large share of low-educated long-term unemployed and the role of duration dependence and unemployment benefit entitlements as important factors behind the historically low job-finding probabilities of the long-term unemployed. Last, but not least, Mike Elsby, Jennifer Smith, and Jonathan Wadsworth discuss the case of the United Kingdom. Reforms, such as the creation of the Jobseeker's Allowance, may help to explain why the build up of LTU is less strong than in the previous crisis of the 1990s, but the authors call for caution. While the rise in the incidence of LTU has been modest, there has been a worrisome increase of the inflow into long-term sickness. This is a reminder that any analysis of long-term joblessness should be based on the use of a broad definition which includes nonparticipation, disability, and long-term benefit dependency.

Synthesis of findings

We wish to thank the authors for their interesting contributions. Each of them highlights issues that stand out in a particular context, but we feel comfortable to draw some tentative conclusions from the evidence presented in this eBook. The first conclusion concerns the vital role of ALMPs. The existing impact evaluations indicate that well-designed ALMPs may be an effective tool to reinsert the long-term unemployed into employment, even in the context of a deep recession. The optimal policy mix may shift over time, from a 'train-first' to a 'work-first' approach, as suggested in the second chapter, but it is vital to act at an early stage, before workers turn into long-term unemployed. The latter requires well-prepared Public Employment Services (PES), able to identify the unemployed at risk of becoming long-term unemployed and to design effective individual action plans. Denmark is a good example of a country in which ALMPs played a preventive role. By contrast, a crisis-ridden country like Spain still needs to put in place basic tools to offer personalised attention to the most vulnerable groups.

Second, while the impacts of ALMPs may be positive in the case of the long-term unemployed, they do not constitute a substitute for such labour market reforms as help to create more efficient and dynamic labour markets. The importance of large labour flows is stressed in various chapters. They lead to shorter duration of unemployment spells and help to avoid the rapid build-up of a large stock of long-term unemployed in recessions. Dual labour markets, like the ones of France, Italy or Spain, may also produce large flows, but they do not benefit vulnerable groups, such as youth or older workers. The stringency of employment protection legislation regarding permanent jobs therefore seems to be an important element, which explains cross-country differences in the incidence of LTU.

Third, the success of any policy will, ultimately, depend on our capacity to generate sustained growth. The European Council launched a recommendation in February 2016, calling on the Member States to provide personalised attention to the long-term unemployed. It has the same flavour as the European Youth Guarantee, but neither of these initiatives will achieve their goals unless growth rates pick up considerably, which

may not be possible in the short-run without a profound revision of the macroeconomic policy mix in Europe.

Next, in the US the rise in LTU has spurred an intensive debate among some of the country's leading economists. By contrast, in Europe there is very little recent academic work on the sources of and remedies for LTU, despite the fact that the incidence of LTU is an order of magnitude higher in Europe than in the US. Research in this area is plagued by identification problems, which may prevent publication in the world's leading journals, but the social payoff of high-quality applied research, offering policymakers clear guidelines for the design of effective policies, is priceless. We therefore hope that the essays in this eBook may help to spur progress in this area.

The contributions which make up this eBook confirm that there are still many unanswered questions about the efficacy of ALMPs. Policymakers should, however, not hide behind the absence of precise prescriptions for the design of ALMPs. In some of the countries most affected by the crisis, institutions are ill-prepared to deal with the increase in LTU. The scope for improvement is enormous but each each country will need to adapt its policies to its own needs and institutional setup. In the process, some of the choices made may turn out to be ineffective. What really matters, therefore, is that policymakers perform rigorous evaluations of their policies, to obtain reliable impact estimates, and that they correct or eliminate ineffective programmes. Indeed, in our view, the cost of inaction could end up being much higher than any losses generated by those programmes that do not deliver the desired results.

Reference

Krueger, A.B., J. Cramer, and D. Cho (2014), *Are the Long-Term Unemployed on the Margins of the Labor Market?* Brookings Papers on Economic Activity, Spring, 229-280.

About the authors

Samuel Bentolila is Full Professor of Economics at CEMFI (Madrid) and has a PhD in Economics from MIT. He is a Fellow of the European Economic Association and a Research Fellow of CEPR, and has been President of the Spanish Economic Association. He has been a member of the Panel of Economic Policy. His research focuses on labour economics, including topics such as unemployment, wages, firing costs, temporary jobs, and the labour share.

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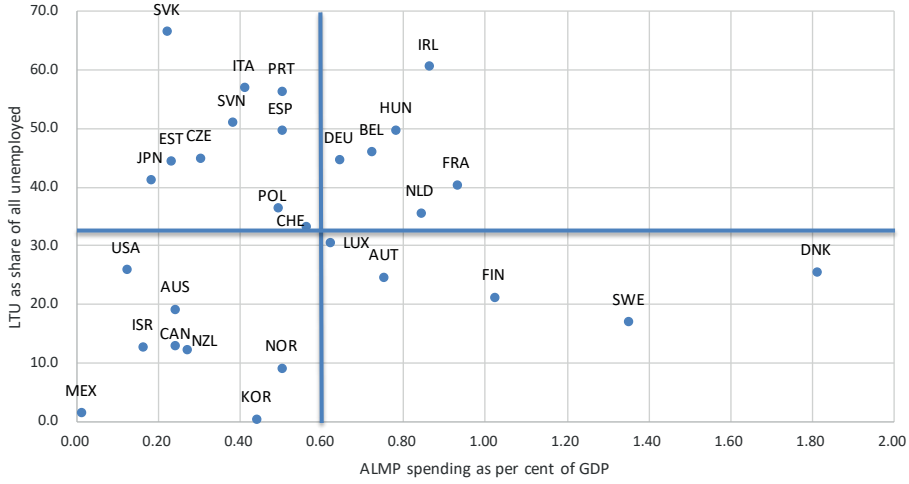
2 Active labour market policies and long-term unemployment

David Card, Jochen Kluve and Andrea Weber
University of California Berkeley; RWI and Humboldt University Berlin; Vienna University of Economics and Business and CEPR

Many countries, in particular in the OECD, use active labour market policies (ALMPs) to combat unemployment and also long-term unemployment (LTU). Figure 1 presents an overview of the percentage of GDP spending on ALMPs, vis-á-vis the share of LTU, among all the unemployed in OECD countries for 2013. The figure shows high shares of long-term unemployed in several of those European countries hardest hit by the Great Recession (e.g. Italy, Portugal, Spain), but no above-average expenditure on ALMPs (top-left rectangle). The combination of high LTU shares and high ALMP expenditure can be seen, e.g. in Ireland and France, in the top-right rectangle, whereas the Nordic countries Denmark, Finland, and Sweden stand out for comparatively high ALMP spending, relative to low shares of long-term unemployed jobseekers (bottom-right rectangle).

The general level of spending on ALMPs has increased relatively little in the OECD during the post-crisis years (cf. Martin 2014), with substantial variation across countries – whereas countries such as Denmark significantly increased active spending post-2009, Spain, for instance, did not allocate additional resources to active policies, probably because the surge in passive spending, due in turn to a surge in unemployment benefit claimants, left relatively little fiscal leeway. Ireland provides an example of a country that did allocate additional funds to ALMPs, whilst also facing a strong increase in passive spending.

Figure 1. ALMP spending and the share of long-term unemployed jobseekers in OECD countries, 2013



Source: Author's illustration based on data from stats.oecd.org. The two blue lines indicate the respective sample averages for the LTU share (33.5 – horizontal line) and ALMP spending (0.6 per cent – vertical line).

Figure 1 also illustrates the generally high shares of LTU in many countries. In fact, for instance, in 2015 nearly one half of the 22 million unemployed in the European Union were long-term unemployed (Duell *et al.* 2016). This has been one of the main labour market legacies of the Great Recession. A key policy question, therefore, is whether, and to what extent, ALMPs can contribute to bringing long-term unemployed jobseekers into work.

The evidence base on ALMPs

This chapter presents a brief review of the evidence on ALMP effectiveness, from the particular viewpoint of long-term unemployed jobseekers. The evidence is based on the comprehensive data base of ALMP evaluations compiled for the meta-analysis in Card *et al.* (2015). The data comprise a total of 857 estimates of programme effectiveness, from 207 single evaluation studies. The interventions included in the programme evaluation data base are one of the following five types of targeted ALMPs:

1. Classroom or on-the-job training
2. Job-search assistance, monitoring, or sanctions for failing to search
3. Subsidised private sector employment
4. Subsidised public sector employment
5. Other programmes combining two or more of the above types (typically these are job-search assistance combined with training or wage subsidies).

Methodologically, the data include only well-documented studies that use individual micro data and incorporate a counterfactual/control group design or some form of selection correction. Card *et al.* (2015) contains further details on data collection and scope, and e.g. Kluve (2014) discusses a basic framework for the typical contents and causal mechanisms of these programme categories.

Table 1 displays descriptive statistics on the type of programme participants and their regional distribution in the ALMP evaluation database. Overall, 12% of the data focus specifically on long-term unemployed jobseekers, i.e. a total of 106 programme estimates – evaluation results – are available for this group. The other two – larger – target groups are supplied by the short-term unemployed within the Unemployed Insurance (UI) system and other 'disadvantaged' programme participants (defined e.g. by poverty or lack of skills, see table notes). The table shows that empirical results for ALMP effects on the long-term unemployed come from all regions of the OECD, and also from Eastern Europe. Countries in Latin America and the Caribbean and other non-OECD countries have not produced any such evidence, in line with the fact that their programmes serve other types of 'vulnerable' participants, but not unemployed jobseekers – short-term or long-term – registered in the UI or welfare system.

Table 1. Type of ALMP participants by country group

Type of program participants	Full sample	Austria, Germany, Switzerland	Nordic countries	Other EU/ OECD countries	Anglo-Saxon countries	Eastern Europe	LAC	Other Non-OECD
Registered unemployed	0.65	0.86	0.67	0.82	0.33	0.62	0	0.39
Long-term unemployed	0.12	0.08	0.1	0.13	0.25	0.33	0	0
Disadvantaged	0.23	0.06	0.23	0.05	0.41	0.05	1	0.61
Number of estimates	857	290	212	88	87	85	72	23

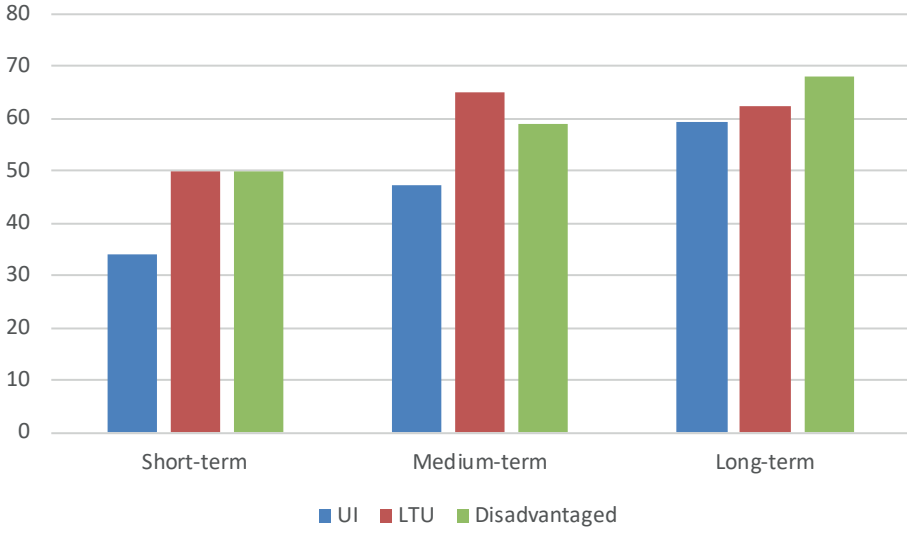
Notes: "Registered unemployed" are newly registered UI (Unemployment Insurance) entrants and short-term unemployed jobseekers; "Long-term unemployed" are jobseekers who have been unemployed for more than 12 months; "Disadvantaged" ALMP participants are those defined by other types of vulnerabilities, such as e.g. (extreme) poverty, lack of (access to) education, or joblessness in countries in which no UI system is in place. The "Nordic countries" comprise Denmark, Finland, Norway and Sweden. "Other EU/OECD countries" comprise Belgium, France, Israel, Italy, The Netherlands, Portugal, Spain, and Turkey. "Anglo-Saxon" countries are Australia, Canada, Ireland, New Zealand, UK, and the US. "Eastern Europe" comprises Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Poland, Romania, Russia, Serbia, Slovakia, and Slovenia. "LAC" countries are Argentina, Brazil, Colombia, Dominican Republic, Mexico, Nicaragua, Panama, and Peru. "Other Non-OECD" are China, India, Jordan, Korea, Malawi, South Africa, and Sri Lanka.

Patterns of ALMP effects for the long-term unemployed

ALMP effects are more positive for the long-term unemployed than for other groups

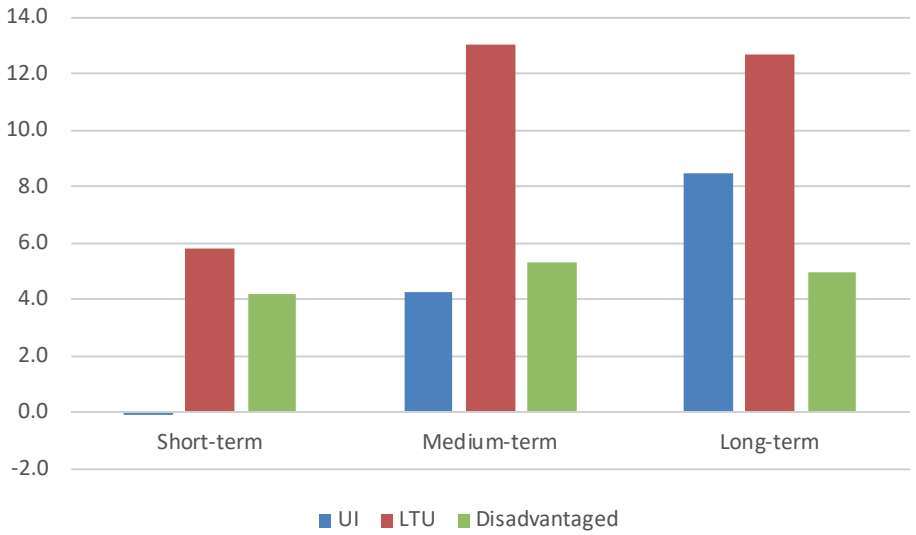
On the basis of the meta-analysis data it is possible to compare average effectiveness of ALMP programmes overall by participant type, i.e. distinguishing the effectiveness for the long-term unemployed from the other two groups (UI recipients / short-term unemployed, and other disadvantaged, respectively). Figure 2a displays the distribution of the share of ALMP effects that are significantly positive by participant group, for three time horizons: 'short-term' effects are measured within 12 months after the end of programme participation; 'medium-term' effects 13-24 months after programme end; and 'long-term' effects 25 months or later after programme end. The figure covers all 857 estimates of treatment effectiveness contained in the data.

Figure 2a Positive programme effects by programme group



Source: ALMP evaluation data base compiled by Card et al. (2015).
Notes: The figure displays the respective share of programme estimates that are positive and statistically significant, by participant group (UI = short-term unemployed, see notes for Table 1) and time horizon. "Short-term" effects are measured within 12 months after programme end; "medium-term" effects 13-24 months after programme end; and "long-term" effects 25 months or later after programme end. Numbers of observations for the nine pillars from left (UI short-term) to right (Disadvantaged long-term) are = 258; 50; 107; 193; 40; 68; 103; 16; 22.

Figure 2b. Average programme effect by programme group



Source: ALMP evaluation data base compiled by Card et al. (2015).

Notes: The figure displays the average size of programme effects on the employment probability, by participant group (UI = short-term unemployed, see notes for Table 1) and time horizon. "Short-term" effects are measured within 12 months after programme end; "medium-term" effects 13-24 months after programme end; and "long-term" effects 25 months or later after programme end. Numbers of observations for the nine pillars from left (UI short-term) to right (Disadvantaged long-term) are = 93; 17; 31; 101; 16; 26; 50; 10; 8.

Figure 2a shows, first, that there is a general upward trend in programme effectiveness by time horizon: when effects of ALMPs are measured at the longer-term, they tend to be more positive, on average. This is one of the main findings in Card *et al.* (2015). Second, the figure illustrates that also the programme estimates for the LTU subgroup follow this general pattern over time, though it is not as pronounced as for the other two subgroups. Third, and more importantly, Figure 2a indicates that the share of significant positive impacts for the LTU participant group is always larger than for the short-term UI recipient group and equal to, or larger than, the respective share for the disadvantaged at two of the three time horizons (short-term and medium-term). Overall, this points to the fact that ALMPs appear to effectuate impacts among the long-term unemployed that are certainly not less likely to be positive than for other programme participants, and possibly more positive in many cases.

This finding is strengthened by the results in Figure 2b, which displays a similar distribution. Rather than the share of positive estimates however, Figure 2b reports the

average size of the estimated treatment effect coefficient, i.e. the programme effect. Figure 2b also displays the distribution for the three participant groups at three time horizons; and the figure covers 352 estimates from those evaluation studies that report employment probability as outcome.

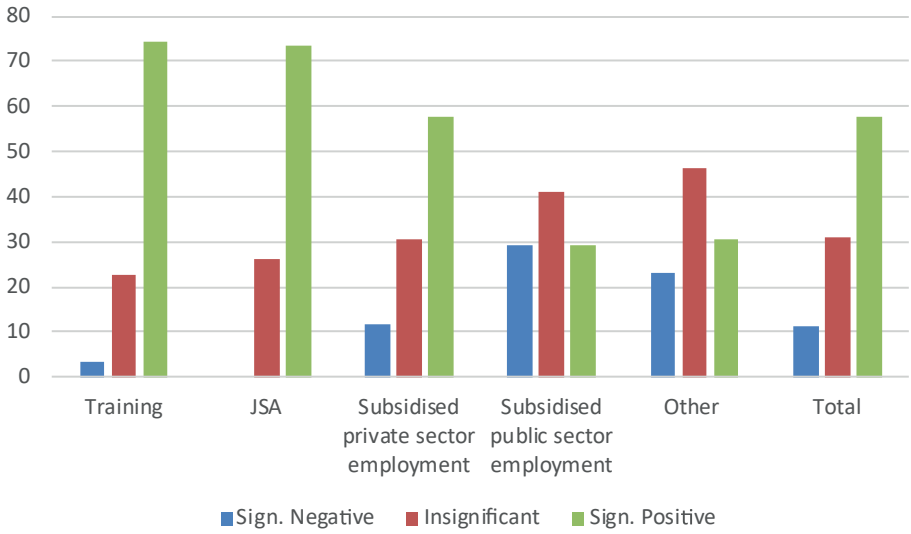
As in Figure 2a, an increase in the average programme effect over time is also shown in Figure 2b. Second, the increase seems to be more pronounced for the LTU effects than for the other two participant groups. Third, the estimated average programme effect is larger for the LTU group than for the others, at all time horizons. Notwithstanding the small sample sizes underlying some of the pillars displayed in Figures 2a and 2b, the evidence is quite coherent in suggesting that, at the very least, ALMPs are not less effective for long-term unemployed participants than they are for other groups. In fact, the data suggest ALMP may have larger impacts for the long-term unemployed than for others.

'Human capital' intensive programmes are effective for the long-term unemployed

While the previous pattern looked at general ALMP effectiveness, by time horizon and participant group, and identified a positive result for the long-term unemployed, Figure 3 investigates whether there is any visible effect heterogeneity by programme type underlying this general pattern. That is, Figure 3 focuses exclusively on estimated impacts for the long-term unemployed and shows the respective distributions of the shares of 'significant negative', 'insignificant', and 'positive significant' treatment effects by programme type.

First, the 'total' distribution, to the right of Figure 3a, shows the generally positive result that, among all estimated programme effects for the long-term unemployed, almost 60% are significantly positive; just above 30% are insignificant; and just above 10% are significantly negative.

Figure 3. Distribution of ALMP effects for the long-term unemployed by programme type



Source: ALMP evaluation data base compiled by Card et al. (2015).

Notes: The figure displays the respective shares – by programme type – of programme effects that are negative statistically significant, not statistically significant from zero, and positive statistically significant. Numbers of observations are = 31 (Training); 19 (Job Search Assistance JSA); 26 (Subsidised private sector employment); 17 (Subsidised public sector employment); and 13 (Other programmes).

Second, this overall distribution varies substantially by programme type – both training and job-search assistance programmes display very high shares of significant positive effects (over 70% each), while the share of significant negative impacts is below 5% or zero, respectively. The distribution for the 'subsidised private sector employment' programmes essentially reproduces the 'total' distribution. Public sector programmes fare visibly worse and show the highest share of significant negative impacts, equal to the share of significant positive impacts for this programme type. 'Other' programmes for LTU also show a mixed result, with a notable share of negative impacts.

The stylised finding of Figure 3, therefore, highlights the importance of training and job-search assistance programmes for the long-term unemployed; this indicative pattern of programme effect heterogeneity can be further investigated: the results of a multivariate regression model (reported in Card *et al.* 2015) put the significant positive

effects of job-search assistance for the long-term unemployed in perspective – their overall effectiveness notwithstanding, job-search assistance programmes are not more effective for the long-term unemployed than for short-term UI recipients. At the same time, human capital intensive programmes – in particular training interventions, but also private sector employment programmes – are significantly more likely to bring about positive impacts for the long-term unemployed than for other participant groups.

ALMPs are more effective during economic downturns

Another longstanding question in the ALMP literature is whether programmes are more (or less) effective in different cyclical environments. One view is that active programmes are *less* effective in a depressed labour market, because participants have to compete with other, more advantaged workers for a limited set of jobs. An alternative view is that ALMPs are *more* effective in weak labour markets, because employers become more selective in a slack market, increasing the value of an intervention that makes workers more job-ready.

Whereas the programme evaluation data base is not sufficiently large to answer this question *specifically for the long-term unemployed*, the general results from Card *et al.* (2015) are still informative in relation to the question of what policymakers can learn for ALMP design and usage from the past Great Recession. Previously, three studies had investigated ALMP effectiveness over the business cycle: Kluve (2010) uses between-country variation in a small European meta data set, while Lechner and Wunsch (2009) and Forslund *et al.* (2011) analyse programmes in Germany and Sweden, respectively. All three studies suggest a positive correlation between ALMP effectiveness and the unemployment rate.

The findings in Card *et al.* (2015) – who augment the programme evaluation data base by adding data on the average growth rate of GDP and on the average unemployment rate during the years the treatment group participated in the programme – provide evidence that ALMPs work better in recessionary markets. In fact, some of their findings – from a sample using the four countries with the largest number of programme estimates (Denmark, France, Germany, the US) – suggest relatively important cyclical effects on ALMP effectiveness: for example, when comparing two similar programmes, operating

in labour markets with a three percentage point gap in growth rates, the programme in the slower-growth environment would be expected to have a 0.1 larger programme effect (Card *et al.* 2015). Moreover, the findings suggest that ALMP programmes tend to be particularly successful if participants are enrolled in a programme during a downturn and exit the programme during a period of favorable economic conditions.

Whereas the evidence generated in Card *et al.* (2015) suggests a countercyclical pattern of programme effectiveness, it is worth emphasising that the explanation for this pattern is less clear. It is possible that the value of a given programme is higher in a recessionary environment. It is also possible, however, that the characteristics of ALMP participants, or of the programmes themselves, change in a way that contributes to a more positive impact in a slow-growth/high-unemployment environment.

Conclusion

This chapter has provided a short review of the evidence on ALMP effectiveness for the long-term unemployed, based on the most recent programme evaluation data base compiled in Card *et al.* (2015). Against the background of the longer-term labour market repercussions of the Great Recession in many OECD countries, and the need to formulate policy responses, the analysis of the meta data base, specifically for the long-term unemployed, has identified several key patterns.

First, ALMP effects tend to be more positive for long-term unemployed participants than for other participant groups. Given the fact that the respective constraints – lack of skills, lack of motivation, etc. – that programmes intend to overcome for participants would be expected to be more pronounced among the long-term unemployed than other groups, this finding may be somewhat unexpected. However, even taking into account the relatively small sample size for the long-term unemployed group, the evidence clearly suggests that ALMPs for long-term unemployed are, at the very least, no less effective, on average, than they are for other participant groups.

Second, the results suggest that there are potential gains from matching specific participant groups to specific types of programmes. In particular, human capital intensive programmes – above all training, but also subsidised private sector employment – are

effective for long-term unemployed participants. In addition, job-search assistance programmes appear to be no less effective for the long-term unemployed than for short-term UI recipients.

Third, the results on the relative efficacy of human capital programmes for the long-term unemployed, and on the larger impacts of these programmes in recessionary environments, point to another potentially important policy lesson (Card *et al.* 2015). As noted by Kroft *et al.* (2016) and others, in the succeeding chapters of this book, the number of long-term unemployed individuals rises rapidly as a recession persists (recall also Figure 1). This group has a high probability of leaving the labour force, risking permanent losses in the productive capacity of the economy. One policy response therefore is countercyclical job-training programmes and private employment subsidies, which are particularly effective for the longer-term unemployed in a recessionary climate.

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3 Addressing long-term unemployment in the aftermath of the Great Recession

Lawrence F. Katz, Kory Kroft, Fabian Lange, and Matthew J. Notowidigdo
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Towards the end of 2016, the US labour market continues to slowly recover. The unemployment rate has fallen, from its peak of 10% in October 2009, to below 5%. However an unusually large share of the unemployed has been out of work for a long time. In mid-2016, the share of long-term unemployed (> 26 weeks)[1] among the unemployed remains around 25%, down from its peak of about 50% in 2010, but still well above the 17% observed in 2007 prior to the Great Recession. Western European economies have either experienced similarly persistent increases in LTU rates in recent years (United Kingdom) or have experienced high LTU rates for many decades already (Germany, Italy, France). The presence of large numbers of long-term unemployed represents a fundamental challenge to policymakers in designing labour market institutions that help reintegrate the long-term unemployed into the labour market.

LTU, the Long Slump and the Great Recession

In a recent paper, Krueger *et al.* (2014) note that the relationships between unemployment and inflation as well as vacancies, summarised by the Phillips and Beveridge Curves respectively, have broken down since the end of the Great Recession. By contrast, the

1 Footnote: In the US, LTU is typically used for unemployment exceeding 26 weeks of unemployment, while in Europe LTU generally refers to unemployment of more than 12 months duration.

relation between short-term unemployment, vacancies (Ghayad and Dickens 2012), and inflation (Gordon 2013, Watson 2014) remains stable. It thus seems as if the breakdown of both the Phillips curve and the Beveridge curve is linked to the rise in LTU.

Kroft *et al.* (2016) show how central the experience of the long-term unemployed is to explaining the long malaise in the labour market, starting in 2007 and – according to some measures – persisting until today. Crucial elements here and in Krueger *et al.* (2014) are the low job-finding rates among the long-term unemployed and the high rate at which the long-term unemployed leave the labour force. Interestingly, as Krueger *et al.* (2014) demonstrate, even when the long-term unemployed find jobs, these jobs tend to be unstable, low-paid, and often part-time.

An important feature of the economic model developed in Kroft *et al.* (2016) is 'negative duration dependence', meaning that longer unemployment spells lead to lower exit rates from unemployment. This feature of the model provides a direct mechanism linking a sharp increase in LTU rates to a 'long slump', as the long-term unemployed face more and more difficulty returning to work over time. While Kroft *et al.* focus primarily on the long-term unemployed, an open question is whether negative duration dependence continues even after the long-term unemployed leave the labour force. To study this, we are working on a new project which studies LTU in Canada, using restricted-access data from the Canadian Labor Force Survey. This data set will allow us to extend the work of Kroft *et al.* (2016), to allow for negative duration dependence among the unemployed *and* among non-participants (i.e. those who are not in the labour force). Our hope is that this project will provide a useful comparative study of LTU in the US and Canada in recent years, and will also begin to understand the relative importance of duration dependence among the long-term unemployed and those not in the labour force in contributing to the slow recovery in the aftermath of the Great Recession.

The remainder of this article discusses active labour market policies (ALMPs). Given the discussion above, it follows that those labour market policies which are effective at reconnecting the long-term unemployed might substantially benefit the aggregate labour market. The differential experience of the long-term unemployed, compared to the short-term unemployed, also suggests that labour market policies effective among the short-term unemployed might not be effective among the long-term unemployed.

So, what is known about how effective ALMPs are at reconnecting the long-term unemployed to the labour market?

ALMPs and the long-term unemployed

Developed economies expend significant resources on ALMPs, such as training or wage subsidies targeting the unemployed. Kluve (2010) reports that in 2002 the US and the UK expended relatively modest amounts (0.13 and 0.4% of GDP), whereas the large continental European countries and the Scandinavian countries spent between 0.5 and 2% of GDP on ALMPs. What do we know about the overall effectiveness of ALMPs and particularly about policies that target the long-term unemployed?

Two meta-analyses summarise findings from a great many studies. Card *et al.* (2010) analysed 199 estimates from 97 studies of ALMPs covering the years 1997-2007. Kluve (2010) examined 137 evaluations from 19 European countries.[2]

These two studies emphasise the heterogeneity in results associated with different interventions and study populations. The evidence does not support a simple conclusion regarding the effectiveness of ALMPs. Kluve (2010) reports that, of the 137 studies reviewed, 75 find a significantly positive effect, 29 a significantly negative effect and 33 report no statistically significant effect. On balance, ALMPs tend to have positive effect, but there is a lot of variation across programmes. Card *et al.* (2010) report similar results of significant positive and negative short-run effects in about one-third of studies each. They also find that job-search assistance policies tend to have positive short-run impacts in helping re-employment, but that training programmes show more positive medium-term impacts. However, many ALMPs do not generate positive outcomes and might even harm those treated.

Card *et al.* (2010) and Kluve (2010) also examine whether programme effectiveness varies with the design of the ALMP. They compare programmes with training components, programmes that focus primarily on job-search assistance, and programmes

2 In Card (2013), David Card presents his view of what we know about the effectiveness of ALMPs and what the most urgent challenges to research in this area are.

that emphasise employment subsidies. Kluve (2010) reports positive effects for 38 out of 70 training programmes. Interestingly, subsidies to private sector employment are often found to have positive effects (17 out of 23), while public employment subsidies tend to be ineffective (seven positive out of 26 evaluations). Card *et al.* (2010) report that training or job-search assistance tends to be more effective than private or public employment subsidies.

Our reading of the evidence in Card *et al.* (2010) and Kluve (2010) is that programme effectiveness varies a lot across ALMPs and that relatively little is known about what generates this heterogeneity. In particular, little is known whether the heterogeneity is linked to the design of the ALMP or to the treated populations. This reading of the evidence is reinforced by the experimental evidence of the UK Employment Retention and Advancement demonstration (ERA).

The ERA experiment covered three different populations, including a group of long-term unemployed.[3] Over the medium term, the treatment was only effective for the long-term unemployed. For the long-term unemployed, the treatment consisted primarily of financial rewards for searching for jobs and for maintaining employment once a job was found. This treatment was found to generate fairly large effects on employment and earnings over the 5-year study period and was found to be cost-effective.

The evidence of the ERA thus suggests that financial incentives can help reintegrate the long-term unemployed into the labour market. The ERA however also provides evidence that programme effectiveness varies substantially with the treated population.

So far, we have summarised studies that examine the direct effects of ALMPs on treated individuals. From a macroeconomic perspective, an important question is whether ALMPs help some jobseekers at the expense of others, who are not treated. Such displacement effects are plausible, at least in the short run, when fixed inputs generate diseconomies of scale, so that the marginal product of labour declines in aggregate with

3 The other two groups were both groups of lone parents, one unemployed and the other working part-time. For these two groups, treatment included important job-coaching and training components. The ERA found some evidence of treatment heterogeneity within these groups. In particular, the ERA found positive effects on earnings among those unemployed parents who were better educated.

the number of workers hired. Crepon *et al.* (2013) investigate this question for a job-search assistance programme, using a two-stage clustered randomised experimental design. They find that those individuals who received job-search assistance were indeed more likely to find jobs. By varying the fraction treated experimentally across regions, Crepon *et al.* (2013) could also investigate whether there are displacement effects in more heavily treated regions. Although their reported findings here are imprecise, the point estimates do suggest that such displacement effects exist and that they might be greater in weak labour markets. Overall, such displacement effects will lower the social benefits from ALMPs and suggest that it might not be possible to stimulate labour markets using ALMPs during recessions.[4]

Overall, we find that the literature does not provide strong conclusions on how the effectiveness of ALMP varies across subgroups of the jobless, nor, specifically, on the effectiveness of ALMPs targeted at the long-term unemployed. There is some evidence that job-search assistance as well as financial incentives can effectively help treated groups, but it is possible that displacement effects can considerably reduce the benefits from these programmes, from a societal point of view, particularly during weak labour markets. One speculative possibility, based on the (weak) existing evidence, is to focus on providing unemployment assistance and long-term training to the long-term unemployed in the depths of a downturn, but then move towards more aggressive use of ALMPs, such as job-search assistance and hiring subsidies, to try and re-employ the long-term unemployed, as the labour market tightens in a recovery.

More questions than answers

The current state of the literature is, thus, unsatisfying from the perspective of designing ALMPs, especially those that target the long-term unemployed. We do not know with much certitude which groups benefit most from ALMP. Similarly, we do not know enough about whether ALMPs should emphasise training, employment subsidies, or

4 Other work on spillover effects of labour market programmes include Blundell *et al.* (2004), who find little evidence for displacement effects. Lalive *et al.* (2013), by contrast, report sizeable spillovers of large-scale extensions of unemployment benefits in Austria on non-treated job seekers.

job-search assistance. Crucially, for thinking about how to respond to business cycles, we have too little information on how ALMPs perform over the cycle or whether displacement effects are important. Thus, policymakers need more reliable evidence to help in the design of more effective ALMPs for reintegrating the long-term unemployed into the labour market during a recession and its aftermath.

The significant resources expended on ALMPs in various countries, however, suggest large social benefits result from answering these questions. We call on policymakers to add an evaluation component to any new or existing ALMP, preferably based on a randomised design. We encourage those evaluating these randomised experiments to embed their evaluations in behavioural, structural models that incorporate contextual information on the social systems, as well as on the challenges facing particular populations. Combining the experimental evidence with such behavioural models, using contextual information, will help in synthesising results from various settings and in designing future ALMP to achieve better labour market outcomes for groups at the margin of the labour market, such as the long-term unemployed.

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4 Long-term effects of unemployment: What can we learn from plant-closure studies?

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Losing one's job poses a large and immediate problem to individuals: market income is lost and consumption possibilities now hinge on the social net, the family and the availability of savings. In dynamic and competitive economies, such job losses will always occur, in particular in business downturns and due to structural changes related to technological progress and internationalisation. The essential part for workers is whether these disturbances have long-term detrimental effects and how unemployment is distributed among the workforce. An unemployment rate of, say, 10% will have a considerably different distributional impact, depending on the distribution of inflows and the duration structure of unemployment. In a long-term view, current unemployment may increase the probability of suffering from recurrent unemployment in the future. Next to a long-term impact on employment and wage losses, unemployment may also cause negative health problems and may be related to other household decisions such as fertility, marriage and divorce.

In this chapter, I will concentrate on plant-closure studies. Plant closures have the big advantage that selection problems of unemployment are largely eliminated. Inflows into unemployment comprise three types of individuals: the least-performing ones, who are most easily dismissed and sometimes dismissed for cause; those who quit voluntarily, on the look-out for a better job; and average workers who are dismissed because of a business downturn. The study of plant closures serves as a quasi-experimental situation, since all the workers in a firm are involved and, thus, selection problems are largely circumvented. On top of this, plant-closure studies typically use some sort of matching algorithm to control for the selectivity of closing firms as well. Effects of plant-closure

studies are, therefore, among the best of those which investigate the impact of business-cycle or business-condition related unemployment.

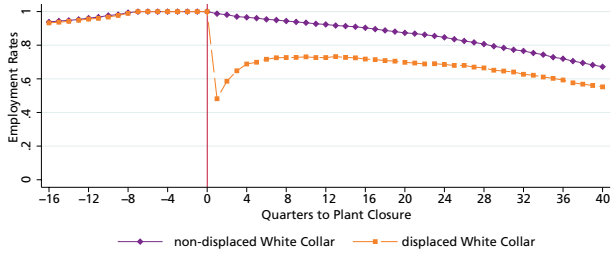
Employment and wage effects

For Austria, we look at long-term effects of plant closure on employment and wages. To do so, we use linked employer-employee data for the universe of Austrian firms and workers. We observe plant closures in the late 1980s and follow workers for at least 10 years after that (Schwerdt *et al*. 2010). With the use of matching methods, we are able to get rid of structural differences between firms going bankrupt or not. The analysis concentrates on prime-age workers, between 35 and 50 years of age, who have spent at least one year with the original firm. Figure 1 shows employment and wage patterns for workers affected by a plant closure, in comparison to unaffected workers from a control group.

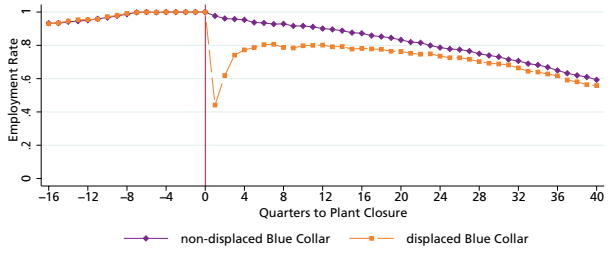
It turns out that our matched plant-closure workers are almost exactly identical to the control group in the 16 quarters before plant closure, but that they show a distinctively different pattern afterwards. In panels A and B, we see employment probabilities for each of 40 quarters after plant closure, whereas panels C and D show respective patterns for wages (considering only employed workers in panels C and D). Looking at these pictures, we see remarkable long-term effects of a plant closure – effects which are also quite different between white-collar and blue-collar workers. White-collar workers suffer larger employment losses: in the first five years their employment probability declines by 23 percentage points, in the years 5-10 by 13 percentage points. Whilst blue-collar workers suffer more in the first quarters after a plant closure, their employment loss is smaller (-15 percentage points employment probability in the first five years and -4 percentage points in years 5-10). Losses in wages for employed workers are generally much smaller (around 5%), but still visible for white-collar workers after ten years.

Figure 1. Employment and wage patterns of displaced versus non-displaced workers

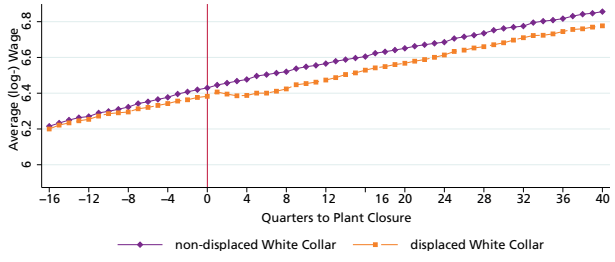
Panel A. White collar



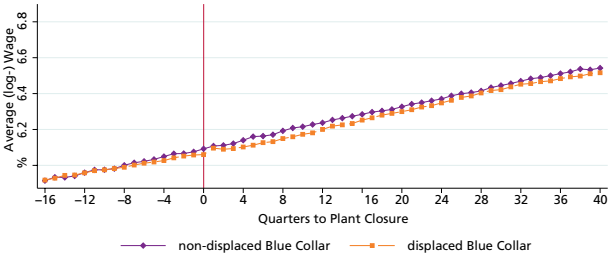
Panel B. Blue collar



Panel C. White collar



Panel D. Blue collar



These large and permanent employment (and wage) losses of displaced workers can be explained by the loss of firm-specific human capital and by internal labour markets (Schwerdt *et al.* 2010). When we look at age differences in employment problems, Ichino *et al.* (2016) show that younger workers (35-45 years of age at the time of displacement, see Figure 2) face, on average, very consistent and large employment losses – losses which do not diminish any more after 5-10 years. For workers who are already 45-55 at the time of plant closure (Panel B in Figure 2), employment prospects are initially poor, however, due to early retirement possibilities, they are not so long-lasting.

Figure 2a. Employment rate of displaced versus non-displaced young workers

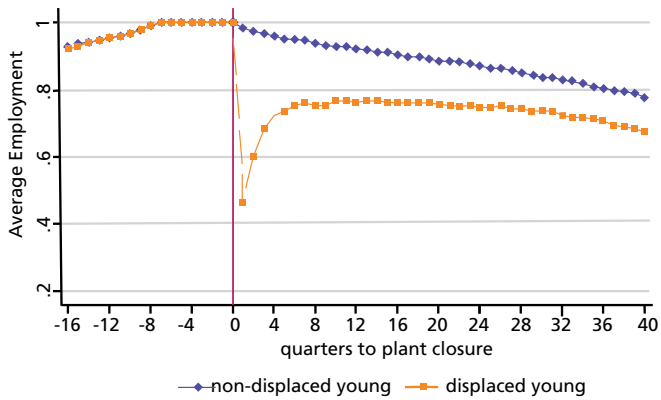
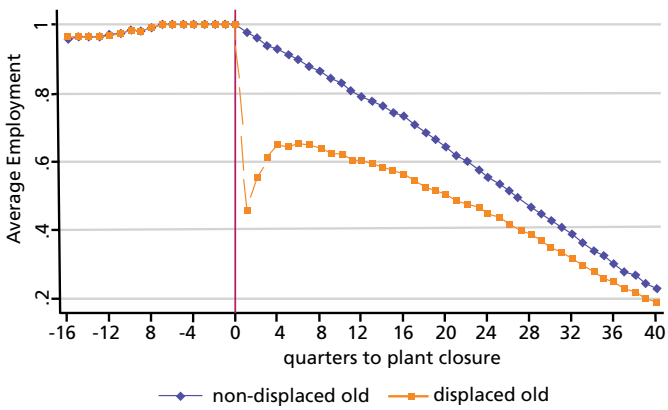


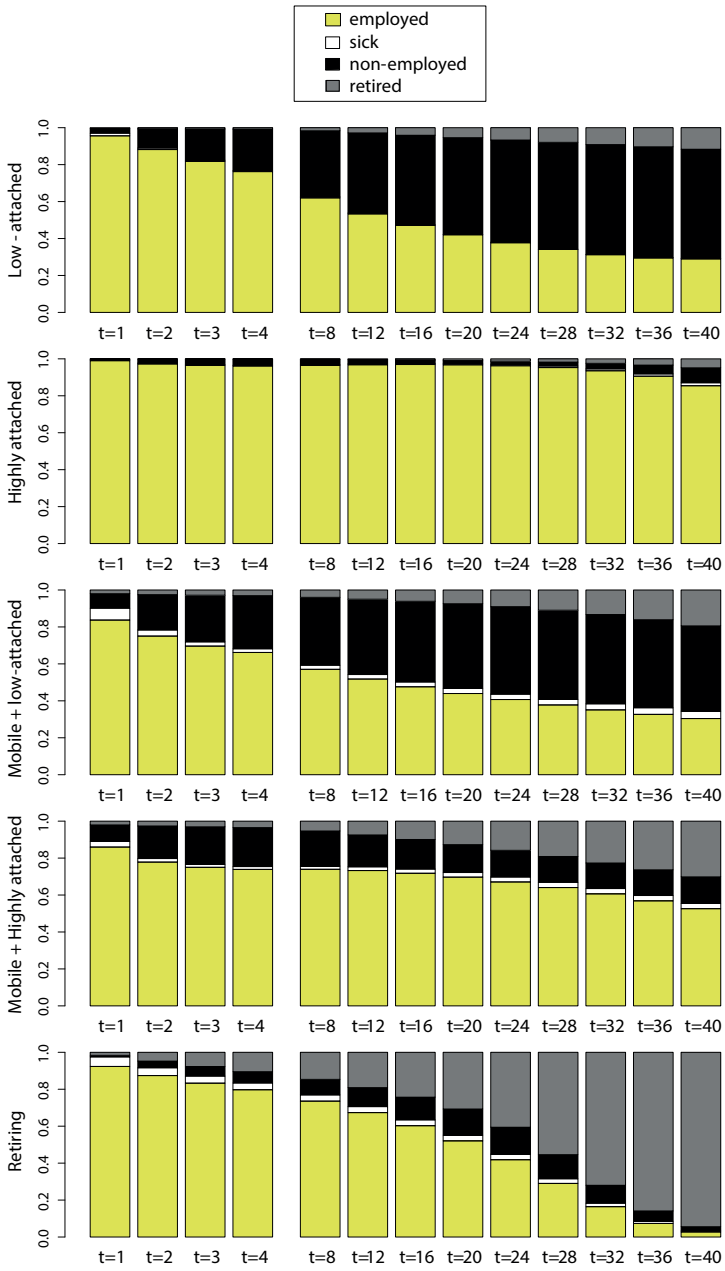
Figure 2b. Employment rate of displaced versus non-displaced old workers



Such large and long-lasting detrimental effects of plant closure and unemployment hide significant differences between groups of workers. Frühwirth-Schnatter *et al.* (2016) investigate such differences. It turns out that patterns of transitions after a plant closure are remarkably different in Austria. Using a Markov-chain clustering approach and concentrating on the states of employment, sickness, non-employment and retirement in each period, we can classify transition patterns of workers into five groups (Figure 3). Leaving aside 20% of workers classified as retiring because of their age and social security access, 55% of the rest can be classified as being 'highly-attached' to the labour market. Only 26% of redundant individuals suffer severe losses and are characterised as 'low-attached'. In Figure 3, we can see that, over 40 quarters following the plant closure, the 'highly-attached' workers face almost no unemployment, whereas for the 'low-attached' ones, non-employment becomes increasingly common over time. The rest of the workers are in intermediate positions.

Analyses for Norway confirm the Austrian pattern. Huttunen *et al.* (2011) analyse short and long-term effects of worker displacement – for male manufacturing workers they find that displacement increases the probability of leaving the labour force by 31%. The drop-out rate from the labour force is particularly high in the first years following displacement. The average earnings effects for those who remain in the labour force are moderate – a 3% loss relative to non-displaced workers after seven years. Splitting displaced workers on within- and between-firm movers, they find that the estimated earnings loss is entirely driven by between-firm movers, who experience a 3.6% loss. Transfers to other plants within multi-plant firms upon displacement are quite common. These results support the view that human capital is partly firm specific and partly industry specific. There is no evidence suggesting that human capital is plant specific.

Figure 3. Transition patterns of displaced workers



Health and mortality

Different studies have looked at the health and mortality effects of plant closures as well. Studies for Sweden and Denmark show large effects of plant closure on mortality. Browning and Heinesen (2012) find that, for Denmark, plant closure increases the risk of not only suicide and suicide attempts, but also overall mortality – in particular mortality caused by circulatory diseases. Moreover, becoming unemployed increases the probability of hospitalisation and death due to traffic accidents, mental problems and alcohol-related diseases.

Using linked employer-employee data for Sweden, Eliason and Storrie (2009) estimate the effect of job loss on overall mortality and cause-specific mortality. In the short run, mortality due to suicides and alcohol increases for both genders; in the medium term (i.e. five years) they find that men's overall mortality increases, while there are no medium-term effects for women.

For Austria, Kuhn *et al.* (2009) look at short-run costs of plant closures on public health systems, concentrating on short-run costs within one year. Most of the costs for the Austrian health insurance system relate to sickness benefit rules: the public health system has to pay sickness benefits for unemployed workers. Apart from this, public-health-care costs, as e.g. costs for hospitalisation or medical drugs, do not increase in the first year after a plant closure. For men, they find a significant increase in the prescription of antidepressant drugs. It may be, that this short-run analysis does not reveal longer-term detrimental effects of unemployment, of the kind seen in the studies for Sweden and Denmark.

Fertility

Next to labour market and health effects, unemployment may also have an impact on those personal decisions which require long-term planning and a secure environment, such as family-planning. When women, or couples, decide upon having a child, unemployment can change the circumstances surrounding this decision in several ways: total income is lowered – which may reduce fertility – but, also, the opportunity costs for the potential mother are lower, because now it is easier to take time out for

child-rearing. Finally – in particular in the case of a plant closure – there is a loss of future income, due to work interruptions at the beginning of a new job and a new career. This last effect would argue for the postponement of child-bearing, since adapting to new jobs is more complicated with a new-born child.

Again, using Austrian social security data, we see that job displacement reduces the number of children born by about 5-10%, over a period of ten years (Del Bono *et al.* 2012). This long-term reaction suggests that the reduction in fertility is permanent. Clearly the negative effects of displacement outweigh any opportunity-cost effects. More importantly, this negative effect of displacement on fertility is largely due to the behaviour of women in white-collar occupations, with higher earnings, and steeper pre-displacement wage-growth profiles. These are the jobs which generate more family income, but also those where career considerations matter most. These results, again, can be interpreted in a model of firm-specific human capital.

Huttunen and Kellokumpu (2016) confirm these results for Finland. They find that displacement due to plant closure reduces the fertility of Finnish women considerably, again with a stronger effect for white-collar women. Contrary to the case in Austria or the US (Lindo 2010), they do not find any detrimental effects for male job losses. Moreover, job displacement, in particular for males, is also associated with an increased risk of divorce – see Huttunen and Kellokumpu (2016) for Finland and Eliason (2012) for Sweden.

Conclusions

Plant-closure analyses are a preferred method to investigate causal effects of unemployment; effects which are purged of the selection problems typically plaguing inflows into the unemployment register. For Austria, a plant closure reduces wages by around 5%; it reduces the employment rate by 10-20 percentage points and it reduces fertility for females by 6%. Results for other, predominantly Nordic, countries, where such data exist, are similar. All these effects are not temporary, but last over a period of at least ten years.

Why are these effects so high? One reason may be firm-specific human capital, which is destroyed once a firm closes and the worker cannot find adequate further employment. The unexpected prevalence of an unemployment spell often increases the probability of further spells, thus contributing to a long-lasting impact. While plant-closure studies give an appropriate picture of the causal effects of unemployment, they may be somewhat biased in the direction of larger plants: as these studies operate with closures in larger plants, displacement events in very small firms – where less firm-specific human capital and lower wages may prevail – may trigger somewhat smaller long-term effects.

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5 Long-term unemployment in Denmark

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The Danish economy went into a deep recession in 2009 for two reasons. First, as a small and open economy, Denmark was severely affected by the global recession. Second, prior to the crisis the economy had been booming and there were several signs of over-heating, including very low unemployment (significantly below the structural level), accelerating wage increases, and a booming housing market. On the eve of the Great Recession, there were already signs that economic activity was fading and, in combination with the global crisis, output dropped by more than 5% between 2008 and 2009. Unemployment increased by 2.5 percentage points between 2008 and 2009, and four percentage points between 2008 and 2010, almost double the increase for OECD countries on average, although it has remained below the OECD average. The recovery from the crisis has been slow, and activity has not yet reached the peak level of 2008, although, in recent years, there has been an increase in employment.

The Great Recession has thus put the Danish flexicurity model to a severe test. A hallmark of this model has been a high level of turnover in the labour market, implying that the unemployed (also the young entering the labour market) can fairly easily find a job and that most unemployment spells are short. Long-term unemployment (LTU) has been low and, for youth, entry into the labour market has been easy. How has the model coped with this test?

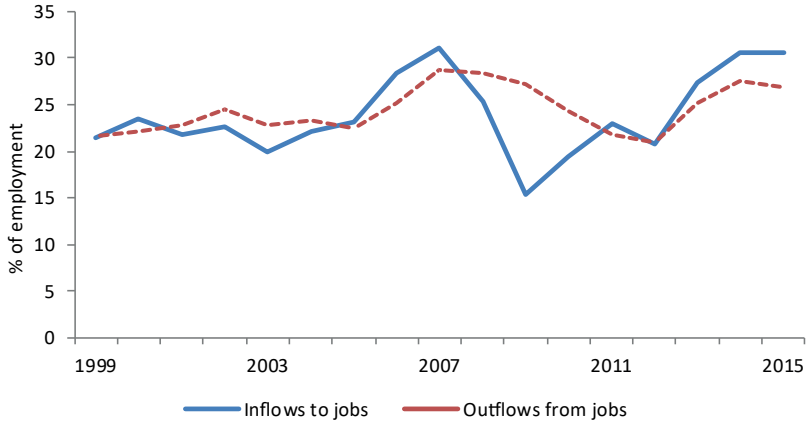
This question cannot be answered simply by looking at unemployment statistics. The flexicurity model as such cannot prevent cycles, and the interesting question is whether the model can weather a significant downturn. Lax firing rules make it likely that employment will fall drastically when aggregate demand drops and, although the social safety-net cushions incomes for the unemployed, the financial viability of the model

is at risk with a persistent decline in employment. A prolonged decline in employment and increase in LTU will reduce tax revenues and increase social expenditures, and thus put public finances under strain.

High turnover-rates have been maintained in the labour market

The first, striking observation is that the level of turnover in the labour market remains high[1], as seen from Figure 1, which shows inflow and outflow rates to and from jobs for a large part of the private labour market[2]. The effects of the Great Recession are clearly visible. Outflows from jobs increased and inflows into jobs declined. More remarkable is the fact that turnover levels have recovered to the levels seen prior to the crisis, despite the slow recovery process. Importantly, exits from unemployment into employment (inflows into jobs) are also back at normal levels.

Figure 1. Job inflows and outflows, 1999-2015.



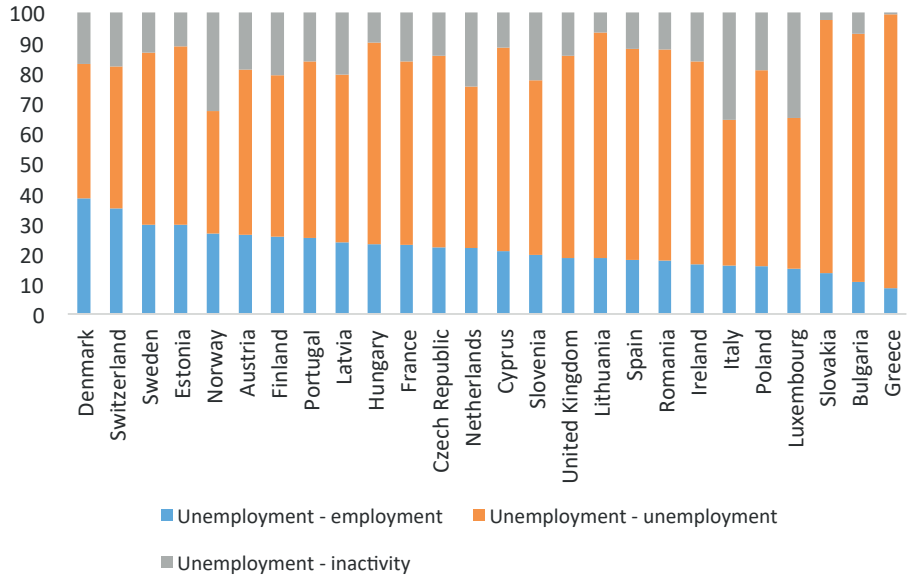
Note: Annual inflows and outflows in percent of total employment for blue collar and white collar workers for the entire area covered by the Danish Employers Association. Shifts in job for the same employer (work place) are not included.
Source: Danish Employer Association.

1 This section builds in part on Andersen (2015).

2 A new statistic comprising the entire labour market has the turnover rate to be at the same level and an increasing trend in job-matches (inflows) from 2009 to 2016. This statistic is only available from 2009 and does not, therefore, display the changes induced by the Great Recession.

The high turnover rates are a notable feature of the Danish labour market in comparative perspective. Figure 2 shows transition rates for unemployed across EU countries in 2015, and it is seen that the transition rate from unemployment into employment is high in Denmark.

Figure 2. Labour market transitions for the unemployed, European countries, 2015



Note: Shows the transition rate between given labour market status quarter-to-quarter, here from unemployment to employment, unemployment or inactivity. Data is not seasonally adjusted. Data applies to second quarter 2015.

Source: Author's calculations based on data from http://ec.europa.eu/eurostat

The high turnover rates have several implications. Foremost, even though many are affected by unemployment, most unemployment spells are short. Close to 50% of total unemployment in 2015 was made up of spells lasting for less than three months[3]. The average duration of an unemployment spell among those on unemployment benefits was 14 weeks in 2015 (compared to about 10 weeks in 2008, right before the Great Recession). As a consequence, both youth and long-term unemployment is comparatively low. Youth unemployment was 10.6% in Denmark (2015), compared to

3 For unemployed entitled to unemployment insurance.

an OECD average of 13.9%. LTU (unemployed for more than 12 months) constitutes 25.5% of total unemployment in Denmark (2013) compared to an OECD average of 35.1% (2013).

High turnover rates thus effectively work as an implicit work-sharing mechanism. Equal burden sharing is important from a distributional perspective, but it is also of structural importance. The alternative would be longer unemployment spells concentrated on a smaller group of individuals, more long-term unemployed and a corresponding depreciation of human and social capital. In short, the high turnover rates reduce the negative structural implications of high unemployment.

Long-term unemployment

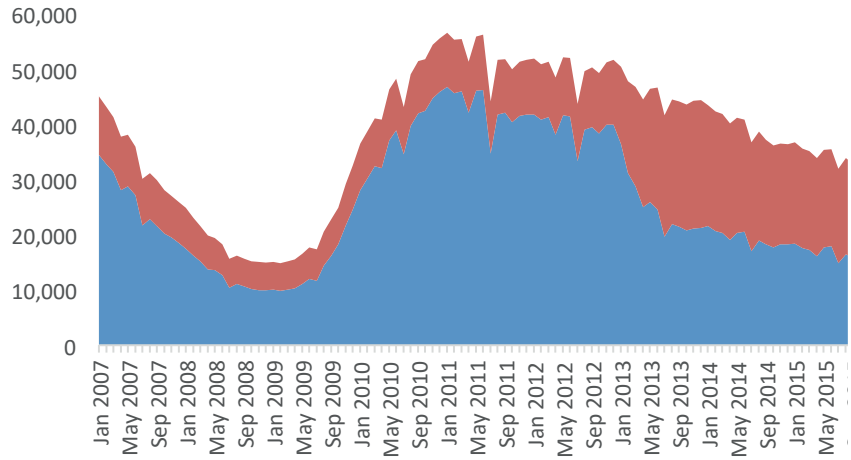
Clearly, the decrease in unemployment has caused an increase in LTU. However, given the depth and duration of the recession, the increase in LTU has been relatively moderate, and it has remained at a level not significantly higher than in the years preceding the crisis, cf. Figure 3[4].

The increase in LTU has been, in particular, large for men and for immigrants from low-income countries. Figure 4 shows LTU for different subgroupings. LTU is particularly high for immigrants from non-western countries. It is also seen that LTU is relatively low for the young, and not particularly higher for those close to retirement compared to, for example, the age group 35-39. Overall, LTU is more a structural problem associated with groups with low qualifications and thus weak entry possibilities in the labour market.

In assessing these issues, it should be noted that activation policies are an integral part of the unemployment insurance and social assistance scheme. They play an important role in the short duration of an unemployment spell and therefore, in turn, in accounting for the fact that LTU has not increased significantly as a consequence of the Great Recession.

4 Unemployment insurance is voluntary in Denmark, and hence the unemployed may receive either unemployment benefits or social assistance.

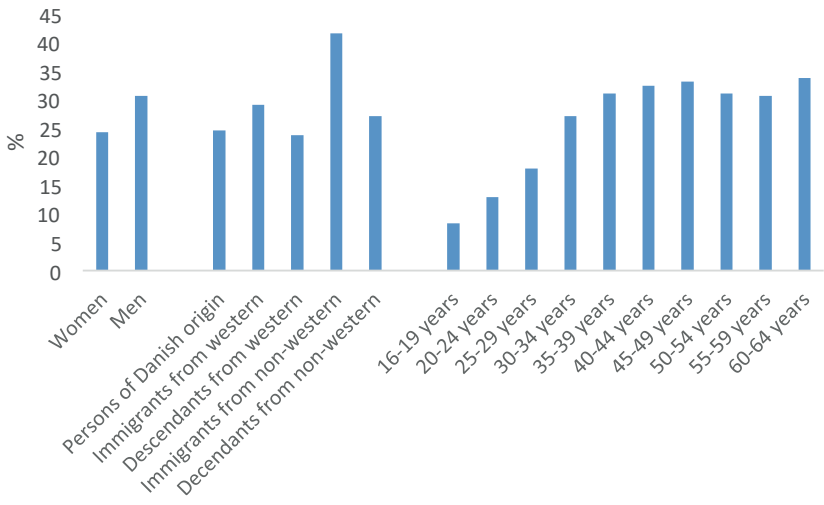
Figure 3. Long-term unemployment, number of persons 2007.1 – 2016.4



Note: Long-term unemployed are defined as persons having been unemployed for more than 80% of the time within the last 52 weeks. The numbers are in full-time equivalents, and include gross-unemployed; that is, unemployed irrespective of the type of benefits they receive, as well as those participating in activation programmes. Monthly data.

Source: www.jobindsats.dk

Figure 4. LTU; gender, origin and age, 2016



Note: The figure gives the number of long-term unemployed receiving unemployment benefits or social assistance as a percentage of the gross unemployed in the given category. Monthly data for May 2016.

Source: www.jobindsats.dk

A measurement issue is involved in assessing LTU. The statistics underlying, e.g., Figures 3 and 4, include recipients of various forms of public transfers due to joblessness[5]. However, some long-term unemployed may not receive such a transfer. When unemployment benefits expire, the jobless shift into the social assistance scheme, in which benefits entitlement is based on a family-based means test. This implies that some jobless do not qualify for social assistance and may, therefore, drop out of the statistics. This problem may have been reinforced by the recent shortening of unemployment benefit duration from four to two years.

The major concern in a deep crisis is whether unemployment translates into long-term unemployment and, in particular, that cohorts entering the labour market in a recession may become more exposed to LTU and thus become marginalised in the labour market, never fully recovering from such a set-back (lost generations). While youth unemployment did increase during the Great Recession, it did not increase dramatically and is at a rather low level in OECD comparison. In this respect, it is worth mentioning that there has been significant variation in the commencement of education, with decreases during the boom period and increases in the recession years. Accordingly, the number of NEETs (youth neither in employment, education or training) has not increased much in Denmark. It was 3.4% in 2005, 6.4% in 2010 and 3.6% in 2014 (third-lowest in the OECD). Between 2010 and 2014 the share of the age group 15-29 years in education increased by no less than five percentage points (Economic Council 2016). It is too early to assess whether they all complete education, and with what results. Given the importance of education for labour market options, this policy may have important medium- to long-run consequences.

The increase in education among youth may in part be attributed to recent reforms in the social assistance scheme. For the young, there is increasing pressure to obtain an education. For individuals below the age of 30 (previously the critical age was 25) without a qualifying education (upper secondary education or higher), the social-assistance level has been reduced such that it does not provide better compensation

5 To illustrate this, the registered unemployment rate in e.g. 2015 is 4.6%, while that based on the labour market survey (AKU) is 6.3%. Different factors can account for the difference, but one is that unemployed who are no longer eligible for public transfers may be included in the latter but not the former statistic.

than study grants. Eligibility for support requires commencement of education or, alternatively, participation in activation programmes is mandatory.

Empirical analyses also point to low persistence in employment in Denmark. Considering cohort-specific employment rates over the period 1980-2008, there are strikingly small variations in employment rates for the age group 30-40 across cohorts, despite large variability in the business cycle situation, cf. Andersen *et al.* (2016). Most variations in employment occur among the young and the old.

However, despite the large variability in employment for the young, there is no evidence of strong persistence. Although younger workers tend to be more exposed to business cycle fluctuations than older workers, they also recover more quickly from such set-backs than older workers. In fact, for older workers with medium levels of education, it is not possible to deny that employment rates may be permanently affected by business cycle changes, see Andersen *et al.* (2016). These findings illustrate that business cycle fluctuations can have very different costs over the life-cycle and underlines the importance of focussing on different age groups. Distinguishing between males and females, it is found that males are more exposed to the business cycle than females (except for highly educated young males). Moreover, there is not a strong case for certain cohorts becoming lost cohorts (generations) as a result of having been exposed to a sequence of adverse shocks at young ages.

In conclusion, despite a rather severe recession, the Danish flexicurity labour market system has worked, in the sense of maintaining a high rate of job-turnover and short unemployment spells – therefore the increase in LTU has been relatively small. As a consequence, there are no strong signs that structural unemployment has increased. From a forward perspective, this is also important in terms of suggesting that a pick-up in activity would more easily translate into higher employment. LTU in Denmark is more of a structural problem – associated with groups with low levels of education and qualifications and, consequently, low job-finding possibilities – not least for immigrants. It is thus important to reduce the 'educational residual group', having no labour-market-relevant education. The recent youth package has a strong focus on ensuring that all young commence and complete labour-market-relevant education, but it is too early to evaluate how successful this policy is.

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6 Long-term unemployment in France

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Introduction

Following the Great Recession and its aftermath, the unemployment rate in France reached 10.5% in 2015 – a 20-year peak point. With hindsight, the recession has not been as dramatic in France as in many other European countries, however, France has been suffering from high and persistent unemployment rates since the early 1980s. As a result, long-term unemployment (LTU) has been a recurrent problem, especially for some disadvantaged groups. This chapter investigates the situation for these groups, the structural factors pertaining to high persistence rates of joblessness, and the recent policies implemented to solve this issue.

The facts

The LTU rate is high in France, compared with the OECD average. It is close to the EU28 average, as shown by Figure 1. It increased during the recession. If we take a long-run perspective, it turns out that, before the crisis, the incidence of long-term joblessness was similar in France to the one observed in its aftermath.

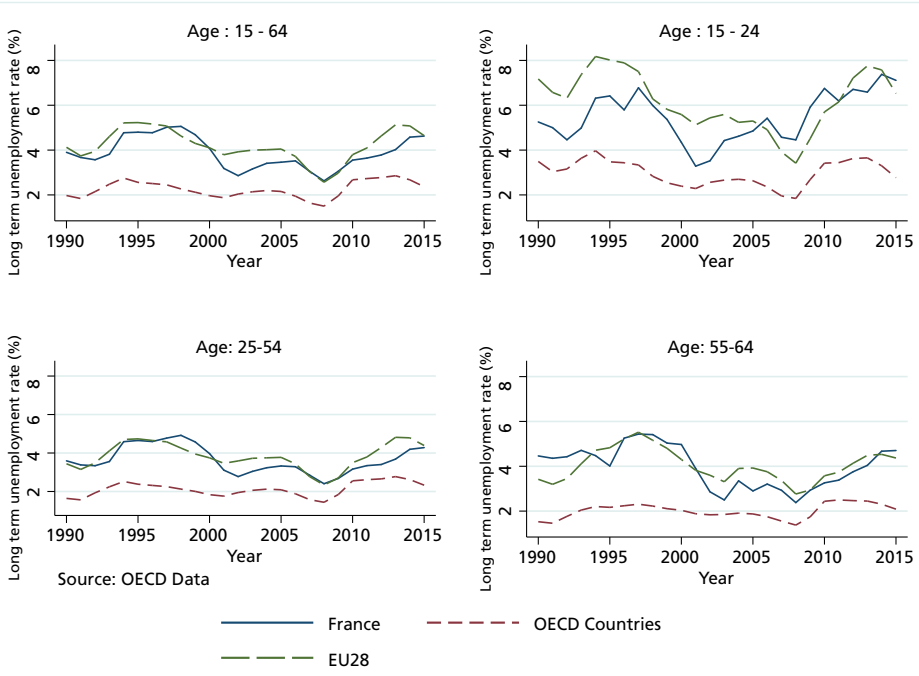
Almost one in two of the unemployed in France has been deprived of work for more than 12 months (44%). In the OECD countries, only one in three of the unemployed was in the same situation in 2015. But the situation is very diverse across age-groups.

1 We thank Pauline Carry for helpful research assistance.

- The young unemployed (15-24) are less likely to be long-term unemployed than other age-groups. However, about 29% of unemployed young people are so, and this is still 1.5 times the rate observed in the OECD. Because youth unemployment is so high in France (24.5%, compared with 13% in the OECD), the LTU rate of young people – which is the ratio of the number of long-term unemployed over the youth labour force – stands at 7.2% for 2015, which is three times as high as the OECD average. The youth LTU rate increased dramatically during the recession, jumping from 4.3% to more than 7%.
- Unemployed seniors (55+) are more likely to become long-term unemployed. About 64% of unemployed seniors are so. Similar to the youth age-group, this is 1.5 times the rate observed in the OECD for the same age-group. Since the unemployment rate of senior workers stands at 7% (compared with 5% in the OECD), this represents a LTU rate of almost 5% in 2015, which is more than twice as high as the rate observed in other countries.
- About 46% of the middle-aged unemployed (25-54) remain so for more than 12 months, which is 'only' 1.25 times the OECD average rate. Still, the LTU rate stands at 4.5%, which is also twice as high as the rate observed for the rest of the OECD in 2015.

This situation is not surprising – unemployment mirrors employment and participation. Actually, the French labour market appears well performing, if we limit our analysis to the middle-aged group, comprising 25-54 year-olds. Almost eight out of ten people in this group are employed, and almost nine in ten are active, which is well above the OECD and EU averages, and similar to those observed in the best-performing countries, notably the Nordic countries. But employment and participation rates are well below international standards for both young and older people, and this has been the case for decades. In France, only the experienced and more productive workers can secure work at all times. Other groups are excluded from the labour market more than elsewhere, resulting in a lower probability of exiting unemployment and securing permanent employment.

Figure 1. Long-term unemployment rate from 1990 to 2015.



Main factors

Many characteristics of the French labour market contribute to this under-performance. These characteristics explain why exit rates from unemployment here are lower for some groups than in the best-performing countries. These characteristics are shared with other countries having high LTU, notably those in Southern Europe.

Downward wage rigidity

One of the most salient features of the French labour market is the level of the minimum wage and its incidence. The labour cost at the minimum wage in France is among the highest in the OECD – just after Belgium and the Netherlands – and is 1.6 times higher than the cross-country average. This is the result of three decades of discretionary increases above inflation and productivity gains. Since the 1990s the minimum wage has increased about twice as fast as the average wage.

The minimum wage has reached high and constraining levels – about 12% of wage earners are paid at the floor. Moreover, about 80% of the three million unemployed people have no post-secondary or tertiary education and can be considered low-paid workers. The minimum wage exerts a constraint that goes well beyond the lowest wages. Collective agreements set at the professional branch-level have to re-adjust regularly to comply with this rising national floor. On top of that, most collective agreements are automatically extended to all workers in the branch, implying a coverage equal to 90% (See Ministry of Economics and Finance 2014), whereas the union density amounts to 7.7% only. In practice, firms use these wage schedules as references for their own wage policy. Fougère *et al.* (2016) estimate that an increase by 1% of the real minimum wage raises branch-level wage floors by about 0.25%. In the same vein, Aeberhardt *et al.* (2015) find that an increase in the minimum wage leads to significant, but declining, effects on the wage distribution up to the seventh decile. As a result, the bottom of the wage distribution has been compressed.

This feature might partly explain why French base wages have continued to increase despite recent rising unemployment. High and rising wage floors make downward real-wage adjustment difficult to achieve, especially in periods of low inflation. This bears, in turn, on hiring within the most disadvantaged groups. Other countries, like Portugal and Spain, shared a similar institutional arrangement until recent reforms.

Strict employment protection

The second main feature of the labour market in France is the high level of employment protection for permanent contracts (so called *Contrat à Durée Indéterminée*, CDI). Laying off people for economic reasons is particularly complex and risky for the employer. Judges have the capacity to appreciate if the economic situation of the firm justifies, or not, the layoff.

Furthermore, administrative costs are substantial. About 30% of all layoffs are contested before the courts, and delays are very long (16 months on average for the decision, in first instance), moreover employees win in 75% of the cases. The level of compensation awarded by courts in the case of unjustified layoff is quite difficult to predict and reaches on average 18 months of gross wage for employees with seniority

above 20 years (Patault 2016). Contrary to the practice in other OECD countries, there is no precise schedule, nor any ceiling, set by law for the compensation decided by the judge.

As a consequence, the share of workers hired under temporary contracts is very high (about 85% of all hires), resulting in a dual labour market where permanent contracts are reserved for the most experienced and productive workers.

Typically, dual labour markets feature LTU, since temporary contracts are only an imperfect substitute for permanent contracts from the employers' side. This dualism is shared with other Southern European countries such as Spain, Italy and Portugal, which have all undergone major reforms in this area over the last five years.

Generous unemployment insurance

The third important institutional component to explain the incidence of LTU is the generosity of the unemployment insurance scheme, which alters labour-supply behaviours.

- The maximum duration of benefits reaches two, and even three, years for people over 50. This is among the longest periods observed in the OECD.
- For people reaching the normal age of retirement (62), but who are only entitled to a reduced pension due to insufficient contribution periods, the duration of benefits is automatically extended until the full pension rate is reached, usually 67.[2] This constitutes, de facto, an unemployment tunnel to retirement.
- Moreover, the level of benefits is quite comfortable. The net replacement rate varies from 90% for low wages to 66% for average wage-earners. The maximum monthly benefit is set at 6500 euros.
- Unemployed people can also combine benefit receipt and some work (e.g. a few days every month), which allows them to work part-time only and get an income close to their previous full wage, whilst also renewing their unemployment insurance entitlements.

2 Indeed, the unemployment insurance scheme contributes to the pension system for its beneficiaries. See Cahuc *et al.* (2016).

It is well established that generous unemployment insurance may generate disincentives to work (Cahuc *et al.* 2014), unless a number of activation policies are implemented in order to make sure that those who can work accept job offers. In France, sanctions for insufficient job search or refusal to participate in an active programme are, de facto, non-existent. The system of control and sanctions is so complicated that it is almost never applied. Active programmes such as training or intensive counselling are available, but always optional, for the unemployed. Temporary suspensions are quite frequent, but they concern people who miss their appointments or do not declare their unemployment status and, even in such cases, benefit payments can resume after the situation is clarified.

This situation is not likely to change in the near future, since social partners, who set the rules for the unemployment insurance scheme, have been unable to agree on any change that would foster the incentive to accept job offers. In 2016, the current rules, described above, have been extended for an indefinite period.

Policies

Over the past eight years, since the onset of the crisis, there have not been any effective attempts to fight LTU in France – only partial and sometimes counterproductive reforms.

Temporary public contracts for youth

Temporary contracts in the public sector have been the main policy of the current government to fight youth long-term unemployment. About 350,000 temporary contracts in the public sector are signed every year with those young people who register with the public employment service.[3]

Unfortunately, there is substantial evidence that this strategy is a dead-end for young people. Job creation in the public sector is more often ineffective than other interventions and even appears detrimental, with negative treatment effects (Card *et al.* 2015). A specific study by the French Ministry of Employment (Bénoteau 2015) revealed that

3 See: http://www.senat.fr/rap/l15-164-332/l15-164-33218.html

the impact of such contracts on the chances to get subsidised jobs in the private sector is null. Possible reasons are the fact that the skills acquired in the job do not match the employer-needs of the private sector, the stigma attached to having worked on such jobs, and the lack of targeting of this programme on the most disadvantaged groups.

Imperfectly targeted wage subsidies for firms

To cut the cost of labour at the level of the minimum wage, successive French governments have introduced, and expanded over the years, social contribution reliefs for employers. These exemptions cost about 20 billion euros / year (1% of GDP) and have been tightly targeted at low wages (90% of spending is on jobs paid at below 1.3 times the minimum wage). About half of this spending stems from the relief that was provided to firms following the introduction of the 35-hour week. Despite this significant effort, the cost of low paid jobs is still one of the highest in an international comparison.

To further lower the cost of labour, the government introduced, in 2013, a tax credit based on the payroll. The *Crédit d'Impôt Compétitivité Emploi* (CICE) will cost another €20 billion in 2017, and will make up 6% of gross wages. However, its main drawback is that it is not targeted at low wages. On the contrary, it affects all jobs paid between the minimum wage and 2.5 times the minimum wage, which represents 85% of all salaried workers.

In these conditions, there is a high risk that the rebate will increase wages more than employment. Empirical studies show that a 1% decrease in social contribution at the median wage level translates, on average in the OECD countries, into an increase of only 0.25% in employment (Chetty *et al.* 2011), and thus an increase of 0.75% in wages, assuming an elasticity of labour demand equal to -1. This is easy to understand in the French context since, as already mentioned, most of the unemployed are unskilled. For workers paid about 1.5 times the minimum wage, the level of unemployment is about only half the national average.

New rules on layoffs for economic reasons

In August 2016 the government passed the law 'El Khomri', which, notably, reforms the regulation of layoffs. This law clarifies the rules of redundancies. Layoffs for economic reasons will be legitimate if turnover or orders are down for four quarters, in comparison to the same quarters from the previous year, for companies with 300 or more employees; for three quarters, for companies of between 50 and 300 employees; for two quarters, for companies between 11 and 50 employees, and for one quarter only, for companies with fewer than 11 employees. Furthermore, redundancies will be legitimate if a business is operating at a loss. This law was inspired by the Spanish reform and, as with Spain, objective criteria have been introduced. This reform could indeed lower the cost of laying-off for economic reasons and, in turn, make 'permanent' contracts more attractive for firms, especially small ones, whilst reducing the turnover generated by an excessive recourse to temporary contracts (OECD, 2013).

However, a number of aspects of the current regulation have not been changed by the law, which will continue to hinder hiring. For instance, the appreciation of the company's economic difficulties is based on its operation worldwide, and is not restricted to the French territory. Also, the perimeter comprises all companies within the group, not only the unit where economic difficulties occur. Obviously, this is an important point in favour of France, from the perspective of foreign investors. France is one of the few countries where the jurisprudence appreciates the economic situation of a company in this way. Among the major countries, only Italy and Spain consider the situation of the group as the perimeter for assessing the economic situation. But even in these countries the geographical scope is national. Since 2012, Spain has further limited the scope of assessment to the company, not the group of companies.

Initially, the draft law also introduced a maximum tariff, which varied with seniority, for compensation in the case of unjustified layoffs. This was inspired by the 2014 'Jobs Act' reform in Italy and also by the practices of most other European countries. But this aspect of the reform was dropped at the request of the labour unions. The schedule will be only indicative, not binding, for the judges.

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7 Long-term unemployment in Germany

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The number of long-term unemployed in Germany has stagnated at around one million for several years. Despite excellent labour market conditions, the long-term unemployment rate is well above the OECD average. The 'carrot and stick' principle of Hartz reforms is, therefore, in clear need of further development. The author proposes an update of the activation strategy by implementing more financial incentives for the long-term unemployed (more carrots) and interim target setting to allow for more employability. The social participation pillar of the grand coaliton's new programme to fight long-term unemployment could be a step in the right direction in case of appropriate implementation.

Introduction

The German labour market has changed drastically over the last ten years. Just a decade ago there was mass unemployment, with roughly five million unemployed people and low employment rates. Germany was labelled 'the sick man of Europe'. Today, unemployment is well below the three million threshold and employment rates are at a record high. Germany has been dubbed a job wonderland and European champion with regard to its labour market, despite the Great Recession, which hit Germany hard in terms of a significant reduction of GDP by about 5% (see Dustmann *et al.* 2014).

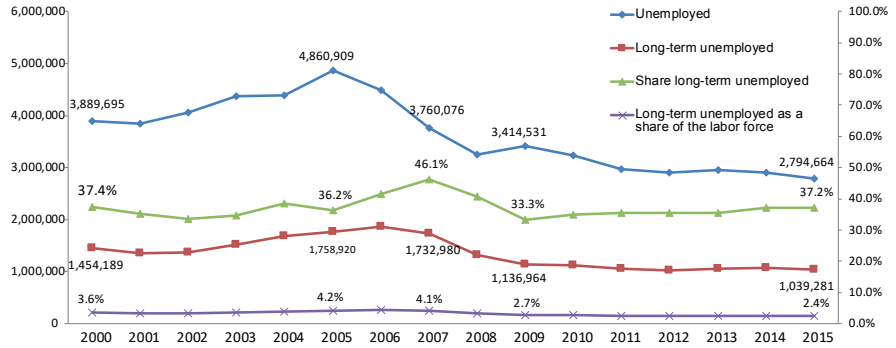
Against this backdrop, it is time to reflect on the further development of the basic income system in Germany. It is indeed true that the Hartz reforms, which are considered internationally to be the largest labour market reforms in post-war history, led to a clear decline in the number of unemployed and long-term unemployed people; however,

roughly one million people have remained unemployed for longer than one year and are therefore considered long-term unemployed. Approximately three million employable individuals received basic income for about two years or longer and are considered long-term basic income recipients. Note that the 2005 Hartz IV reform, as a part of the Hartz reforms, refers to the merger of unemployment assistance and public assistance into one, means-tested and tax-financed, basic income scheme, which allowed previous public-assistance recipients access to active labour policy instruments. Therefore, the 'carrot and stick' principle of the Hartz reforms is in clear need of further development.

Long-term unemployment and long-term basic income receipt in Germany

In Germany, people who are unemployed for longer than 12 months are considered long-term unemployed. Between 2005 and 2011, the number of long-term unemployed people decreased considerably, from roughly 1.8 million to roughly one million. Since then, the number of long-term unemployed has remained largely unchanged, as illustrated by Figure 1.

Figure 1. Unemployed and long-term unemployed people, 2000 to 2015



Source: Unemployment data of the Federal Employment Agency. Own compilations.

In January 2016, the number of long-term unemployed totalled 1.049 million. The fraction of long-term unemployment (LTU) in relation to the total number of unemployed people increased slightly to 35.9%, in comparison with January 2015 (see Federal Employment Agency 2016).

Long-term unemployed receive either tax-financed and means-tested basic income (i.e. Hartz IV) or social-security-contribution-financed unemployment benefits. More than 90% of the long-term unemployed are Hartz IV-recipients. Only just under 10% of long-term unemployed receive unemployment benefits.

The dynamics behind the stock of long-term unemployed of about one million deserve further analysis. In January 2014, the stock of long-term unemployed was exactly 1,062,484. Throughout the year, 784,738 short-term unemployed became long-term unemployed (inflow) and 809,916 terminated their long-term unemployment spell (outflow), so that the stock number declined to 1,037,306. However, just 25% of the outflowing long-term unemployed (i.e. fewer than 200,000) were employed or self-employed and only 16% participated in education programmes. In the event that they were employed just for one day, or took part in job-creation schemes for longer than six weeks, the duration of unemployment is reset (see Federal Employment Agency 2015). As a result, the problem tends to be underestimated.

Therefore, figures based on surveys conducted by the OECD are better able to demonstrate the scale of the problem. According to the OECD statistics, Germany is a country with a very high LTU rate. With a rate of 45%, Germany is 10% over the OECD member state average (see OECD 2014).

Risk factors for LTU include older age and a lack of vocational training. Almost half of unemployed older people, over the age of 55, are long-term unemployed, of which more than a quarter have been long-term unemployed for a very long time (more than two years). With respect to vocational training, almost 52% of all long-term unemployed people have not completed any vocational training (see Federal Employment Agency 2014). Health issues and family status (couples with children and single parents) also play an important role for the long-term basic income recipients. Barriers such as older age and health issues are often present at the same time. Multiple barriers are, therefore, particularly problematic because the probability of transition to employment is cut by almost half if you add one more risk.

The German 'carrot and stick' ('Fördern und Fordern') principle in practice

Sufficient and qualified personnel in the job centres

Some core institutional features of the complicated German system have to be mentioned beforehand. First, short-term unemployed who receive social-security-contribution-financed unemployment benefits are clients of job-placement officers in 156 regional employment offices. Second, means-tested long-term unemployed who receive tax-financed basic income (i.e. Hartz IV) are clients of case managers in 413 job centres. Both regional employment offices and 303 job centres are part of the Federal Employment Agency in Nuremberg. In addition to these 303 job centers, 110 job centres are under the local management of municipalities, thereby being more independent of Nuremberg.

Having sufficient and qualified personnel in the employment agencies and job centres is a prerequisite to successfully implementing active labour market policy (ALMP) tools. This is confirmed by comprehensive empirical evidence (see Rosholm 2014). In Germany, job-placement officers in public employment services had to deal with up to 800 unemployed in the nineties. Empirical studies with comparison groups, using Propensity Score Matching to solve the fundamental evaluation problem, showed that a relationship of 1:60 allows job-placement officers to do a better job. It turned out that the job-placement probability of the treated was 15.31 percentage points higher (see Jerger *et al.* 2001). These results induced policymakers to invest in job-placement officers as a part of the Hartz reforms.

However, case managers in job centres have currently been overloaded in dealing with long-term unemployed with multiple job-placement risks such as health and debt issues, especially in regions with a high density of long-term unemployed. Therefore, a recent project was implemented by the Berlin-Brandenburg Public Employment Services, in twelve job centres, between 2011 and 2013. For the purposes of the project, each case

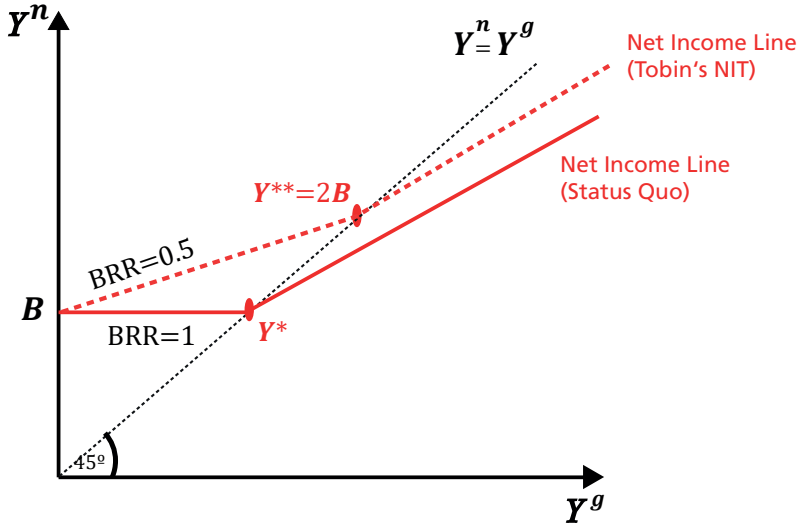
manager was assigned only about 100 Hartz IV basic income recipients. A descriptive analysis, without a control group, showed that 22,000 people took up jobs subject to social security contributions, which lead to 22 million euros of fiscal savings (Egenolf *et al.* 2014).

'Carrots' matter

Overviews of the German evaluation studies on ALMPs after the Hartz reforms are provided by Jacobi and Kluve (2006), Eichhorst and Zimmermann (2007), Heyer *et al.* (2012) and Wolff and Stephan (2013). The following tools have been positively evaluated with respect to improvements in the re-employment prospects of unemployed people (see Achatz *et al.* 2012, Bernhard and Kruppe 2012, Brussig *et al.* 2011, Knuth *et al.* 2014 and Könings 2014): employer subsidies, job-placement vouchers (see Winterhager *et al.* 2006), company-related training measures, training vouchers (Doerr *et al.* 2014), and the promotion of start-ups (Caliendo and Künn 2011). Overall, Dustmann *et al.* (2014, p. 184) conclude that the Hartz reforms have contributed to the decline in LTU.

In-work benefits as an element of the German basic income scheme have also been subject to scientific and public debate, under the heading 'combi-wage model', for over a decade (see Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung 2006). Policy proposals that focused on a lower basic income level and lower benefit reduction rates (BRR), to incentivise basic income recipients, were rejected by all political parties. However, if the basic income level remains the same, then implementing low BRRs would create additional basic income recipients, thereby boosting fiscal expenditures. A closer look at Figure 2 will clarify this point – the simplified status quo is illustrated with the solid net-income line (basic income level B and BRR equals 1). The flat part of the solid line is the so-called poverty trap. Lowering BRR allows for the removal of the poverty trap at the expense of additional transfer recipients. For example, a benefit reduction rate of 50% would provide a high incentive to work, according to the dashed line; such a system is similar to Tobin's negative income tax (NIT) proposal (Tobin 1965, Tobin *et al.* 1967). However, it would also cause the tax-exempt income to double (from Y* to Y**), resulting in a large number of former taxpayers becoming basic income recipients.

Figure 2. Removing the poverty trap at the expense of additional transfer recipients



The current German solution, which has been found after years of discussion, takes this trade-off into account – below net income of €100, the BRR is zero, between €100 and €800, it jumps to 80%, between €800 and €1200, it slightly increases to 90%, and beyond this the BRR equals 100 % (see Dietz *et al.* 2009). Although the poverty trap is only partially removed, Cremer (2013) summarises the situation as follows: "The in-work benefit regulation is very useful, not to say a social achievement".

In addition to this time-unrestricted labour market institution, time-restricted incentives could improve incentives to take up work. Temporary in-work support via earnings disregards and supplementary basic income schemes have been proven to be successful by randomised controlled trials in Canada (see Michalopoulos 2005) and by a quasi-experiment in Germany (see Spermann and Strotmann 2005). A temporary in-work benefit for long-term unemployed (Einstiegsgeld) became a standard active labour market instrument in Germany in 2005 and has been positively evaluated several times (Dietz *et al.* 2013). However, the Canadian experience showed that the, initially positive, treatment effect faded out after a while (see Card and Hyslop 2005).

Combining temporary in-work support with a post-employment component has turned out to be successful, with respect to sustainable employment of previous welfare

recipients and long-term unemployed. The Canadian Self-Sufficiency Program Plus, a programme for single-parent welfare recipients, found sustained effects, with an increased employment rate, averaging nearly seven percentage points, 36-52 months after randomisation, in comparison with a programme that provided financial in-work benefits alone (see Robins *et al.* 2008 and Dorsett 2014). The UK Employment Retention and Advancement (ERA) programme used a randomised controlled trial – one of largest ever undertaken in Britain – to identify the causal effect. The treatment was a package of financial incentives, such as earnings supplements for taking up a full-time job, an employment-retention bonus and tuition assistance for training courses, as well as adviser support. Treated long-term unemployed had a 2.2 percentage point higher probability of working five years after randomisation than the controls. Furthermore, ERA proved cost-effective for long-term unemployed from the perspectives of the participants themselves, the Government budget, and society as a whole (see Hendra *et al.* 2011 and Dorsett 2014). These results give guidance, based on hard evidence, for the further development of German ALMP.

'Stick' policy in practice

The 'stick' element of the Hartz reform principle highlights the obligation to work. Public employment (so called 'one euro jobs') has been used on a large scale to check whether eligible basic income recipients are willing to work (see Achatz *et al.* 2012). An integration agreement, in which the job-search duties are set down in written form, was introduced into legislation (see Dietz *et al.* 2013, van den Berg *et al.* 2014). Rules for stepwise sanctions, up to a complete benefit withdrawal, were implemented to minimise regional variation and to maximize consistency (see Dietz *et al.* 2013). Numerous empirical studies show that monitoring the job search, in combination with sanctions, drastically reduces the duration of unemployment and increases the prospects of re-employment for the unemployed (see McVicar 2014). Sanctions, therefore, are a useful complement to ALMP instruments. Sanction rates in Germany are very low (1.1%) in comparison to other OECD countries such as the US (35.4%), the Netherlands (36%) and the UK (5.5%), as summarised in Boeri and van Ours (2013, p.353). Boockmann *et al.* (2014) find that a tighter sanction policy can be quite effective for non-compliant welfare recipients, by applying an IV-approach and

thereby identifying a local average treatment effect for compliers. This might lead to the conclusion that higher sanction rates could help.

More 'carrots', more 'sticks'?

In current political debates, both opposition parties are requesting more money – in particular for publicly-financed job-creation schemes. However, since job creation schemes are associated with negative employment effects, due to lock-in effects, more of such 'carrots' do not help.

Higher sanctions rates would not solve the issue either, if you take bypassing strategies, well-known by practictioners, which are typically not revealed by administrative or survey data, into account. Today, basic income recipients are already taking up so-called mini jobs (social-security-contribution-free jobs with a maximum of €450 per month) or even mini-mini jobs (€200 per month) in order to formally comply with the obligation to work and to maximize net income according to the BRRs (see Dietz *et al.* 2009). There is also anecdotal evidence of basic income recipients combining both mini jobs and informal labour in the shadow economy. People further circumvent the law by sending standardised applications or attending job interviews yet making it clear to the employer that they are not interested in the job being offered. It is also common practice for people to accept a position, only to claim that they are ill, via a medical certificate submitted just a few days after starting the job. Empirical evidence on this matter can also be found for temporary work agencies.

As an interim conclusion, it is important to note that neither more 'carrots' from publicly-financed job creation schemes, nor higher sanction rates will reduce long-term unemployment. Instead, the 'carrot and stick' principle needs further development (Spermann 2015).

The German Government programme to fight long-term unemployment

The German grand coalition introduced a three pillar programme, to fight LTU by the end of 2014, which is summarised in Table 1.

Table 1. Key elements of the German Government programme, 2014

Name	Description	Period	Costs	Evaluation
Activation centres within job centres	Maintain 1,000 jobs from an expiring programme for the elderly at German job centres; Includes further training for case managers to update skills wrt to profiling and coaching of long-term unemployed	Starting in 2015	unknown	Yes
European Social Fund (ESF) programme for the integration of long-term unemployed	Wage subsidies for employers (less than 100%) for 33,000 long-term unemployed without vocational training, as well as coaching before and after reemployment (job retention measure); main outcome variable: employment	2015-2020	€ 885m	Yes
Social participation in the labour market	Wage subsidies for private and public employers (up to 100%) for 10,000 long-term unemployed with health restrictions or children; jobs have to be additional, non-competitive and of public interest; main outcome variable: social participation	2015-2018	2015: € 75m, 2016-2018: € 150m annually	Yes

Source: Own compilation based on programme descriptions (see: www.bmas.de)

Overall, the government programme reflects insights from evaluation research, such as improved ratios of better-qualified case managers to long-term unemployed and of wage subsidies to employers. Coaching, not only before, but also after, re-employment, in order to maximise job tenure is a new feature of this programme. An innovative element is the social participation pillar. It takes into account that (even fully subsidised) labour enables participation in a society. This new instrument is closer to a social policy instrument than an ALMP instrument. It might turn out to be a bridge, either to the non-subsidised labour market or to disability. As researchers are currently evaluating

all programmes, interim and final reports will be available in the future to assess the government programme.

Conclusion

LTU and long-term benefit receipt is an important issue in the German labour policy debate. The 2014 programme of the grand coalition is a partly new approach to this challenge. More and better-qualified case managers allow for better services; wage subisidies for employers, up to 100%, may create more jobs for the subsidised time-period; coaching after re-employment could foster job-retention. However, overall results could be mixed. On the one hand, these programmes may result in expensive public sector jobs with lock-in effects. On the other hand, social participation could be a road to more employability and better employment effects in the long-run. Therefore, it is good news that the new government programme has been evaluated by researchers, after a competitive call for tenders.

Nevertheless, the 'carrot and stick' principle needs further development. More 'carrots' to finance public sector jobs, as well as more 'sticks', won't help to get the long-term unemployed activated. However, international evidence indicates that more time-restricted financial incentives would be 'efficient carrots'. Furthermore, unlike the first ten years of Hartz IV, interim targets should be set to allow a stepwise integration. This is why target setting by the Federal Ministry of Labour and Social Affairs should be modified appropriately to allow for a further-developed activation strategy. The new social participation programme is a first step in the right direction.

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8 Long-term unemployment in Italy after the Great Recession

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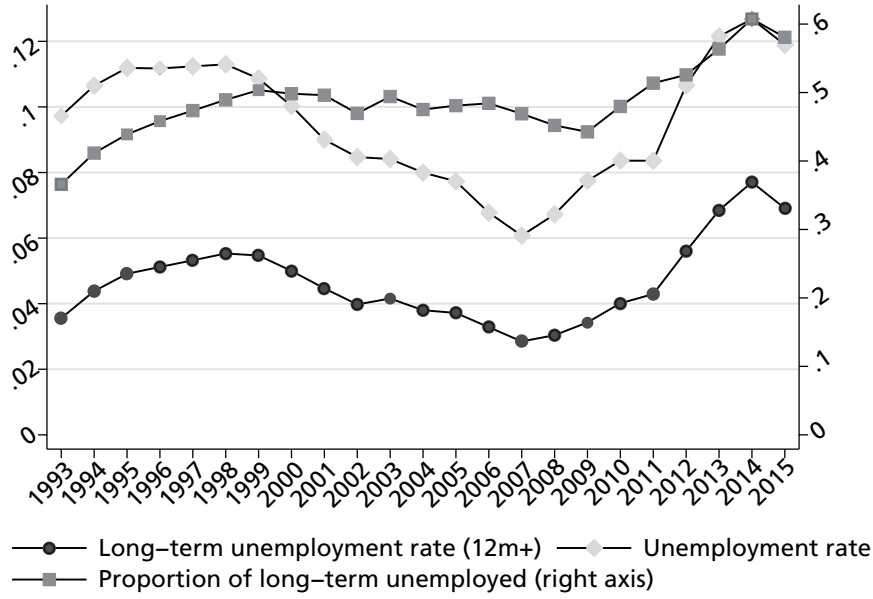
Evidence on unemployment and long-term unemployment in Italy

The incidence of long-term unemployment (LTU) – the fraction of jobseekers in unemployment for more than 12 months – has been historically high in Italy. It grew steadily, from slightly above 35% in 1993 (the trough of a major recession), to 50% in 2000, remaining stable around that level until 2007 (Figure 1). Over the same period, the unemployment rate, which had reached about 11% in the 90s, progressively decreased to 6% in 2007 (likely as the joint result of the economic recovery and the implementation of a series of labour market reforms). During the Great Recession, both the unemployment and the LTU rates picked up.

The unemployment rate increased by six percentage points reaching 12% in 2015, well above the average OECD or European figures. The rise was contained to about two percentage points between 2007 and 2011, reflecting the substantial use of wage-supplementation funds provided by the government (Cassa Integrazione Guadagni) and its ad-hoc extension to otherwise excluded firms and sectors.[1] But, following the European sovereign debt crisis, the unemployment rate rose sharply. The LTU rate followed suit, increasing from 3% to over 4% in the first stage of the crisis and then almost doubling, to 7.7%, by 2014, when 60% of jobseekers were long-term unemployed. Since then, labour market conditions have improved only marginally.

1 Motivated by the expectation that the global slump would be temporary, these measures allowed firms to curb hours without laying off employees.

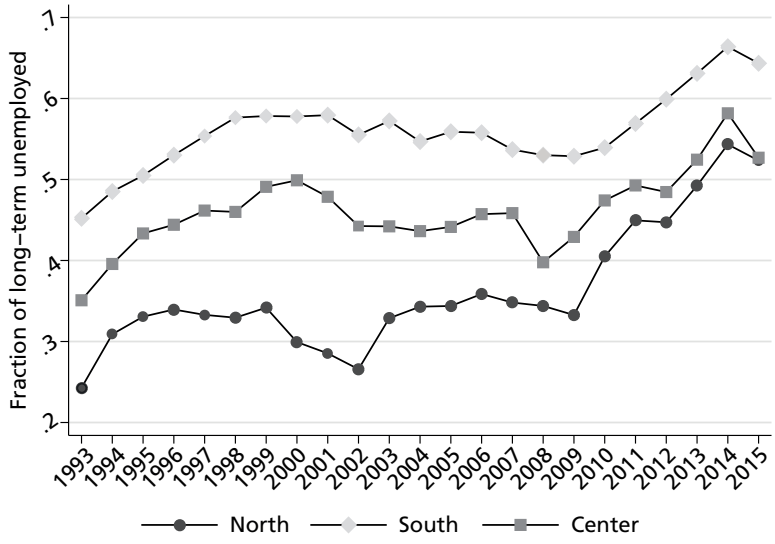
Figure 1. Unemployed and long-term unemployed in Italy



Source: ISTAT

The sharp rise in the incidence of LTU was accompanied by a significant shrinking of differentials by gender, geography and age (Figure 2), implying that workers living in northern regions, males, and the youth (15-24 years old) contributed significantly more than their peers in raising the proportion of LTU. The latter is a distinctive (and certainly worrying) feature of the Italian market, since in most advanced economies the probability of falling into LTU rather increased among older (55+) workers. The first implies that the rise in LTU – unlike its level – cannot be explained in terms of the North/South divide.

Figure 2. Long-term unemployed by geographical area, age-group and gender in Italy



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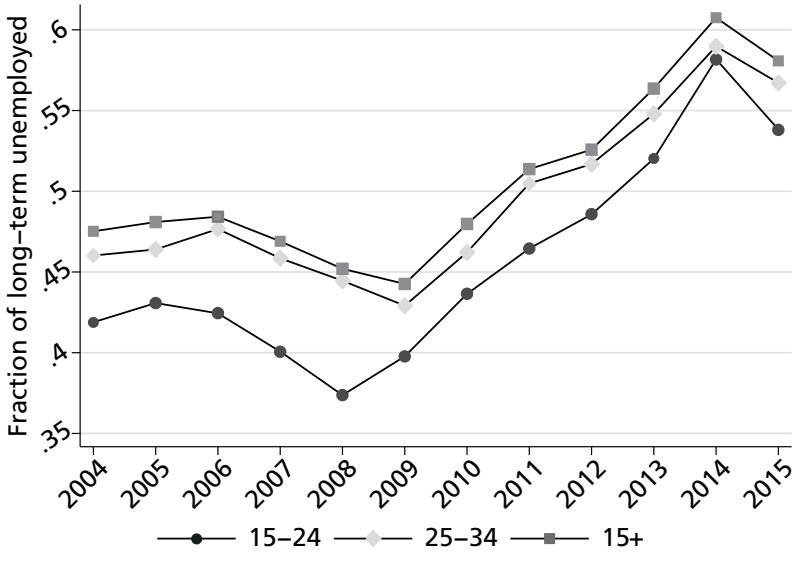


Source: ISTAT

Source: ISTAT

While the fluid boundary between non-participation and unemployment makes it difficult to accurately measure LTU (e.g. due to periodic re-entry by individuals who are loosely attached to the labour market)[2], the magnitude of the rise implies that other important factors, beyond mismeasurement, must have been at play during the recession. One such factor is the recession itself, as a prolonged collapse of labour demand implies that job losers face a much lower probability of exiting unemployment. High rates of LTU, however, are often also traced back to structural determinants, such as wage rigidity and labour market institutions, mismatch and duration dependence. The next section discusses their relevance in the case of Italy during the crisis, based on direct and indirect evidence. Our final section draws some tentative conclusions.

2 Following individuals across consecutive waves (quarters) of LFS micro-data, for example, shows that a large fraction of those reporting a duration of at least 3 months were actually out of the labour force in the previous quarter. This share was around 25% during the first part of the crisis and rose above 30% from 2011 onwards. Similarly, one observes employment-to-unemployment flows at long durations (albeit in a much smaller fraction). As in the case of the US (see Elsby et al. 2011), these are likely to be individuals who took on a temporary or part-time job but continued looking for a better job.

Potential drivers of the rise of LTU during the Great Recession

Wage rigidity

Wage rigidity may increase the fraction of long-term jobseekers during a downturn, because high (real) wages do not allow marginal workers (e.g. those more likely to be mismatched, or subject to human capital depreciation) to get a job. Italy is commonly perceived as a country with a high degree of downward wage rigidity, which therefore becomes an obvious candidate to explain the rise in LTU during the Great Recession. However, recent evidence shows that wages did respond to the worsening of the economic conditions, especially as the weak recovery, under way in 2010, was interrupted by the eruption of the European sovereign debt crisis. Average compensations, measured by national accounts, significantly slowed down (Bulligan and Viviano 2016); average wages of new hires dropped, in real terms, by about 10 percentage points between 2008 and 2013 (Rosolia 2014); centrally negotiated wages, made more responsive to labour market conditions by the late nineties reforms, also slowed down, as contract renewals took on board the worsened situation (Rosolia 2015).

These adjustments took place amid relevant composition effects that, instead, positively contributed to wage growth. On the one hand, selective hiring and laying off led to an increase of the average skill level of employees during the crisis; on the other hand, firms of different sizes responded differently to the need to compress labour costs, with larger firms cutting back on wages and smaller ones – typically paying low wages, close to the minima – slashing employment (Adamopoulou *et al.* 2016). Whilst, in Italy firms tended to safeguard jobs as much as possible, wage-setting practices were also affected by the new economic landscape – the percentage of workers employed in firms enacting wage freezes or cuts has steadily increased since 2010, reaching 17% of the total workforce in 2013 (D'Amuri *et al.* 2015).

Labour market policies

The Italian welfare system is known to be lacking along several dimensions – it is poorly designed, demanding access requirements in terms of tenure and overall labour market experience and granting low replacement rates in the international comparison. As of January 2013, however, a new unemployment benefits scheme was implemented, applying to all new unemployment spells. The new system (a) revised the access and benefits determination rules for short-tenured unemployed, (b) increased the initial replacement rate (applied to the average wage over two years – rather than three months – before job loss), (c) lengthened maximum duration and (d) introduced strong incentives for re-employment by making the benefits fall sizeably with time in unemployment.

Evidence from other countries suggests that some of these measures might have contributed to lengthen unemployment spells.[3] A formal assessment of the policy is still lacking, but the analysis of past reforms suggests that, in Italy, unemployment duration is not very sensitive to changes in replacement rates, nor to benefits duration (Rosolia and Sestito 2012). Most importantly, the extended duration of benefits only became effective from January 2016. Hence, the new UB scheme is not likely to be a major driver of the sharp increase in LTU in the second part of the crisis.

Other labour market institutions are similarly unlikely to have played major roles. The fact that ALMPs are highly deficient in Italy may explain the historically high fraction of long-term unemployed, but not its sharp increase during the crisis. A similar reasoning applies to employment protection legislation (EPL) since, by reducing both the inflows to and the outflows from the unemployment pool, high EPL may explain why unemployment duration is structurally longer in a country (Kugler and Pica 2008) ,but not why it suddenly increases. (Note that, if anything, EPL has become less strict in Italy as a result of the 2012 Fornero reform and the 2014 Jobs Act).

3 Rothstein (2011) and Farber and Valletta (2015) find that benefit extensions slightly reduced the exit rate from unemployment in the US, but this largely occurred through increased labour force attachment (i.e. higher incentives to engage in and report active job search, increasing the recorded active population) rather than reduced job finding.

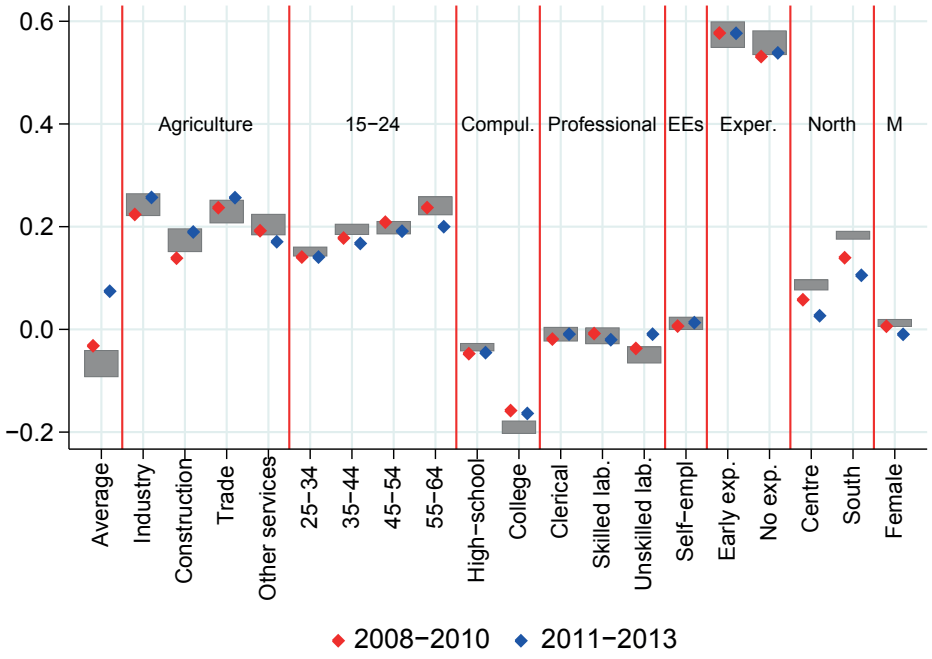
Mismatch

A higher incidence of LTU is often traced back to increased mismatch. This occurs when a sub-group of (unemployed) individuals experiences a fall in the relative number of suitable job opportunities (e.g. those best matching their skills) and faces high costs when applying for other positions. This lack of correspondence between supply and demand of labour would generally lead to a long-lasting fall in the probability of exiting unemployment. However, Rosolia (2014) uses LFS micro-data to show that the incidence of LTU increased rather uniformly across the skill distribution during the crisis, suggesting that increased mismatch is unlikely to be the primary explanation for elevated unemployment duration.

More specifically, Rosolia (2014) estimates a linear probability model for being long-term unemployed – separately for the pre-crisis period 2004-2007, and for the first and the second stages of the crisis (2008-2010 and 2011-2013, respectively) – as a function of a broad set of personal and professional characteristics of the most recent work experience. Figure 3 displays, for each characteristic reported on the x-axis, the 95% confidence interval of the corresponding dummy's point estimate on the pre-crisis sample 2004-2007, and the two point-estimates obtained on the 2008-2010 and 2011-2013 samples; the reference category for each characteristic is reported in the figure.

For our purposes it is interesting to note that, in most cases, the point estimates for the 2008-10 and 2011-13 periods are not significantly different from those for the 2004-2007 period, meaning that the differential probability of LTU associated with the specific feature has *not* changed significantly during the recessionary phase. Overall, this evidence does not point to the presence of increased mismatch.

Figure 3. Probability of LTU by professional profiles (Figure 12 in Rosolia 2014)



Externalities and duration dependence

A negative employment shock of the size Italy experienced since, in particular, the outburst of the European sovereign debt crisis is a game-changer. It is likely that such a massive outflow from employment disrupts the nuts and bolts of the labour market. Finding a suitable job rests, all else constant, on information the jobseeker is able to collect. As several studies have shown, the search outcome for unemployed workers strongly depends on the employment status of a person's social contacts, presumably because of their privileged access to soft information (Cingano and Rosolia 2012). Also, exiting the employment status implies that individuals lose access to the firm's or the group's internal labour market (Cestone *et al.* 2016). By disrupting such channels, an aggregate negative employment shock could have long-lasting effects on unemployment duration and, as time goes by, further worsen the individual's ability to locate job opportunities.

These externalities may trigger negative duration dependence which, in macro terms, is observationally equivalent to lower matching efficiency: given the level of labour

demand, it becomes harder for the unemployed to locate suitable job opportunities.[4] Can lower efficiency explain the sharp rise in the incidence of LTU during the crisis? Rosolia (2104) shows that between 2008 and 2010 efficiency largely conformed to historical experience; it dropped significantly in 2011 and then slowly recovered, coming back to its pre-crisis level in late 2013. Hence, duration dependence and reduced matching efficiency may have played a role in the sharp rise of LTU in 2011, but not in its persistency beyond 2013.

Concluding remarks

The evidence gathered in this chapter suggests that the sharp increase in LTU in Italy since the Great Recession cannot be ascribed to increased mismatch, nor to adverse labour market policies, and seems only partially linked to changes in matching efficiency.

The particularly long and pronounced recession started in 2008, then, stands out as the most plausible major explanation. The downturn triggered by the financial crisis and the subsequent sovereign debt crisis substantially weakened labour demand in Italy *via* two main channels: (*i*) a drop in net exports, due to the crisis among Italy's major trade partners and a reduction in domestic demand, and (*ii*) the credit crunch that forced firms to further curtail both investments and employment (Pagano and Pica 2012, Balduzzi *et al.* 2014, Bentolila *et al.* 2015, Cingano *et al.* 2015). The combination of these two factors – whose relative size is difficult to assess and is certainly beyond the purpose of this chapter – plausibly led to a persistent drop in labour demand with adverse effect on both the unemployment rate and unemployment duration.

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9 Long-term unemployment in the Netherlands: An age-related phenomenon

Jan C van Ours
Erasmus School of Economics and CEPR

Introduction

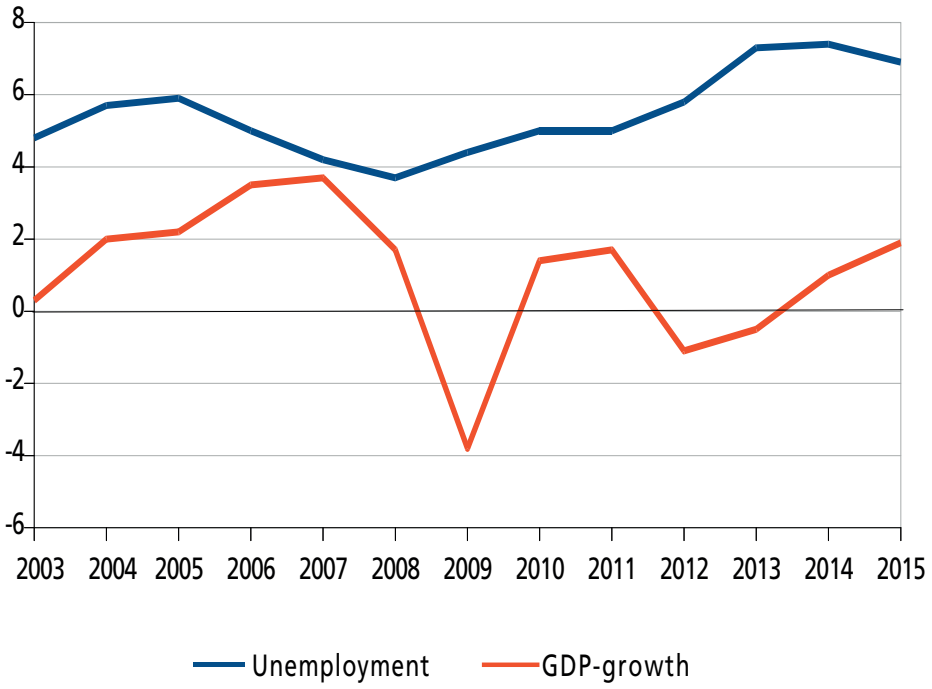
The Netherlands is a country with 17 million inhabitants, almost 13 million of whom are of working-age, i.e. between 15 and 74 years of age. At the beginning of 2016 there were 604,000 unemployed workers, a decline of about 60,000 as compared to a year earlier. Most of this decline in unemployment is in long-term unemployment (LTU). At the beginning of 2015 there were 289,000 long-term unemployed, a year later 232,000. Nevertheless, the share of long-term unemployed in overall unemployment is still substantially higher than before the Great Recession.

This chapter is set up as follows. Section 2 describes developments in unemployment and LTU, from 2003 to 2015. Section 3 shows that there is substantial heterogeneity in labour market performance along dimensions of gender, ethnicity, education and age. However, as regards LTU, the dominant characteristic is age. LTU is predominantly a phenomenon among old unemployed workers. Therefore, Section 4 describes the labour market position of old workers. Section 5 concludes.

1 Unemployment in long-term unemployment over the Great Recession

Figure 1 shows the development of real GDP-growth and unemployment over the period 2003-2015. The impact of the worldwide Great Recession is clear. Whereas up to 2008 there was a positive growth of real GDP, in 2009 real GDP dropped by four percentage points. The Netherlands experienced a double dip, since real GDP also decreased in 2012 and 2013. In 2015 the economy recovered, showing a 2% growth of real GDP.

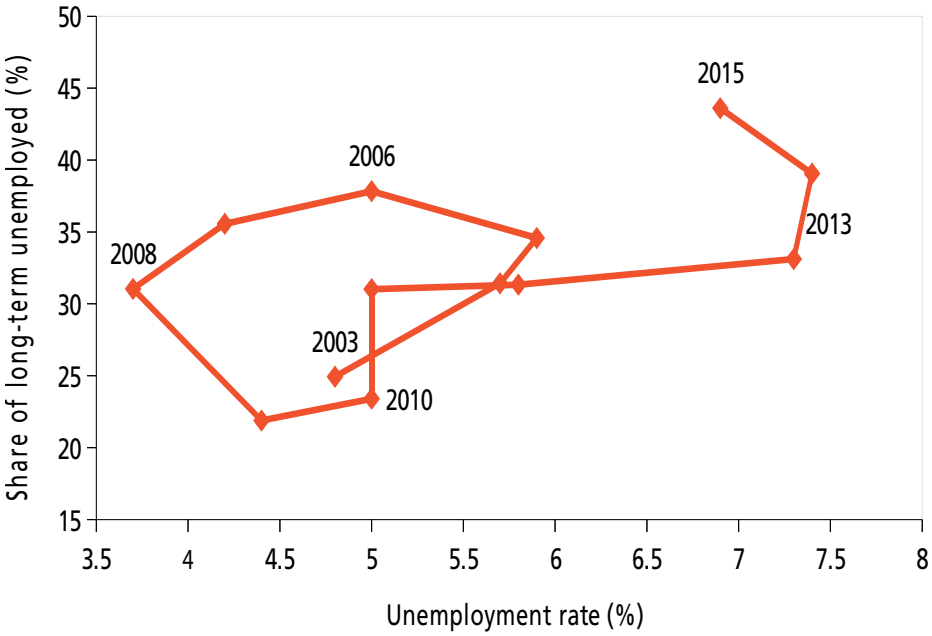
Figure 1. Unemployment rate (%) and real GDP-growth (%/year); 2003-2015



Source: Statistics Netherlands (unemployment) and CPB Netherlands Bureau of Policy Analysis (GDP-growth)

Over the same time-period, unemployment rates increased substantially, although unemployment is still rather low from an international point of view. After a peak in 2005, of about 6%, in 2008 the unemployment rate was below 4%. After that, it gradually increased to a maximum of 7.4% in 2014, followed by a drop to 6.9% in 2015.

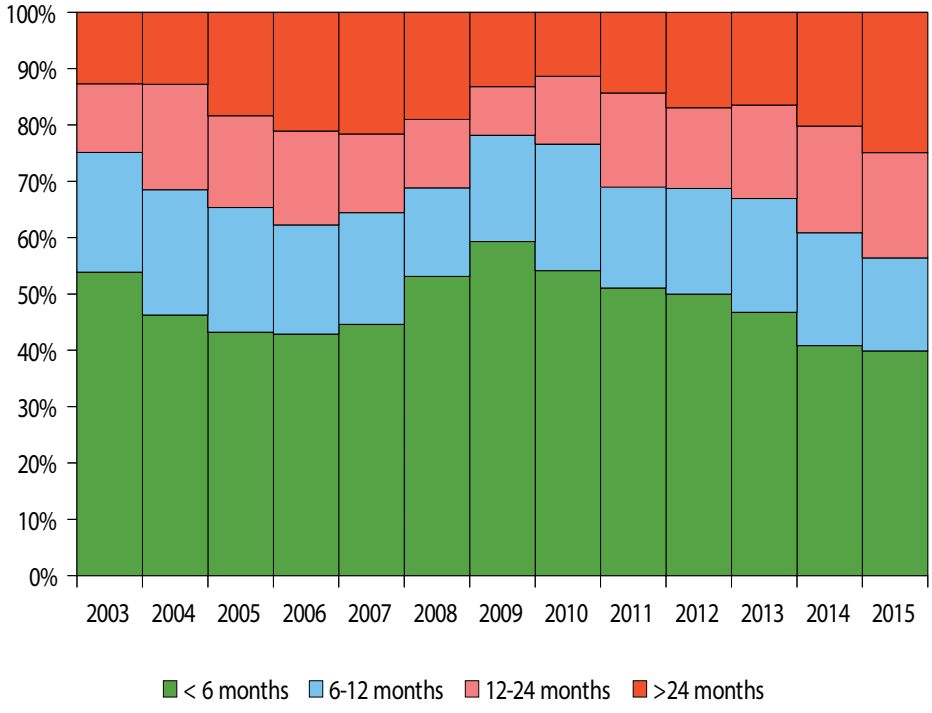
Figure 2. Total unemployment and the share of long-term unemployed in the Netherlands; 2003-2015



Source: Statistics Netherlands

Figure 2 shows the relationship between unemployment as a percentage of the labour force and LTU as a percentage of total unemployment. Whereas the overall unemployment rate ranges from 4% to 7%, the share of long-term unemployed ranges from about 20% to 45%. Overall, there is a positive relationship between the two, thus higher LTU coincides with higher unemployment. However, there are also time periods when this relationship is negative. This negative relationship is mechanical. For example, in 2008-2009 unemployment went up quickly. Because all new unemployed are initially short-term unemployed, the increase in unemployment caused a drop in the share of long-term unemployed. In 2014-2015 the reverse happened. The substantial drop in unemployment was partly caused by a drop in the inflow into unemployment, which increased the share of long-term unemployed.

Figure 3. Distribution of unemployment by duration; 2003-2015 (%)



Source: Statistics Netherlands

Figure 3 provides more detailed information about the development of LTU, by distinguishing four duration classes: 0-6 months, 6-12, 12-24 and more than 24 months. There are clear fluctuations over the period 2003 to 2015 but, whereas, at the start of the period, 54% of unemployment is very short (less than 6 months) and 13% is very long (more than 2 years), at the end of the period, 40% of unemployment is very short and 25% is very long.

2 Heterogeneity in labour market performance

Table 1 gives an overview of the heterogeneity in employment rates, unemployment rates and the share of long-term unemployed in the years 2005, 2010 and 2015. Overall, in 2010 employment rates are highest (67%), unemployment rates are lowest (5%) and the share of LTU is lowest (23%).

There is substantial heterogeneity in employment rates, according to various characteristics. Men have higher employment rates than women, although, over time, the difference has become smaller. Natives have higher employment rates than immigrants. Whereas the average employment rate among natives in 2015 was 70%, it was only 55% among non-Western immigrants. Employment rates among the highly educated are substantially higher than among individuals with an intermediary or lower education. In 2015 the employment rates among these groups were 80%, 69% and 45%. Finally, employment rates are lowest among young workers (61% in 2015) and among old workers (62% in 2015). As the formal retirement age is currently between 65 and 66, it is not surprising that the employment rate among 65-74-year-olds is very low (10% in 2015).

The heterogeneity in unemployment rates is the mirror image of the heterogeneity in employment rates. The highest unemployment rates in 2015 are among the non-Western immigrants (15.2%), the low educated (11.2%) and youngsters (11.1%). Surprisingly, the heterogeneity in LTU is small, except along one dimension – age. Of the youngest unemployed only 16% is long-term unemployed, whilst for the old unemployed this figure is 67%. Also, over the period 2005 to 2015, the increase in unemployment rates and LTU shares are by far the largest in the age group 55-64. Whereas the overall unemployment rate increased by 1.0 percentage point, it increased by 3.1 percentage points in the age group 55-64. And, whereas the share of long-term unemployed among, for example 25 to 34 years old, increased by 6 percentage points, it increased by 11 percentage points in the age group 55-64. All in all, it is clear that LTU is predominantly a phenomenon among old workers (CPB 2005).

To understand the nature of LTU, flow dynamics are helpful. Table 2 provides an overview of the dynamics in the stock of Unemployment Insurance (UI) benefit recipients by age category in 2005, 2010 and 2015.[1]

1 This excludes dynamics in Unemployment Assistance and Welfare Benefit recipients.

Table 1. Heterogeneity in employment rates, unemployment rates and LTU

	Employment rates (%)			Unemployment rates (%)			LTU (%)		
	2005	2010	2015	2005	2010	2015	2005	2010	2015
All	64	67	65	5.9	5.0	6.9	35	23	44
Men	72	72	70	5.0	4.5	6.5	38	25	46
Women	57	61	60	6.9	5.5	7.3	31	22	41
Natives	66	68	67	4.7	4.1	5.6	32	23	43
Western immigrants	61	63	63	7.2	5.7	8.6	40	27	42
Non-western immigrants	54	58	55	14.9	11.7	15.2	40	24	45
Education low	47	49	46	9.1	8.3	11.2	33	25	41
Education intermediate	70	72	69	5.3	4.5	7.0	35	21	45
Education high	80	81	80	3.6	3.0	3.9	36	26	45
15 - 24 years	59	61	61	11.8	11.1	11.3	15	9	16
25 - 34 years	83	86	83	4.9	4.1	5.9	32	15	38
35 - 44 years	82	86	83	4.8	3.6	5.3	39	26	44
45 - 54 years	78	82	81	4.5	3.7	5.6	55	36	55
55 - 64 years	44	53	62	5.0	4.4	8.1	57	50	68
65 - 74 years	6	9	10	4.5	2.5	5.5	-	-	77

Note: Unemployment rate = unemployment as a percentage of the labour force; employment rate = employment as a percentage of the population; long-term unemployment = unemployment with a duration above 1 year. Immigrants: individuals born outside the Netherlands or individuals born inside the Netherlands with at least one parent born outside the Netherlands. Western immigrants = from a European country (excluding Turkey), Northern America and Oceania, Japan or Indonesia. Non-western immigrants = from Africa, Latin-America, Asia (excluding Indonesia and Japan) or Turkey. Education low = primary and lower secondary education; education high = higher vocational and university. Source: Statistics Netherlands

Table 2. Unemployment Insurance benefit recipients; stock and flows by age category

	Average stock (1000)			Monthly outflow (%)			Outflow to work (% of total)		
Age	2005	2010	2015	2005	2010	2015	2005	2010	2015
15-24	13	10	19	35	42	24	54	40	34
25-34	50	41	74	21	25	18	53	51	45
35-44	83	68	85	11	14	13	59	58	51
45-54	80	80	127	7	9	9	61	58	51
55-64	80	65	138	3	6	5	37	36	38
Total	306	264	443	11	13	11	55	52	46

Source: Statistics Netherlands

Clearly, the general pattern in unemployment is also obvious in the development of the stocks of UI benefit recipients, with 2010 having the lowest stocks and 2015 having the highest stocks. Table 2 shows that there is a steep decline in the monthly outflow rate by age. Whereas, in 2015, the monthly outflow rate among young UI benefit recipients was 24%, it was only 5% among the oldest UI benefit recipients. Part of the age-specific differences are related to maximum UI benefit durations, which are about three months for the youngest and 30 months for the oldest unemployed. Furthermore, reservation wages increase with age, which is due to older workers having had higher pre-unemployment wages (CPB 2015). It is also the case that reservation wages do not decline over the duration of unemployment, but this phenomenon is not age-specific (CPB 2015).

3 Labour market position of old workers

There is an age-related difference in labour market dynamics in the Netherlands. Young workers have large flows and short durations, old workers have small flows and long durations (Gielen and Van Ours, 2006). This holds both for employment and unemployment. Old workers who lose their jobs face a difficult situation, "being too young to retire but too old to find a new job" (Sonnet *et al.* 2014). The origin of the poor labour market position of old unemployed workers in the Netherlands is not immediately clear. Bosch and ter Weel (2013), for example, conclude that old workers are overrepresented in declining occupations, i.e. occupations that are affected by technological changes and competition from abroad. However, Deelen *et al.* (2014), studying the effects of firm closures, find that old workers are not more often displaced from declining industries than prime age workers, although, within the group of old workers, the ones displaced from declining industries perform worse.

In terms of incentives, LTU of old workers may be related to both the supply side and the demand side of the labour market. On the supply side, incentives for unemployed old workers may not be strong enough to find a job quickly. On the demand side, it may be that employers are reluctant to hire old workers because they are too expensive or because, later on, it is too difficult to dismiss them. However, on closer inspection it is hard to see why incentives are a big issue.

Supply-side incentives for old workers are determined by the system of Unemployment Insurance (UI) benefits. The characteristics of UI benefits have been adjusted in the past decades, strengthening incentives for old workers to find a job. Up to 2004, from the age of 57.5 onwards, unemployment benefit recipients were not required to actively search for a job – they could stay unemployed until they turned 65, from which age they would receive retirement benefits. In 2004 the search requirement was imposed on old workers as well. Hullegie and Van Ours (2014), analysing the effect of the introduction of this search requirement, find that this had a positive effect on the job-finding rates. They conclude that even workers with seemingly poor job prospects benefit from the requirement to actively search for a job. Lammers *et al.* (2013) utilise the same variation in UI eligibility, concluding that stricter search requirements significantly increase the outflow to work, as well as the outflow to disability insurance. The maximum duration of UI benefits was reduced from 7.5 years to 38 months in 2006 and further reduced to two years in 2015. Koning and Raterink (2013) find that increased job-search obligations in 2004 and shorter benefit durations in 2006 increased employment probabilities for old workers. Using the 2006 reform, De Groot and Van der Klaauw (2014) find that, through the reduction of the maximum duration of UI benefits, job-finding rates were increased but job quality was reduced, i.e. the unemployed were more likely to accept temporary jobs, with lower wages and fewer working hours. Nevertheless, post-unemployment earnings were not affected. Reduced unemployment durations and lower job quality balance each other on average. Clearly, incentives in unemployment benefits have been improved. In addition to changes in the search requirements and the maximum duration of benefits, the potential gap between post-unemployment and pre-unemployment wages is reduced. Since 2015 unemployment benefit recipients have received a wage supplement of up to 70% of the difference between the old and the new wage, provided the new job has a monthly wage that is at least 12.5% below the wage earned at their previous job, and that the new working hours are no more than five hours less than in their previous job. (De Graaf-Zijl *et al.* 2015).

Demand-side disincentives for employers to employ old workers are determined by costs, including the potential firing cost. Indeed, there are age-specific arrangements in collective agreements, making old workers more expensive, for example, because of age-related extra holidays ('senior-days'), but these arrangements are slowly disappearing. Another demand-side disincentive to hire old workers is related to

employment protection, which may bring about high costs, should an old worker need to be dismissed later on. However, in the Netherlands it is quite easy to hire workers on temporary contracts. Indeed, the share of temporary jobs has increased substantially over the past decades. When temporary contracts have a duration shorter than two years, there are no restrictions to the termination of these contracts.

Furthermore, in the aftermath of the Great Recession, temporary measures have been introduced to improve the labour market position of old workers, such as part-time working schemes, hiring subsidies for old workers, special job-application training for old unemployed workers and subsidised retraining programmes. (De Graaf-Zijl *et al.* 2015). To compensate for the risk of old workers becoming ill or disabled, a no-risk insurance was introduced for employers who hire old unemployed workers (CPB 2015).

4 Conclusions

In the Netherlands, LTU is an age-related phenomenon. Even in situations of low unemployment, about half of the old unemployed workers were long-term unemployed. In theory, the labour market position of old workers may be related to demand-side as well as supply-side incentives. On the demand side, the high labour costs of, and strong employment protection for, old workers may induce employers not to hire them. On the supply side, long durations of unemployment benefits may provide too little incentive for unemployed workers to seek and find jobs quickly. In practice, neither supply-side nor demand-side disincentives seem to be a big issue. UI benefits have been restructured, while there are ample opportunities for employers to hire old workers for temporary jobs. Age-specific arrangements, which make old workers costly, are slowly fading away. All in all, there does not seem to be an easy solution to the poor labour market situation of the old unemployed, many of whom are long-term unemployed. What is needed most is economic growth, because this benefits mostly those who need it the most. After all, economic growth has an attractive "one size fits all" character (Van Ours 2015).

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10 Long-term unemployment in Poland

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Introduction

Prolonged jobless spells have been a secular feature of Polish unemployment patterns over the last dozen-or-so years, despite the fact that the general labour market situation in the country improved dramatically between the early 2000s and the mid-2010s. After hitting a record level of 20.2% in 2002, the unemployment rate of 15-64-year-olds declined to a historically low level of 7.2% in 2008, before rising again to reach a level of 10.5% in 2013 as a result of the Great Recession.[1] At the same time, the average (median) length of an unemployment spell in Poland did not fall below 12 (seven) months over this period. Between 2008 and 2015, the rate of long-term unemployment (LTU) averaged 3.4%, and it reached its highest point of 4.5% in 2013. LTU has been an enduring challenge for the Polish labour market, but it is no longer seen by policymakers as a primary labour market issue. That's because the recent levels are lower than those recorded before the Great Recession. Between 1997 and 2007 the LTU rate in Poland always exceeded 5%, and between 2002 and 2005 it was consistently above 10%. Although LTU has recently not been prioritised in the Polish government's labour market policies, NGOs are continuing to work to help the long-term unemployed, who are on the brink of social exclusion.

1 The 15-64 age group is the most appropriate one to analyse when examining the Polish labour market, because the retirement age was set at 60 for women and at 65 for men until 2012. Effective from 2012, the retirement age is being increased by three quarters per year. Nonetheless, the 15-64 age group still provides a more informative picture than the 15-74 age group, used as a default by Eurostat. Unless otherwise stated, all of the data presented refer to the 15-64 age group.

Incidence of long-term unemployment in Poland

The global Great Recession had a moderate impact on the Polish economy. Poland experienced a slowdown in economic growth in 2009-2010, but not a recession. While the unemployment rate increased during this period, it peaked at approximately half of the previous spike, encountered during the 2001-2002 downturn. In 2001-2007, more than 50% of all unemployed individuals were jobless for at least 12 months. In 2008-2010, that figure equalled 32% on average. While the share of LTU started rising in 2011, to reach 42.7% in 2014, it had dropped to 39.3% by 2015. The rate of LTU, expressed as the share of individuals who are unemployed for more than 12 months in the total labour force, rose from 2.5% in 2008-2009 to 4.5% in 2013, and then declined to 3.0% in 2015. As a result of these trends, the incidence of LTU in Poland was substantially above the EU28 average before the Great Recession, close to the EU28 average in 2011-2012, and below the EU28 average in 2013-2015.

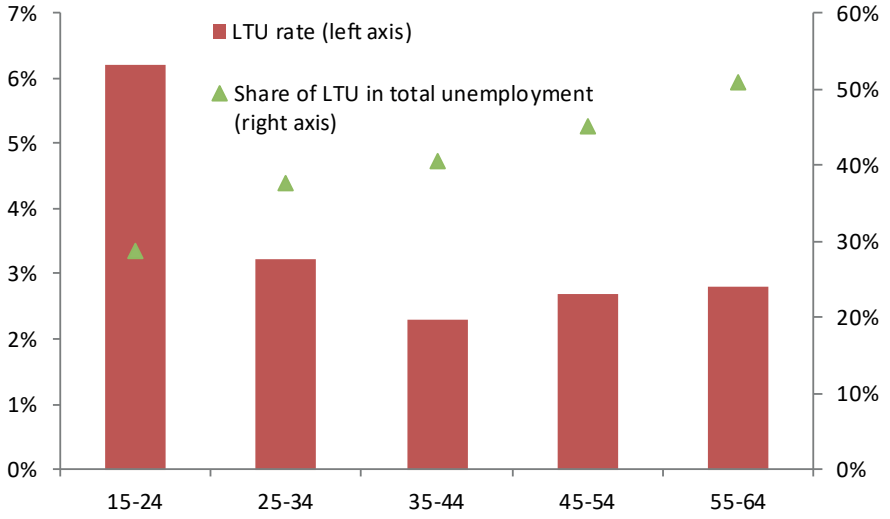
The incidence of LTU varies considerably, depending on the age and education of workers. The LTU rate is generally lower for older than for younger workers, in line with differences in the total unemployment rate by age. These differences, in turn, reflect the lower participation rate amongst older workers. However, the share of long-term unemployed individuals in the total pool of unemployed workers increases sharply with age (cf. Figure 1). Nevertheless, prime-aged individuals (aged 25-44) made up 50% of long-term unemployed workers in 2008-2015, and the 25-44 age group accounted for 70% of the net increase in LTU over this period.

As expected, we find that higher educational attainment is associated with a lower risk of LTU. In 2015, the LTU rates were as low as 1% for individuals with tertiary education, while they exceeded 7% among individuals with primary education only. Individuals with basic vocational education constituted the most numerous groups of the long-term unemployed people in both 2008 and 2015. It is worth noting that, while the number of long-term unemployed university graduates almost doubled between 2008 and 2015, this was largely a by-product of the tertiary education boom and the corresponding increase in the number of graduates.[2] The LTU rates and shares among

2 The share of people with tertiary education in the working-age population in Poland increased from 11% in 2002, to 15% in 2008, and to 22% in 2015.

tertiary-educated individuals remained substantially lower (1.5% for women, 1.2% for men) than among all other educational groups.

Figure 1. LTU rate (left axis) and the share of long-term unemployed in the total unemployed population (right axis) by age groups in Poland, 2015



Source: Own calculations based on Polish Labour Force Survey data.

The reversal of the gender gap in LTU was an important change brought about by the Great Recession. Women had longer unemployment spells than men, both before and during the first stage of the Great Recession. Since then, however, the gender-specific LTU rates and incidences have converged. Thus, women, who constituted a majority of the long-term unemployed in 2008 (53%), had become a minority (46%) by 2015. In 2015, LTU was less prevalent among women (38.8%) than among men (39.6%). There are, however, striking differences with regard to educational attainment by gender: in 2015, 18% of the women who were long-term unemployed had a tertiary education (compared to 9% of the men), and 27% of this group (versus 22% of the men) had a post-secondary school diploma. By contrast, 60% of the men who were long-term unemployed had only a basic vocational or primary level of education, while the corresponding share for women was 41%.

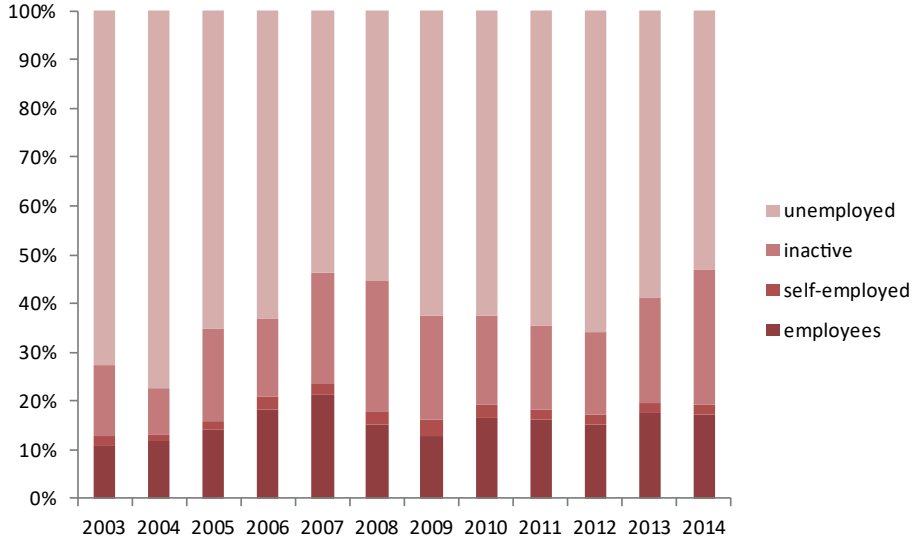
Main factors that contributed to the evolution of LTU in Poland

Changes in the level and structure of LTU in Poland appear to have been largely driven by business cycle fluctuations. Between 2004 and 2007, when LTU fell substantially, outflows from LTU to employment rose: 13% of the long-term unemployed started working in 2004, whereas the equivalent figure in 2007 was 23% (cf. Figure 2). In 2008-2009, a rise in the job-separation rate was a dominant factor in the increase in total unemployment. Between 2010 and 2013, the reduction in the hiring rate was more important (Lewandowski and Magda 2013). These dynamics influenced LTU in two main ways. First, the inflow of 'new' long-term unemployed individuals increased. The share of individuals who were unemployed for less than two years in the total pool of long-term unemployed people rose from 50% in 2008 to 60% by 2013, and then declined to its initial level by 2015. Interestingly, the outflows from LTU into employment rose during the slowdown of 2010-2011. This trend might reflect the higher employability of workers who lost their job during the Great Recession and stayed unemployed for more than 12 months, relative to that of individuals who remained long-term unemployed during the economic boom of 2006-2007. Second, the duration dependence in LTU increased, i.e., the share of individuals who remained unemployed for an additional year increased from 54% in 2007 to 66% in 2012. This share declined in 2013 and 2014, but for very different reasons than it had 10 years earlier: i.e., the share of individuals who moved to employment remained flat at 17%, but flows to inactivity increased from 17% in 2012 to 28% in 2014 (cf. Figure 2). As this increase in outflows from LTU to inactivity was recorded among all age groups, including those in prime-age, it appears that the incidence of discouragement among jobseekers rose in that period. This is a worrying development behind the most recent reduction in the LTU rate in Poland.

These secular features can be attributed to the structural mismatch between jobs and jobseekers. Since the late 1990s, the Polish labour market has undergone substantial changes in terms of job structure – the role of cognitive work, and especially of non-routine analytical and interpersonal work, has increased greatly, while the role of manual work has declined (Hardy et *al.* 2016). These changes were driven by both demand-side (e.g., structural change and technology adoption) and supply-side (e.g., the educational boom) factors. At the same time, the occupational structure of unemployed individuals

was heavily skewed towards job categories that primarily involve performing manual tasks (which were becoming less prevalent among the employed). For the cognitive work categories, the occupational structure of unemployed individuals shifted much more in the direction of routine work (which was growing only slightly among the employed) at the expense of non-routine work (which was growing strongly among the employed). These disparities were even more pronounced among the long-term unemployed than among individuals who were jobless for up to 12 months. Since the early 2000s, the orientation of the unemployed with respect to routine manual and routine cognitive work has barely changed. Especially for young and prime-aged workers, entering a more routine-intensive occupation has been associated with a significantly higher risk of unemployment. Although no estimate is available for the share of unemployment that can be attributed to mismatch, the trends towards the divergence of manual and cognitive work, and of routine and non-routine work, suggest that mismatch could have been an important factor.

Figure 2. Structure of year–to-year flows from long-term unemployment in Poland, 2003-2014 (in %).



Source: Own calculations based on Polish Labour Force Survey data

Policies to fight long-term unemployment

In the last two decades, the Polish labour market has been characterised by relatively long unemployment spells and relatively high rates of LTU. However, LTU is currently not prioritised within the Polish active labour market policy (ALMP) system. It appears that policymakers are content with a medium-term reduction in the LTU rate, and that they disregard the fact that the most recent decline in LTU was driven by outflows to inactivity rather than to employment. There is a risk that some long-term unemployed will be left behind and face exclusion from the labour market.

Reducing the LTU rate further is proving especially challenging in light of the organisational model of the public employment services (PES) which operate at NUTS4 level in Poland. The ALMPs are aimed primarily at the unemployed individuals registered with the PES, whereas the pool of individuals who are registered as unemployed includes large numbers of people who are inactive or working. Only 51% of the women and 63% of the men who were registered as unemployed in 2015 were actually unemployed, according to the ILO definition. In 2008, these numbers were even lower (cf. Table 1). In addition, more than 40% of the women and nearly 30% of the men who were registered as unemployed were actually inactive in both 2008 and 2015. A non-negligible share of the people who were registered as unemployed, especially of the men, were working, presumably in the shadow economy. This mismatch between the 'registered' and 'economic' status of the unemployed is driven primarily by the legal framework, which requires the jobless to register themselves as unemployed with the PES in order to continue to be eligible for public health-care services. Moreover, the default duration of unemployment benefit in Poland is six months, with 12 months being granted in specific cases. Thus, maintaining access to the public health-care system is a key incentive for jobless people to be registered as unemployed for longer than a year.

Given these underlying trends, it is unlikely that any policies designed to prevent or counteract LTU will be properly targeted. Despite a decade-long public debate about the need for reform in this area, the legal connection between registration with the PES and health insurance coverage remains in force. This rule tends to inflate the levels of registered unemployment, places an additional administrative burden on PES workers,

and makes it challenging for them to identify those of the long-term unemployed who are truly interested in finding a job.

Table 1. Structure of people registered as unemployed in labour offices in Poland, by labour market status (in %)

	Short-term unemployed	Long-term unemployed	Inactive	Working
2008				
Women	19.4	23.2	48.2	9.1
Men	23.9	32.2	29.6	14.3
2015				
Women	23.9	27.0	45.6	3.5
Men	30.5	33.0	27.0	9.5

Source: Own calculations based on Polish LFS data.

Note: The numbers sum up to 100% for each year / gender category.

As part of the 2014 reform of Polish ALMPs, a system for profiling the unemployed was introduced; however, this system did not tackle the health-care registration issue directly.[3] Since the reform, three categories of unemployed people have been distinguished: individuals with 'low', 'medium', and 'high' levels of labour market difficulties. The category is assigned on the basis of an interview, and defines the set of policies that may apply to the particular individual. However, LTU has not been included as one of the main factors considered in assigning the unemployed to any one of these groups. Individuals who fall into the first group are essentially offered only job intermediation; while those who are assigned to the second group receive a standard level of support; and those who fall into the third group are offered a 'Program of Activation and Integration', which can be carried out in cooperation with an NGO and/or Social Assistance centres. According to the Ministry of Labour (2016), up to June 2016 more than 1.3 million registered unemployed individuals have been assigned profiles, with 2%, 66%, and 32% of these individuals, respectively, being assigned to

3 Ironically, in the discussions surrounding the recent reform of the PES in 2014, introducing a separate desk in each PES office for people who are only interested in health-care access was considered. However, the status quo was not changed.

the first, second, and third groups. So far, however, no evaluations of the reform have been conducted, and it is impossible to judge whether it has had any impact on the labour market in general, and on LTU in particular.

Existing efforts to counteract LTU are supported by the activities of NGOs, which mostly target those unemployed individuals who are also beneficiaries of social assistance. These groups include workers aged 45 or older, with low skill and work experience levels, young NEETs, mothers with young children, the disabled, and workers with health problems, especially mental health issues (Skowrońska 2014). A typical NGO-run programme focuses on providing a complex set of support measures, encompassing not just job-search assistance, but also forms of assistance aimed at improving unemployed workers' self-esteem, motivation, and sense of duty; and at alleviating their health problems or challenges in meeting their care responsibilities. For example, PES workers may coordinate efforts to support an individual with the efforts of social-assistance workers, including of family assistants, who help families in the most difficult situations. The ability to exchange information about their common 'clients' can provide these professionals with a better understanding of the individual's specific problems, needs, and obstacles and, thus, enable them to better coordinate the actions they take.

Other examples of activities that improve the effectiveness of ALMPs targeted on those at the margins of the labour market include the development of IT systems that bring together different types of information relevant for tackling LTU, which were previously spread across the various local government units responsible for different fields of social policy. Finally, among the new solutions that are being introduced to improve the ALMPs targeted at the most vulnerable groups in the labour market is the redefinition of roles and tasks assigned to job counsellors and social assistants. As part of this initiative, new positions and responsibilities will be introduced, such as case managers (who act as liaison officers between the various institutions helping a particular individual), information brokers (who help to gather and choose from the available options on the market, including various projects in which the individual could participate), trainers (who support learning activities), coaches (who help with career decisions), and conciliators (who help the individual resolve conflicts in his/her life). These are welcome steps, which should modernise the functioning of Polish ALMPs.

It may be hoped that these services will be implemented soon, and that researchers can then evaluate their effects.

Conclusions

Since the 1990s, long unemployment spells have been common in the Polish labour market. The incidence of LTU declined substantially during the economic and employment boom of the middle 2000s, and it increased only slightly during the Great Recession – because the overall impact of the global crisis on the Polish economy and labour market was rather modest. For the first time in a dozen years, the incidence of LTU in Poland recently fell below the EU average. However, this improvement is attributable to Poland's solid macroeconomic stance and the positive evolution of total labour demand, rather than to its labour market policies.

Poland's current labour market policies are inadequate to tackle the problem of LTU. Policymakers don't perceive reducing LTU as one of the main goals requiring intensified policy response. Public employment services have to serve large numbers of people who are primarily interested in retaining their health insurance, rather than in looking for a job, as they are either inactive or work informally. NGOs are helping to target individuals who suffer from several forms of exclusion, but the PES are failing to develop appropriate policies and programmes aimed at helping the long-term unemployed. It is worrying – but perhaps not surprising – that the most recent reduction in LTU in Poland was mainly driven by outflows to inactivity.

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11 Long-term unemployment in Spain

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Introduction

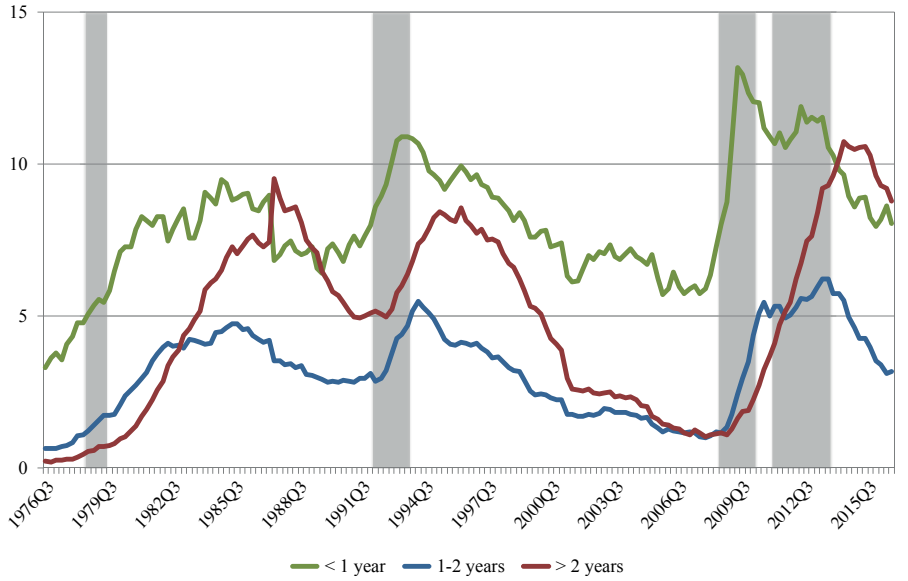
Spain suffered a longer and deeper Great Recession than most European Union (EU) countries, because the 2008 international financial shock was compounded by the Eurozone crisis and the bursting of a huge housing bubble. A few numbers are telling – from 2008 to 2013, GDP fell by 9% and employment by 16% (18% full-time equivalent). Unemployment shot up, going from 8% in 2007Q3 to a staggering peak of 27% in 2013Q1, and it currently equals 20%. As a result, the share of long-term unemployed rose to 64% in 2014Q3 and it is still 60% today. In this chapter we describe the main facts about long-term unemployment (LTU) in Spain, discuss its main determinants, and end with a set of policy implications.

Incidence and characterisation of LTU

Figure 1 plots unemployment rates by duration in Spain (recessions are shaded). While short- and long-term unemployment (up to two years) both started falling at the end of the Great Recession, very long-term unemployment (VLTU) (over two years) kept on rising to 10.6% and, for the first time in over three decades, it is higher than short-term unemployment (below one year).

Spain stands out internationally, not just for its unemployment rate but also in regards to its LTU. At 11.4% in 2015, the Spanish LTU rate was the second highest in the OECD, well above the 4.5% EU average.

Figure 1. Duration-specific unemployment rates in Spain, 1976-2015 (% of labour force)



Source: National Statistics Institute (Labour Force Survey) and Spanish Economic Association (Spanish Business Cycle Dating Committee).

Table 1 presents a breakdown of employment and unemployment by several worker characteristics. In comparison with their employment shares, women, younger – up to 34 years old – and less-educated workers are over-represented in LTU. Its incidence is also higher among workers previously employed in construction, a sector which lost two-thirds of its jobs during the crisis.

Factors contributing to LTU

To a large extent, the factors that account for Spain's high unemployment rate also underlie its high LTU. The most important institutional factor is the interaction between the dual nature of its labour market – with temporary employees representing around one-quarter of all employees – and an insider-outsider collective bargaining system. These institutional features resemble those described by Cahuc and Carcillo (2016)

for France (this volume), but they adopt a stronger form.[1] From 2010 to 2012, three labour market reforms modified collective bargaining but not duality.[2] The resulting outcomes have been very high worker-turnover and real-wage rigidity. This is well-trodden ground and so we will focus on other factors that contribute to high LTU.

Table 1. Employment and unemployment by duration and worker characteristics in Spain, 2016Q2 (%)

		Unemployed		
		Short-term	Long-term	Very long-term
	Employed	(Up to 1 year)	(1-2 years)	(Above 2 years)
Gender				
Male	54.5	51.3	45.8	48.5
Female	45.5	48.7	54.2	51.5
Age				
16-24	4.4	22.5	18.4	22.5
25-34	20.7	26.0	27.4	26.0
35-44	31.9	26.1	23.7	26.1
45-54	27.5	18.3	19.9	18.3
55-64	15.5	7.0	10.6	7.0
Education				
Primary	6.6	12.4	12.5	16.4
Secondary, 1st stage	27.4	37.6	37.2	42.6
Secondary, 2nd stage	23.9	26.1	23.3	21.5
College	42.1	23.8	26.9	19.5
Weight in unemployment	—	40.2	15.9	43.9

Source: National Statistics Institute (Labour Force Survey).

The lack of aggregate demand caused by the crisis meant that few jobs were available. Moreover, the collapse of the construction industry meant that a very large share of

1 See Bentolila and Jimeno (2006) for a description of basic features and Bentolila *et al.* (2012a) for a comparison between France and Spain.

2 See Bentolila *et al.* (2012b) and García-Pérez and Jansen (2015) on the reforms.

the unemployed were low-skilled: indeed, even now, 54% of the unemployed and 59% of the long-term unemployed have attained no more than compulsory secondary education. But unemployment may also persist because workers see their human capital depreciate – both in fact and in the eyes of employers – and because they become disenfranchised and reduce their search effort, which creates duration dependence in the job-finding rate. Lastly, the composition of the pool of unemployed worsens as the most employable and motivated workers leave.[3]

We therefore need to disentangle the effects of worker characteristics on unemployment duration from those of duration dependence, though this is far from easy. A simple-shift share analysis that uses the share of workers in LTU by gender, age, education, and nationality, at the LTU trough in 2008Q3, to compute a counterfactual LTU rate during the recession, suggests that composition effects only explain about 4 percentage points (pp) of the 38 pp increase in LTU from 2008Q3 to 2016Q2.

More formally, we estimate a monthly duration model for the probability of leaving unemployment, i.e. the hazard rate, using a large sample of non-employed workers from Social Security records in the Continuous Sample of Working Lives, which is itself a 4% random sample of the worker universe. We cannot distinguish between unemployment and inactivity, but this is probably not an important shortcoming, given the observed high absolute flows between the labour force and inactivity.[4] To exclude persistent inactivity, however, we limit non-employment duration to three years, after which spells are treated as censored.

We estimate separate models by gender and restrict the sample to native prime-age workers (25-54 years old), to abstract from youth-unemployment and retirement issues.[5] We separately estimate for the expansion (2001-2007) and the recession and early recovery (2008-2014), further controlling for the business cycle by including provincial employment growth and the aggregate unemployment rate. We allow for unobserved heterogeneity and jointly estimate unemployment and employment hazards, with both

3 See Machin and Manning (1999).

4 See Elsby *et al.* (2015) for the US and Bentolila *et al.* (2016) for Spain.

5 See Dolado *et al.* (2013) for youth unemployment in Spain.

depending on the same individual unobserved heterogeneity component. Overall we use data on 85,159 individuals, 193,158 unemployment and 296,264 employment spells.

Table 2 presents the effects of worker characteristics on the predicted probability of entering LTU and VLTU, respectively captured by the survival rates in unemployment at 12 and 24 months (i.e. the probability of remaining unemployed by those months), the latter being conditional on reaching 12 months and rescaled to 100 at that point. We show the results for men, but they are qualitatively similar for women.[6]

The table shows that the chances of entering LTU in the recession are quite high, ranging between 24% for younger workers and 40% for those over 45 years old, or between 27% for the high skilled and 31% for the low skilled. The probability is also extremely high for entering VLTU upon being in LTU – on average, above one-half – and it increased by 17 percentage points from the expansion to the recession. In terms of characteristics, being over 45 years old makes workers especially prone to enter both LTU and VLTU. For both education and skill[7] we find an unusual negative effect in the expansion – because low-skill jobs grew the most – and a mild U-shaped relationship in the recession. While no large differences in exit rates by education and skill are apparent, in the companion estimate for employment hazards we do find that the more educated and more skilled workers have significantly longer employment duration. The largest effect, however, comes from the receipt of unemployment benefits. For example, a worker with a 24-month contributory benefit entitlement has a 64% chance of entering LTU, whereas for a similar worker with no benefits the chance is 12%.

Measured duration dependence is strong, with the hazard falling quite rapidly and stabilizing at low levels. The baseline hazard for the average male, non-employed worker falls by 13.4 pp in the initial 12 months, which represents one-half of the initial value, and it halves again by the 24th month. For comparison, the differential fall in the hazard rate from the first to the 12th month for a worker with no benefits, vis-à-vis one with a 24-month entitlement to contributory benefits, is equal to 8.4 pp; it is equal to

6 Further controls are: industry, experience, month, region, an indicator for dismissal from the previous job, dummy variables for two labour market reforms, and a cubic polynomial in duration. Several variables are interacted with duration. See Bentolila *et al.* (2016) for details.

7 Skill is defined in terms of the worker's occupation in the previous job.

3.3 pp for 45- to 54-year-old workers, vis-à-vis 25- to 34-year-olds and it is equal to 0.8 pp for workers with no compulsory secondary education, with respect to ones who have attained that education level.[8]

Table 2. Survival rates in unemployment at 12 and 24 months in Spain, Men, 2001-2014 (%)

	Expansion (2001-2007)		Recession (2008-2014)	
	12 months	24 months	12 months	24 months
Overall	16.8	35.9	26.9	52.8
Age				
25-34 years old	15.7	34.0	24.1	49.0
35-44 years old	23.1	46.7	30.6	57.2
45-54 years old	40.7	62.9	39.6	67.3
Education				
Less than Compulsory	13.9	29.6	30.1	53.4
Compulsory	13.4	29.0	26.2	49.5
High School	18.7	35.8	28.1	51.5
University	25.5	43.7	29.0	52.3
Skills				
Low	16.9	33.5	31.0	54.3
Medium	15.9	35.0	25.1	50.5
High	17.8	38.7	27.5	54.7
Unemployment insurance entitlement				
No	6.7	20.5	12.3	35.3
6 months	15.3	20.5	21.4	35.7
12 months	41.4	20.5	44.1	35.7
18 months	54.1	32.3	55.7	47.1
24 months	61.8	60.1	64.4	67.4
Unemployment assistance receipt				
No	6.7	20.5	12.3	35.3
Yes	37.6	56.8	47.4	69.9

Note: Survival rates at 24 months are conditional on reaching 12 months and rescaled to 100 at that point. Source: Bentolila *et al.* (2016).

8 This estimate includes both the baseline hazard and the effect of characteristics that are interacted with duration.

Policies

Active labour market policies (ALMPs) constitute a key tool in the fight against LTU. Although their assessment is still in its infancy, the meta-analysis of the recent ALMP evaluation literature by Card *et al.* (2015) indicates that, if they are both well-designed and targeted to the appropriate groups, these policies can make a significant contribution in reducing unemployment and especially LTU (see chapters one and three of this eBook).

The preceding analysis indicates that, in Spain, mature age and low education are the main individual risk factors generating LTU, but also that its likelihood is increased by receipt of unemployment benefits and by negative duration dependence. These findings imply that ALMPs should be targeted at older and less-educated workers, that they should be tied to benefit receipt, and that they should start early on, while the exit probability is still high.

Before discussing ALMPs it is worth noting that, as a result of the crisis, the coverage of unemployment benefits (recipients as a share of the unemployed) is currently very low for the long-term unemployed, going from 28% for workers with spells between one and two years to around 22% for workers with spells longer than four years.

Spain has ample scope to improve its ALMPs.[9] To start with, its Public Employment Services (PES) are ill-prepared and they do far too little. Only 2% of workers who started a job in 2012 acknowledge any involvement of the PES in their job-search process, which puts Spain in last place in the OECD. Overall spending on ALMPs is in line with the average in the OECD (0.42% of GDP in 2013), but a large share of spending consists of hiring subsidies that are insufficiently targeted on vulnerable groups, and no additional resources have been devoted to ALMPs during the crisis. Indeed, from 2007 to 2013 spending on ALMPs, per person willing to work, dropped by almost 75%. Its composition is not optimal either. In 2013 placement and related services took only 0.03% of GDP, while economic incentives for private employment creation represented 0.07%, having fallen as a share of ALMPs, compared to 2008, but showing a rebound

9 This section is based on Jansen (2016a,b).

since 2013. The low expenditure on placement services explains why the caseload of PES employees is quite high by European standards. Lastly, training took 0.12% of GDP, which again places Spain among those in the bottom positions in the OECD, when scaled by the number of persons willing to work.

The main challenge is the need to improve the capacity of the Spanish PES to offer individualised attention. The analysis of a new database of ALMPs, referring to the first quarter of 2015, reveals that participation increases with the educational attainment of the unemployed, rather than the opposite. Indeed, while 17% of the unemployed received at least one service during the first quarter of 2015, only 12.5% among the least educated did. Participation in ALMPs does not increase with unemployment duration either – while less than 1% of the lower-educated unemployed were engaged in a PES training programme, this figure falls to 0.3% among the very long-term unemployed. Lastly, the unemployed over 45 years old participate in fewer ALMP measures than the average unemployed person with the same level of education and duration. Activation also comes rather late, since more than one-third of jobseekers have already fallen into LTU when they receive their first service.

Apart from low expenditure and little targeting, the institutional structure is also a hindrance. In Spain the national PES is responsible for the calculation and disbursement of unemployment benefits and subsidies, while ALMPs are undertaken by the regions, which receive funding from the national PES. This division of tasks creates a weak link between active and passive policies, as well as low incentives to improve the design of ALMPs, and it creates incentives for cost shifting between the different levels of the administration. Unemployed workers who are not entitled to contributory unemployment benefits or tax-based subsidies can apply for means-tested social assistance, which is managed by local social service administrations and financed out of the regional budget.

Lastly, two key shortcomings of the Spanish PES are the absences of both modern profiling tools and a consistent activation strategy. Profiling helps to measure the distance of the unemployed from the labour market and, in particular, the probability that an unemployed worker ends up in LTU, which allows personalised services. The activation strategy can clarify the course of action by stating who is supposed to receive support, of what type, at what moment, and from whom.

So far, the policy response to the large rise in LTU has mainly consisted of creating temporary unemployment subsidies for the most vulnerable groups of long-term unemployed – mostly those over 45 years old and with family responsibilities. Some measures have also been taken to improve coordination between the national and the regional PES. By contrast, very little has been done to improve the employability of the long-term unemployed or to avoid their marginalisation.

Fortunately, the tide seems to be turning. Following the European Council Recommendation of February 2016, the Spanish authorities have launched a programme with a budget of 515 million euros, aimed at providing individualised support to one million long-term unemployed until 2018. The bundle of services that will be offered to the target group is similar to the standard support package in the most advanced countries, such as Germany.

However, before Spain raises its spending on ALMPs, it should address the above problems. Jansen (2016b) outlines measures that would significantly improve the capacity of the PES to offer tailored solutions. Alternatively, Spain could consider a more intensive use of private placement agencies. These agencies are not necessarily more efficient than the PES (Behagel *et al.* 2014), but, in the case of Spain, they would enable the PES to quickly scale up its service level at relatively low risk, as the agencies are principally paid on the basis of placements. Conditional on correct design of the incentive structure, this solution may offer better outcomes than an in-house provision by PES staff.

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12 How long has this been going on? Long-term unemployment in the UK

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It is now more than thirty years since the UK was shaken by the emergence of widespread incidence of long-term unemployment (LTU). Since then, a whole raft of economic modelling and policy responses have been directed at the problem. In this chapter we provide a brief overview of recent trends in LTU in the UK, and set them in their historical and policymaking contexts.

Figure 1 plots the evolution of the UK unemployment rate, alongside a commonly used measure of LTU – the share of the labour force that has been looking for work for more than one year.[2] This reveals a familiar story of high and persistent rises in unemployment, in the wake of the downturns of the 1980s and early 1990s, that took several years to recede. Evolving in tandem, typically with a one-year lag, LTU has mirrored the twists and turns of aggregate unemployment; building up, following the recessions of the 1980s and early-1990s, to account for nearly half the jobless total. The scale, volatility and persistence of unemployment during this period, in the UK and elsewhere in Europe, inspired the pioneering work of, among others, Layard *et al*. (1990) and Pissarides (1990) on what came to be seen as the European unemployment problem.

1 Mike Elsby gratefully acknowledges financial support from the UK Economic and Social Research Council (ESRC), Award reference ES/L009633/1.

2 The data are taken from the UK Labour Force Survey (LFS). All responses are self-defined. The figures, therefore, differ somewhat from the administrative series on those in receipt of unemployment benefit. However, a consistent series using the administrative series does not exist. The trends in the years in which the two data sources overlap are, however, similar.

The path of UK unemployment, since the mid-1990s, appears to have defied this diagnosis, however. Over the medium term, unemployment has trended downward, averaging 5.8% in the twenty years since 1995, compared to 8.9% in the preceding twenty-year period. At cyclical frequencies, the rise in UK unemployment during the Great Recession of the late 2000s has been conspicuously modest, rising only 2.5 percentage points between 2008 and 2010. And, continuing on its parallel path, LTU has moderated, both in trend and cycle.

So why has the LTU problem subsided in the UK? And has the UK managed to alleviate long-term joblessness in general? If so, how? In what follows, we briefly summarise leading hypotheses on the answers to these questions.

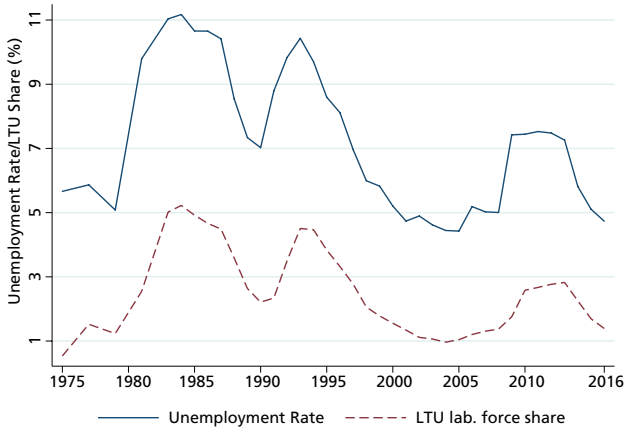
Falling unemployment

A first clue as to why LTU has moderated also features in Figure 1, namely that it is a natural side effect of the decline in the trend and cycle of *aggregate* unemployment. For example, Figure 1B reveals that LTU has accounted for a similar share of the overall unemployment stock in the 2000s as in the 1980s and 1990s.

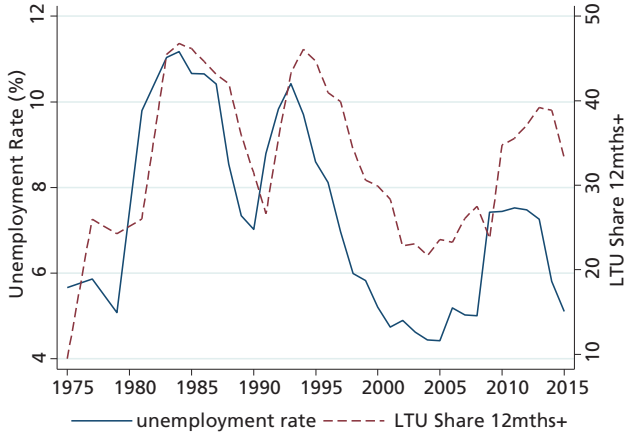
So, a first set of explanations would seek to understand why the overall unemployment outlook in the UK has improved. While the deeper origins of unemployment and its vagaries have remained the topic of several decades of economic inquiry, it is possible to point to a few plausible contributors to recent trends.

Figure 1. Unemployment and long-term unemployment in the UK, 1975 to 2015

A. Long-term unemployment as a share of the labour force



B. Long-term unemployment as a share of unemployment



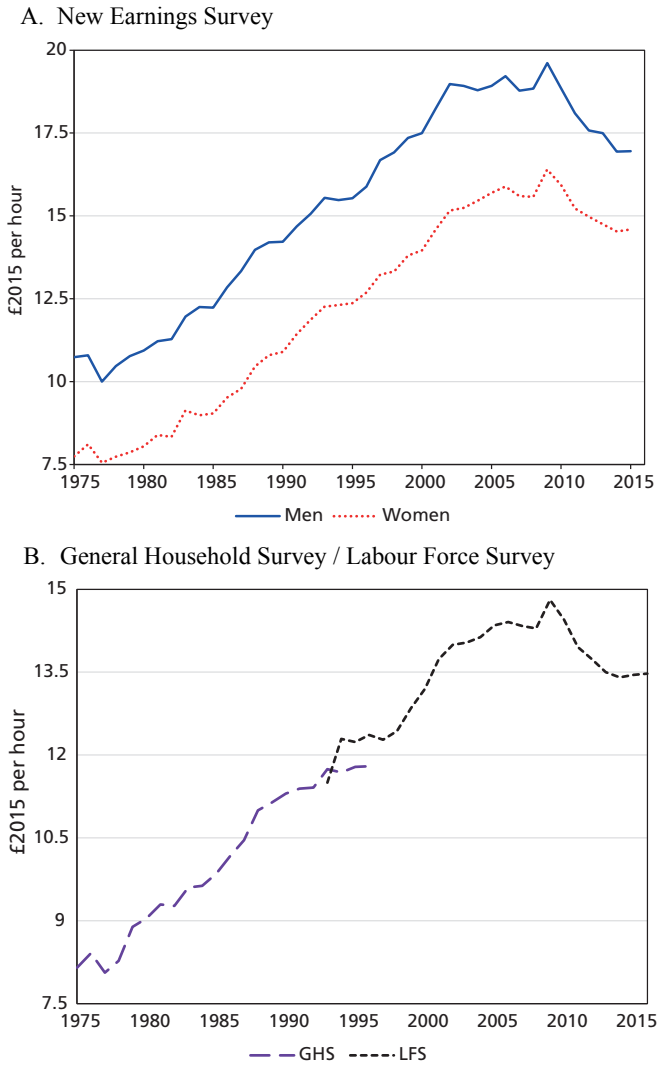
Notes: Authors' calculations using Labour Force Survey data.

Real wage flexibility

Figure 2 depicts the path of average real hourly wages in the UK over the period. Until the early 2000s, real wages for both men and women in the UK exhibited sustained growth, with modest pro-cyclicality around that trend. Since then real wage growth

slowed. Even more strikingly, real wages fell dramatically in the Great Recession. There has been an unprecedented 10% fall in real wages for both genders between 2009 and 2014 (Gregg *et al.* 2014, Elsby *et al.* 2016).

Figure 2. Real hourly wages in the UK, 1975 to 2016



Notes: Data from the New Earnings Survey/Annual Survey of Employment and Hours are for full-time employees on adult rates, whose pay for the survey pay-period was unaffected by absence. NES/ASHE Data for 1982 and before correspond to individuals aged 18 and over. All series are deflated using the Retail Price Index.

It is natural to posit that such a large fall in real wages would be a force towards moderation in rates of unemployment, especially during the Great Recession. Workers and firms might trade off declines in real wages against reductions in employment. By the same token, the same forces would in turn restrain any build up in LTU, simply by limiting the incidence of unemployment itself.

Unemployment flows

It is well known that movements in numbers flowing into and out of unemployment drive changes in the stock of unemployment. Figure 3A plots the evolution of the rates of job loss to, and job finding from, unemployment in the UK. The graph uses a logarithmic scale, so that the magnitudes of changes in these rates are comparable.

Consider first the behaviour of the job-loss rate. Despite the longstanding focus on getting jobseekers to exit the jobless pool, Figure 3A reveals that variation in job loss over the cycle has been just as important a component of unemployment fluctuations in the UK as variation in the job-finding rate (Elsby *et al.* 2012). So it is important to understand variations in inflows into unemployment, as these comprise the population at risk of becoming long-term unemployed.

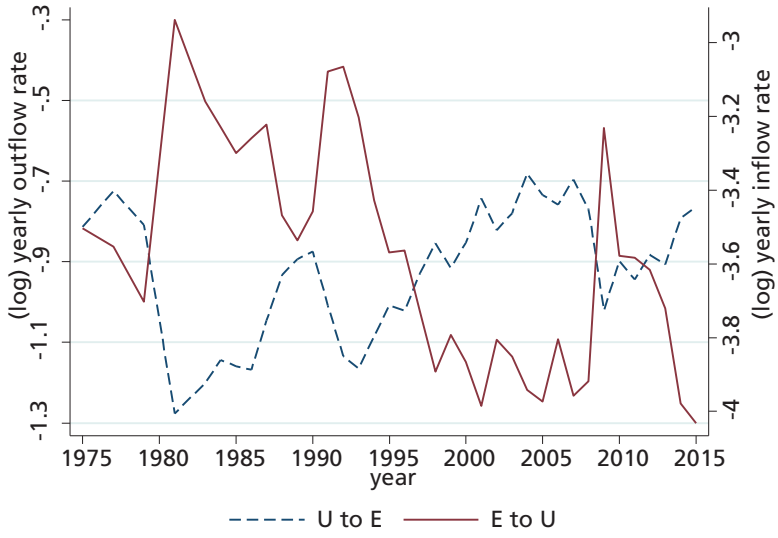
Turning now to the job-finding rate, an important lesson of past research on LTU has been that a useful antidote to it is to raise the overall job-finding prospects of *all* unemployed individuals (Nickell 1997, Machin and Manning 1999).

Two aspects of the behaviour of the aggregate finding rate in Figure 3A have shaped the improvement of LTU in the UK. First, jobseekers have been finding new jobs at an increasing pace since the end of the early-1990s recession. Second, focusing on the Great Recession, the decline in the job-finding rate has been less severe and less prolonged than in the recession of the 1980s.

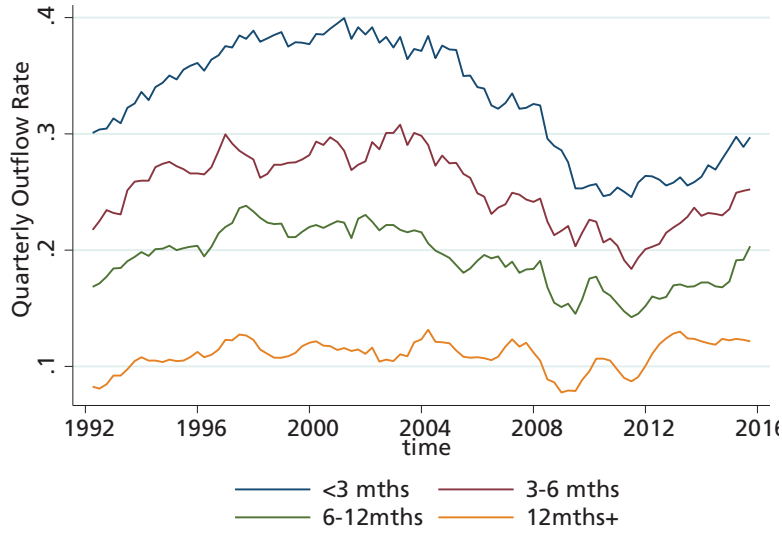
From the perspective of the incidence of LTU, such broad-based improvements in reemployment prospects have the virtue that unemployed individuals are less likely to make it to LTU in the first place, let alone remain there. That is, increased outflows from short-term unemployment alleviate the build-up of long-term unemployment.

Figure 3. Job-finding and job-loss rates in the UK

A. Aggregate inflows and outflows



B. Outflows to employment by unemployment duration



Notes: Authors' calculations using Labour Force Survey data.

Duration dependence

While it is true that overall rates of job finding are a crucial proximate determinant of LTU, a long line of research has also emphasised the importance of targeting the unemployment outflow rates for the long-term unemployed specifically.

The logic is based on the pattern of re-employment propensities by unemployment duration. Figure 3B illustrates the point. It plots the evolution of job-finding rates for four duration classes. A prominent feature of these series is that the long-term unemployed are much less likely than their shorter-term counterparts to find jobs – so-called negative duration dependence. This has raised the possibility that LTU has a self-reinforcing character, whereby longer spells raise the likelihood of yet longer spells, because of scarring of workers, depreciating skills or stigmatisation by employers. [3]

Viewed in this light, Figure 3 again provides two perspectives on why such a chain reaction has expressed itself more mildly in recent years in the UK.

First, the improvement of overall job-finding prospects, noted above, has meant not only that fewer individuals at any point in time are unemployed, but also that fewer individuals stay in the pool long enough to become long-term unemployed.

Second, the Great Recession saw a remarkable narrowing of the relative re-employment propensities by unemployment duration in the UK. For example, job-finding rates fell considerably among the short-term unemployed, but barely changed for those out of work for more than a year. Thus, longer spells were relatively less punitive in terms of re-employment prospects during the Great Recession, weakening any potential self-reinforcing nature of LTU.

3 Of course, an alternative interpretation is that the observed decline in job-finding rates by duration is the outcome of dynamic selection, whereby individuals with high exit-propensities leave the pool quickly, leaving a remainder of jobseekers with low exit-propensities. Under this interpretation, LTU would not have the self-reinforcing property noted in the main text, since the decline in exit rates by duration would be a reflection of heterogeneity and the changing composition of the unemployment pool.

Policy responses

A series of policy reforms in the UK have been informed by these twin, interactive effects of job-finding rates, in the aggregate on the one hand, and among the long-term unemployed on the other. Reflecting these two channels, such policies have aimed at improving, respectively, national re-employment rates, and the relative re-employment rates of the long-term unemployed.

A prominent reform, intended to be in the mould of the first channel, is the introduction of Jobseeker's Allowance (JSA) in October 1996. JSA limited the duration and generosity of unemployment benefits in the UK. Most importantly, however, it implemented stringent job-search requirements for benefit eligibility.

The reasoning behind JSA had its origins in earlier reforms in the second channel – targeted interventions aimed at raising job-finding prospects specifically for the long-term unemployed. These began with 'Restart' in the late 1980s, which emerged as a response to the rise of mass LTU at that time.[4]

Despite the intentions of these reforms however, careful evaluations of their effects have found limited evidence of their effectiveness in stimulating the re-employment rates of jobseekers. In the case of JSA, although it did induce outflows from unemployment benefit claims, these individuals did not flow into employment in the short run, and exhibited poorer longer-term labour market outcomes (Manning 2009, Petrongolo 2009). Similarly, a concern with the Restart program has been that it seemed to divert long-term unemployed individuals from the unemployment count, rather than back into work (Dolton and O'Neill 1996).

So, while both types of policy reform have likely contributed to measured declines in the incidence of LTU, a worry is that the UK still has a problem with long-term joblessness, now manifested in a different form, namely that of long-term sickness. We argue below that this concern has considerable empirical support, and outline further policy responses that have attempted to tackle the issue.

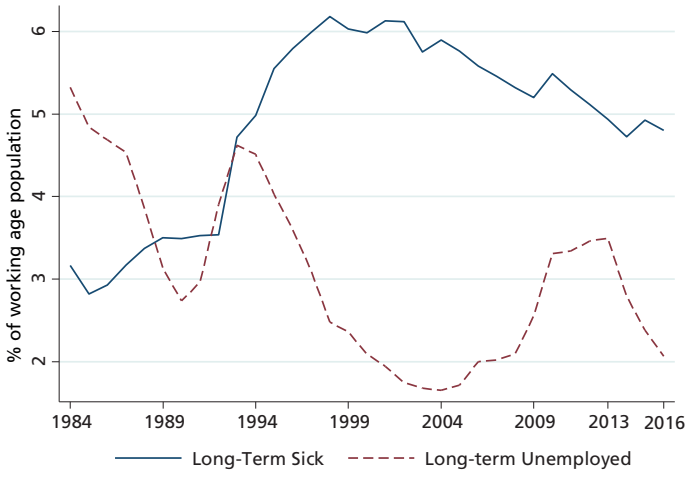
4 The efficacy of back-to-work scheme is typically better in periods of low aggregate unemployment, when resources can be targeted at fewer clients.

Long-term sickness

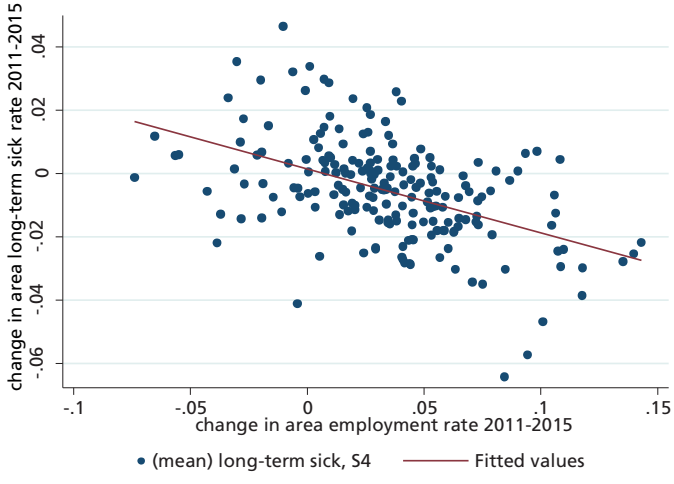
Figure 4 plots the path of LTU incidence over time, now measured as a share of the working-age population, alongside the share of working-age individuals who classify themselves as economically inactive for 12 months or more because of long-term sickness.

Figure 4. A picture of long-term joblessness in the UK

A. Long-term Non-Employment



B. Long-term sickness and employment across areas



Notes: Authors' calculations using Labour Force Survey data.

Beginning in the mid-1980s, as LTU came down, long-term sickness began to rise, and continued to do so until around the year 2000, when policy measures intended to reverse this trend began. By 2015 there were 1.9 million long-term sick according to the Labour Force Survey, twice as many as long-term unemployed (900,000).

This contrast is even starker in the administrative counts of UK welfare recipients. In the last quarter of 2015 there were 1.8 million long-term sickness benefit claims of over one year, and only 200,000 LTU benefit claimants.[5]

Long-term sickness since the year 2003 has fallen back, however, with little sign of cyclicality. So, does this mean the trend is not related to the labour market? In fact, the state of the economy and long-term sickness are very much related. Figure 4B plots the 2011-2015 change in long-term sickness rates in a local area against the change in employment rate in that area over the same period. It is clear that improvements in area employment rates are associated with improvements in the share of long-term sick.[6]

At secular frequencies, then, long-term sickness appears to be a phenomenon closely related to LTU. The incidence of LTU is concentrated on older, less-skilled workers in the UK. Table 1 shows that long-term sickness is now much more prevalent among older workers than LTU. Indeed, the majority of sickness spells are long-term.

Recent incarnations of the 1980s Restart programme have attempted to counter this trend, and may be responsible for the mild decline of long-term sickness since the early 2000s. The New Deal, introduced in the late 1990s, and its most recent successor, the Work Programme, were made open to both unemployment benefit (JSA) claimants and sickness benefit (Employment and Support Allowance, ESA) claimants. Intervention starts at the onset of a claim and intensifies the longer the duration of any claim – nine months for those under 25, 12 months for those 25 and over. Claimants are offered counselling, help with job search and places on a variety of training schemes if no job can be found (DWP 2016).

5 See https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/523860/quarterly-stats-summary-may-2016.pdf and http://tabulation-tool.dwp.gov.uk/100pc/esa/ccdate/ctdurtn/a_carate_r_ccdate_c_ctdurtn.html.

6 A similar pattern emerges if one, instead, uses the area LTU share. No such pattern emerges, however, if one uses early retirements or those who look after the home. Results available on request.

Table 1. Long-term unemployment and long-term sickness in the UK, 2015

	% unemployed	…of which % long-term	% sick	…of which % long-term
Gender				
Women	5	49	5	91
Men	4	55	5	91
Age				
Age 16-24	9	36	2	72
Age 25-49	4	63	4	92
Age 50+	2	59	10	94
Education				
Degree	3	44	1	88
Intermediate	4	43	3	89
Low	6	59	10	93

Notes: Author's calculations using Labour Force Survey data. Columns 1 and 3 are expressed as percentages of population of working-age (16 to 64). 'Intermediate' education corresponds to A levels or equivalent. 'Low' education corresponds to GCSE or equivalent.

Having begun as a state-managed programme, the schemes are now run by private or voluntary sector providers, who have the freedom to introduce and implement their own ideas and schemes to help unemployed participants find work. Providers are paid by results. They receive a 'job outcome' payment after a participant has spent a minimum length of time in employment (either 13 or 26 weeks), and 'sustainment payments' for every four weeks the participant remains in employment thereafter. The harder it is to help an individual into work, the higher the payment the provider receives. Concern remains that providers cherry-pick easier-to-help clients, although studies of this issue are scarce for the UK. The roll-out of the scheme to sickness benefit claimants is also not without controversy. Concerns are often raised that sick and disabled claimants are being deemed fit for work when they are not. The UK is soon to combine all working-age benefits (both out-of- and in-work benefits) into a single 'universal credit' payment. The idea is to ease entry into work – since out-of-work claimants would no longer have

to apply for in-work benefits if they moved into a low-paid job. The extent to which this will change the efficacy of any back-to-work schemes is a matter of interest in the near future.

Conclusions

While each recession brings with it a seemingly inevitable rise in LTU, this is no longer as serious an issue in the UK as it once was. In the latest downturn the rise in unemployment that precedes a build-up of LTU appears to have been muted by real wage cuts. The UK has also had an active interventionist approach to tackling long-term joblessness for more than twenty years. Some aspects of these policies appear to have been successful, but a lingering concern is that they have shifted the issue of long-term joblessness elsewhere. Indeed, long-term joblessness in the UK has increasingly been manifested in long-term sickness claims. While progress on addressing this issue has been made in recent years, it is here that more work needs to be done

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The aftermath of the Great Recession is characterised by an unprecedented rise in long-term unemployment. Almost half of the unemployed in Europe have been looking for a job for more than one year. This represents a fundamental challenge to policymakers. Long-term unemployment causes considerable mental and material stress on those affected and many of these persons may soon find themselves at the margins of the labour market.

This eBook tries to get to the root of the problem. It contains three chapters with an overview of the costs of long-term unemployment and the available policies to fight it, and eight chapters that describe the recent trends in as many European countries.

The great diversity in experiences across countries offers interesting lessons. Overall they indicate that rigid labour market institutions contribute to the rapid build-up of long-term unemployment, while well-designed active labour market policies can help to mitigate the problem. However, many European governments reacted late and there are still many unanswered questions about the best timing and the design of programmes for the long-term unemployed. This eBook is, therefore, also a call on researchers and policymakers. High-quality research should contribute to the design of effective measures and policymakers should step up their efforts to implement these measures and to spur growth.

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