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The Role of Social Protection as an Economic Stabiliser: Lessons from the Current Crisis

Based on a study conducted for the European Parliament under contract IP/A/EMPL/FWC/2008-002/C1/SC3

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POLICY DEPARTMENT A
ECONOMIC AND SCIENTIFIC POLICY

Economic and Monetary Affairs

Employment and Social Affairs

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EMPLOYMENT AND SOCIAL AFFAIRS

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Abstract

Social protection, in particular unemployment benefits, minimum income support and progressive taxation, have significantly contributed to reducing the depth and the duration of the current recession in EU Member States and to stabilising labour markets and consumption. Not only does social protection provide a safety net for those groups which have been hit hardest by the crisis, it has also a stabilising effect on the overall demand for goods and services produced in the economy. Discretionary action in the field of social and labour market policy, pursued in most European economies, included a broad range of measures, such as employment incentives, higher benefits and increased transfers to low-income households. Further action, however, is needed to overcome inequalities in access to social protection faced by non- standard workers, and in designing a suitable exit strategy from discretionary stimulus in order to limit the fiscal constraints generated by anti-crisis policies.

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LIST OF ABBREVIATIONS

ALMP	Active labour market policies
AW	National average wage
EMTR	Effective marginal tax rate
EMU	European Monetary Union
EPL	Employment Protection Legislation
EU(-)10	Countries which became EU Member States in 2004 (Estonia, Latvia, Lithuania, Malta, Poland, Hungary, Czech Republic, Slovakia, Slovenia, Cyprus)
EU(-)15	Countries which were already EU Member States before 2004 (France, Belgium, Luxembourg, Netherlands, Germany, Italy, United Kingdom, Ireland, Denmark, Greece, Spain, Portugal, Austria, Sweden, Finland)
EU(-)27	All current EU Member States (EU-15 and EU-10 plus Bulgaria and Romania)
EUROMOD	Tax-benefit microsimulation model for the European Union
FED	Federal Reserve System (US Central Bank)
FRDB	Fondazione Rodolfo Debenedetti
GDP	Gross domestic product
IMF	International Monetary Fund
ISTAT	Istituto Nazionale di Statistica (Italian Statistical Office)
IWH	Halle Institute of Economic Research
OECD	Organisation for Economic Co-operation and Development
SIC	Social insurance contributions
TAXSIM	Tax microsimulation model for the US
WIFO	Austrian Institute of Economic Research

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EXECUTIVE SUMMARY

The stabilising effect of social protection

Both automatic and discretionary measures can stabilise the economy and thereby contribute to mitigating the societal consequences of a recession. Expenditure on social protection can actually be expected to have a larger stabilising effect than the average of total government expenditure. Empirical evidence gathered in this study can show that this was and still is the case, also with respect to the recent global economic crisis. 'Firm policy interventions and automatic stabilisers embedded in European welfare states have limited the economic and social impact of the worst recession in decades', as the 2010 Joint Report on Social Protection and Social Inclusion rightly states. This study indicates that GDP, employment and unemployment were positively affected by stabilisation measures. At the same time, it finds large variation between EU Member States in their actual use of automatic stabilisers and discretionary fiscal stimuli with respect to social policy purposes.

Social protection systems as automatic stabilisers

The tax and transfer system determines the way in which a given unemployment or income shock to gross income translates into a change in households' disposable income. The impact of automatic stabilisation on individuals and the economy can be simulated based on a model incorporating unemployment benefits, social insurance contributions and progressive income taxes. Our evidence shows that social protection has significantly contributed to reducing the depth and duration of the recent recession and stabilising labour markets and consumption in EU Member States. Not only does social protection provide a safety net for those groups which have been hit hardest by the crisis, it also has a stabilising effect on the overall demand for goods and services produced in the economy.

Due to the more progressive tax system and the more elaborated welfare state, the extent of automatic stabilisation in the EU is significantly larger than in the US. While the tax system stabilises disposable income most after an income shock, automatic stabilisation through unemployment benefits is most important when unemployment rises. However, there are marked differences in the extent of automatic stabilisation across EU Member States. In the case of an income shock, stabilisation is strongest in Denmark, where automatic stabilisers cushion 56 per cent of the shock. Belgium, Germany and Hungary also have strong automatic stabilisers. The lowest values are found for Estonia, Spain and Greece. Regarding an unemployment shock, the stabilisation effect is largest in Denmark, Sweden, Germany, Belgium and Luxembourg, reaching about 60 per cent and more. Scandinavian and Continental European countries have significantly larger mechanisms of automatic stabilisation than Southern and Central European countries.

In most EU Member States, social protection against unemployment is based on two pillars: unemployment insurance and minimum income support. While means-tested income support is generally available as a basic social security net in most EU Member States, unemployment insurance systems are more exclusive, as they do not equally protect every type of workers. The extent of unemployment risks and the 'quality' of social protection provided to different socio-economic groups do not coincide, so those most affected are often the least protected.

Discretionary action

Discretionary action in the field of social and labour market policy has been pursued in most EU Member States. Strong multipliers can be expected with social transfers targeted towards households which have high propensities to consume. This qualifies social policy in the form of transfers to the social groups affected as an effective instrument of discretionary fiscal action.

The first phase of discretionary anti-crisis interventions was characterised by a number of reforms strengthening the current unemployment insurance benefit system in place, in particular by easing access or improving benefit generosity for non-standard workers who had been made redundant. A number of countries have also expanded public measures encouraging working-time flexibility, in particular short-time work schemes, to prevent dismissals. Furthermore, activation policies aimed at labour market (re)integration were reinforced. In particular, most countries have emphasised job placement and publicly funded training within the framework of active labour market policies. In addition, tax cuts for low income groups and families, as well as cuts in social security contributions, generally accounted for a large share of overall social policy stimulus packages.

When the crisis spread across the continent, European governments responded with discretionary policy to a varying extent, reaching about 1.3 per cent of GDP on average, but up to more than 2 per cent in Finland, Spain, the Czech Republic and Sweden. Social policy played an important role in almost every national stimulus package and, on average, represented about two thirds of discretionary measures.

Macroeconomic simulations show that, with a certain time lag, discretionary social policy action has a stabilising effect on GDP, basically mirroring the size of the stimulus. Discretionary social policy measures implemented in response to the crisis accounted for 1.07 per cent of GDP in 2008 for the years 2009 and 2010 (euro area). The cumulated multiplier for these discretionary expenditures amounts to 0.85: every euro directed to discretionary social policy measures in the wake of the crisis resulted in an additional 85 cents GDP. Countries which implemented significant measures have grown faster. A coordinated policy in the EU has larger effects than single Member State action because economic integration allows for substantial spill-over effects between countries. Due to the comparatively smaller weight that foreign trade has on the domestic economy in large countries, they benefit less than smaller states from fiscal stimuli implemented in neighbouring countries. Accordingly, the cumulated multiplier is smaller in major European economies and larger for small countries.

Benefits from a discretionary social policy stance are equally observable on labour markets. Employment rises significantly and unemployment declines. According to our estimations, the social policy stimulus packages in 20 EU Member States created 330,000 new jobs (in full-time equivalents) at the peak of their effect. A positive impact which these simulations do not reflect is the reduction of uncertainty on an economy-wide level induced by discretionary social policy. Well-targeted discretionary measures help to insure households against income or wealth losses, thus diminishing their uncertainty, stabilising their expectations and smoothing their consumption behaviour.

The right timing

Discretionary measures work best when timely, temporary and targeted. While automatic stabilisers set in immediately, discretionary policy has to be timely, which means it has to be designed and initiated as soon as the economic downturn appears. When the policy is enacted too slowly, it risks acting not as an anti-cyclical stabiliser but as a pro-cyclical enhancer. The most important advantage of automatic stabilisers is their automatic response, implying comparatively small time lags between the decline in economic activity and immediate effects on household disposable income. The disadvantage of discretionary fiscal measures is generally seen in time lags concerning the diagnosis of the problem, the decision making process and the implementation of the measures. An additional shortcoming of discretionary measures is that they are not automatically reversed when the economic situation improves, giving rise to a potential deficit bias.

Empirical evidence from historical comparisons indicates that recessions following a financial crisis have more severe effects on output and employment than recessions which have their origin in other economic adversities. Hence, a fiscal stimulus has ample time to yield a beneficial impact despite implementation lags. Although comparisons of different crises across time and place have to be interpreted with caution, fiscal policies are generally associated with the positive effects on the length and depth of financial crises.

Discretionary policy experiences two lags: first, a lag which captures the time between the implementation of policy and its results. This lag is not very large if the policy is correctly targeted. The second lag represents the political process of identifying the economic problem and formulating a response. The duration of this lag is unpredictable as it depends not only on economic facts but also on political considerations. It is essential that discretionary measures are lasting and contingent in order to assure consumers that they will not face a sudden loss of income. Lasting in this case means the measures need to last as long as the recession; contingent means that it must also be possible to extend or expand them. However, measures must also expire at some point to allay fears about long-term fiscal stability. Taking into account empirical evidence about agenda-setting, decision making and implementation, it seems safe to state that in general, European stimulus has been enacted timely to act as a stabiliser against the crisis.

Case studies show that several countries prolonged the lifespan of some measures beyond the limit that was first set. Even so, it is important to note that most measures were initiated with time limits or budgetary limits in place, guaranteeing their temporary nature, as prolonging them could only be done by making a new discretionary decision.

Discretionary measures related to objective parameters or existing automatic stabilisers tend to be easier to implement and show smaller time lags than fully discretionary measures, as stimulus related to automatic stabilisers is easy to maintain but also easy to phase out. Projects of a continued nature, such as education and ensuring employability, initiated by stimulus measures, may prove more difficult to end as policy-makers may fear the loss of systems considered valuable for society.

Fiscal constraints

The study finds that both high budget deficits and debt levels before the start of the crisis had significantly negative effects on the size of discretionary measures taken during the crisis. At least some governments were constrained in their decision making because of weak financial positions. Empirical research has shown that the relationship between government debt and real GDP growth is weak for debt/GDP ratios below a threshold of 90 per cent of GDP, but that growth rates fall substantially if government debt is above this threshold.

Taking into account that fiscal balances and debt levels have dramatically worsened in almost all advanced economies due to the economic crisis, the exertion taken in the last crisis is not repeatable in the near future. Debt levels are projected to remain on a high level and it will take a long time until pre-crisis levels are reached. Recent projections manifest that the aim of achieving sustainable public finances will be a long-term task, which will require fiscal discipline in the upcoming years.

A challenge for governments in Europe is to find the optimal consolidation path, i.e. to reach consensus about fiscal austerity. As each country starts from a different initial position in terms of debt and deficit levels and the state of the economy in general, each country should implement the policy which best fits its own conditions. Fiscal consolidation will be necessary when economic conditions start to improve. Projections indicate that lowering the gross general government debt-to-GDP ratio back to 60 per cent by 2030 in advanced economies would require improving the cyclically adjusted primary balance by 8.7 percentage points of GDP from 2010 to 2020. Steady but gradual consolidation may be the strategy that has the lowest cost in terms of lost output, as higher debts result in higher real interest rates. Recent policy measures indicate that this is indeed the strategy which European governments intend to follow.

Inequality in access to social protection

There has been a dual-track or two-tier reform strategy in Europe during the last 30 years. These reforms in most cases have not changed - and may have even tightened – the rules governing regular or open-ended contracts. Instead, reforms were carried out primarily by only changing the rules for new hires, introducing a wide array of flexible, fixed-term types of contracts or expanding the scope of existing temporary contracts. These asymmetric reforms caused a dramatic increase in the use of fixed-term work, which did not exist in most EU Member States only two decades ago.

The share of temporary contracts steadily increased before the recession in countries with stricter employment protection. Temporary contracts are overrepresented among young (those aged less than 35) and less educated workers (primary level). Temporary workers, in particular the young, experienced the majority of recession-related job losses, and hence this share has been falling in the recession. Four countries (Portugal, Spain, Italy and France) experienced an increase in the share of temporary workers who declare that the temporary contract was the only kind of contract at their disposal, regardless the nature of the job. Empirical evidence suggests that younger people are much less covered by social protection than older workers, both in less dualised EU Member States (e.g. Austria, Belgium, Denmark, Germany, Finland, Ireland and the United Kingdom) and more dualised countries such as France, Greece, Italy, Portugal, Spain and Sweden. In the most dualised countries, the difference between the share of young and middle-aged covered is very high. This suggests that younger benefit recipients, who more often have temporary jobs, are the most exposed to unemployment-related poverty.

Policy recommendations

Taking fiscal constraints seriously

While automatic and discretionary measures can effectively stabilise the economy and society, one has also to be aware of the fiscal constraints generated by stabilisation efforts which may have negative repercussions for economic and labour market dynamics in the future. Hence, one important issue is to find a plausible and timely exit strategy from anti-cyclical stabilisation policies. This is not only of relevance for discretionary action but also for the further development of automatic stabilisers. Public spending has to be contained, and at the same time, policies should be focused on measures which deliver medium and long-term benefits to the economy and society.

The need for structural adjustments of welfare state expenditure can be seen as a consequence of the crisis. If the crisis brings about a lower long-term growth path, this in itself is a cause for fiscal adjustment. These long-term effects as well as the budgetary strain caused by automatic stabilisation, which had a quantitatively higher impact than discretionary stabilisation, represent the crucial factors with respect to fiscal constraints.

The future role of automatic stabilisers

The study argues that automatic stabilisers inherent in unemployment and minimum income support schemes, but also short-time work allowances and progressive income taxation, can work without a significant time lag and also lead to timely phase out when the economy and the labour market recover. Unemployment benefits work as automatic stabilisers and can therefore act as major elements of stabilisation in the future as well. The same holds in particular for public short-time work subsidies which help stabilise employment and a trained workforce and thereby facilitate a dynamic economic development after crises.

Hence, automatic stabilisers are of particular importance and should be developed in EU Member States, not in a uniform way, but taking into account the specific national economic and institutional context.

Therefore, the European Parliament should, in collaboration with other actors at the European level, help establish a proper system of automatic stabilisers amongst EU Member States that reduces the need for further discretionary action and avoids time lags inevitable in the case of discretionary fiscal stimuli.

Strengthening social protection

Furthermore, policy-makers should now prepare social protection schemes for the future and overcome present inequality in social security. It is particularly important to ensure that non-standard workers, those with fixed-term contracts or only a short employment record, in particular young people and other labour market entrants, have access to sufficient social protection so that social exclusion is prevented.

One element is the creation of general minimum income schemes for all working-age people. This should, of course, be based on a careful assessment regarding the appropriate benefit level and not lead to work disincentives. In order to avoid long-term benefit dependency through exclusion from work, proper activation measures have to be put in place, including job search assistance and training. Minimum wages – set at an adequate level taking into account national circumstances - can have an important indirect effect by making paid work more attractive relative to out-of-work benefits and thus help avoid poverty traps. In addition, statutory minimum wages can be seen as a complement to in-work benefits and as an integral part of social protection systems comprising minimum income schemes. However, minimum wages have to be set carefully in order not to raise barriers against labour market entry of low skilled people or long-term unemployed.

Therefore, the European Parliament should ask EU Member States to examine whether and how access to unemployment insurance benefits can be made more general, in particular by assessing the role minimum employment or contribution conditions play in the case of young people, other labour market entrants and, in general, people on non-standard contracts. Some EU Member States have already moved in this direction. They should refrain from making unemployment benefits more exclusive again in the imminent phase of fiscal austerity but try to develop a sustainable and fair system of social protection.

Implication for incentives and costs

All social benefits, including short-time work schemes, have cost implications in terms of taxes and social insurance contributions. They also raise incentive issues which have to be discussed carefully. Automatic stabilisation is a positive feature of the welfare state, but there is a risk of prolonged passive support if not combined with activation and effective active labour market policies.

The European Parliament should promote unemployment benefits, as well as a reliance on short-time work schemes in EU Member States, that help prepare workers for accelerated economic restructuring by raising employability. Hence, phases of unemployment or short-time work should effectively be devoted to further labour market-related training.

The role of discretionary action: A more rule-based approach

Discretionary action has its role to play, too, although there is always some delay in decision making and implementation. Discretionary action should be well-targeted and timely, but also temporary. Hence, there is a need for a clear exit strategy in order to avoid the risk of ineffective spending of public resources through prolonged subsidisation and eventually pro-cyclical impacts. Discretionary policy measures should only be adopted with clear time and budget limits. Growing fiscal constraints will otherwise hamper the capacity of governments to counter future economic uncertainties.

As temporary measures quite often tend to be prolonged, it is important that policy-makers assess the need for discretionary measures carefully and regularly check the justification for their existence. A more rule-driven, quasi-'automatic' approach to discretionary action could be helpful in this respect, i.e. by referring to objective indicators when deciding on the introduction or maintenance of fiscal stimuli, in particular temporary social measures. A rule-based approach to discretionary spending could refer to the development of (non-subsidised) employment, unemployment rates or to GDP – both current and forecast data.

The European Parliament should favour a coordinated approach to fiscal stimuli, also in the social policy realm, that has proven to be more effective than isolated national steps. Hence, there is need for better coordination and collaboration for the future.

National responsibilities and the role of the European Union

Most of the responsibilities for the design and the implementation of automatic and discretionary stabilisation still lie within the EU Member States. However, there is a role for the European level, in particular for the European Parliament, to call on Member States to make sure proper benefit systems are in place which do not exclude vulnerable groups. Moreover, the European Parliament should ask Member States to implement viable automatic stabilisers, e.g. by setting some minimum requirements, and introducing more 'automatic' discretionary measures. In addition, the European Parliament should promote a better coordination of discretionary anti-crisis measures, probably based on joint assessment of core economic indicators from which proper discretionary action is derived.

1. SOCIAL PROTECTION AS ECONOMIC STABILISER – WHAT DO WE KNOW?

KEY FINDINGS

- Social protection and social policy, in particular unemployment benefits, minimum income support and progressive taxation, have significantly contributed to reducing the depth and the duration of the recession and stabilising labour markets and consumption. Not only does social protection provide a safety net for those groups which have been hit hardest by the crisis, it has also a stabilising effect on the overall demand for goods and services produced in the economy.
- The social protection system has acted as an automatic stabiliser on both the revenue side as well as the expenditure side of general government budgets and the social security system in particular.
- Discretionary action in the field of social and labour market policy has been pursued in most European economies. This includes a broad range of measures, such as employment incentives, higher benefits and increased transfers to low-income households. Strong multipliers can be expected with social transfers targeted towards households which are liquidity constrained and have high propensities to consume. This qualifies social policy in the form of transfers to the social groups affected as an effective instrument of discretionary fiscal action.
- The most important advantage of automatic stabilisers is their automatic response, implying comparatively small time lags between the decline in GDP and immediate effects on disposable income. The disadvantage of discretionary fiscal measures is generally seen in time lags concerning the diagnosis of the problem, the decision-making process and the implementation of the measures. An additional shortcoming of discretionary measures is that they are not automatically reversed when the economic situation improves, giving rise to a potential deficit bias.
- Empirical evidence from historical comparisons indicates that recessions after a financial crisis have more severe effects on output and employment than recessions which have their origin in other economic adversities. Hence, a fiscal stimulus has ample time to yield a beneficial impact despite implementation lags. Although comparisons of different crises across time and place have to be interpreted with caution, fiscal policies are generally associated with positive effects on the length and depth of financial crises.
- Economic stabilisation through social protection, however, is closely linked to issues of timeliness and financial sustainability, which are of paramount importance for a successful management of the post-crisis period.

1.1. Introduction

In 2008, the global economy was hit by a major negative shock on aggregate demand originating from a deep financial crisis. Although coordinated efforts of monetary and fiscal policy in the course of 2009 resulted in a stabilisation of production in the industrialised economies, the economic situation remains fragile: financial markets are nervous, growth rates of GDP remain weak, unemployment is at record levels and the extended loss of confidence has yet to be overcome.

In 2009, worldwide output fell by 0.9 per cent, with a drop by 2.4 per cent in the United States, 5.2 per cent in Japan and 4.2 per cent in the EU.[1] It is beyond dispute that both the magnitude of this economic contraction and of its effects on labour markets, disposable household incomes and private consumption have been attenuated considerably by the work of automatic and discretionary stabilisation. In fact, both the extent and the duration of the recession and the stabilisation of labour markets and consumption have been due to the important contributions from social protection and social policy. This has occurred through two channels:

- Firstly, the social protection system has been acting as an automatic stabiliser on both the revenue side as well as the expenditure side of the general government budget and the social security system in particular.
- Secondly, discretionary action in the field of social and labour market policy has been pursued in most European economies. This includes a broad range of measures such as employment incentives, higher benefits and increased transfers to low-income households.

Economic stabilisation is a topic characterised by high policy relevance and a long research tradition. To date, however, we possess only a limited knowledge on the importance of social spending and social protection for stabilisation in times of recession. The vast majority of studies on automatic and discretionary stabilisation focus on taxes, transfers and fiscal stimulus in general, without identifying the specific role played by social spending and the social protection system. This lack of knowledge is particularly detrimental within the European context, as comprehensive welfare systems and strongly institutionalised forms of industrial relations represent a distinctive feature with respect to other economically developed areas of the world (Grahl, J. and Teague, P.).

The present report aims to shed light on the role played by social policies and the social protection system in the context of the current crisis. This is of importance in several respects: not only does social protection provide a safety net for those groups which have been hit hardest by the crisis, it has also a stabilising effect on the overall demand for goods and services produced in the economy. Moreover, stabilisation through social protection is an issue with high relevance for future developments: this concerns, for instance, the effects of stabilisation on public finances as well as possible trade-offs between stabilisation and delayed structural adjustments.

This first section sets the stage for further analysis by providing a review of theoretical and empirical knowledge on the mechanisms through which social protection can act as economic stabiliser in times of economic downturn.

[1] Data from the European Commission's Spring 2010 Economic Forecast.

1.2. Economic stabilisation: General considerations

Economic stabilisation is primarily associated with the ability of taxes and transfers to stabilise income, and consequently consumption, automatically in the face of economic downturns. The stabilising character of the tax and transfer system relies on a simple mechanism: in the presence of a negative shock to income, taxes net of transfers should react more than proportionately, so that disposable income is affected less than proportionally by the downturn. Several components of government budgets are impacted by the macroeconomic situation in ways that operate to smooth the business cycle, with unemployment benefits being the most prominent example. Automatic stabilisation might have effects not only on disposable income but also on GDP itself. If in a recession fewer taxes are collected and more transfers are paid, this should support private incomes and damp adverse movements in aggregate demand. We can expect this stabilising property to be stronger if the tax system is more progressive (van den Noord, P.). From a theoretical viewpoint, it could be argued that private households can stabilise consumption by adjusting their savings and dissavings on an intertemporal basis. Automatic stabilisation can, however, be justified on the ground that the government faces fewer liquidity constraints and a lower risk premium than the private sector and therefore is likely to be more efficient at consumption smoothing through cyclical downturns than households are. According to the IMF, a consequence of the crisis is that private consumption growth in advanced economies will remain sluggish for years to come (IMF, 2009a).

The most important advantage of automatic stabilisers is their automatic response, implying comparatively small time lags between the decline in GDP and immediate effects on disposable income. The disadvantage of discretionary fiscal measures is generally seen in time lags concerning the diagnosis of the problem, the decision-making process and the implementation of the measures. An additional shortcoming of discretionary measures is that they are not automatically reversed when the economic situation improves, giving rise to a potential deficit bias (Baunsgaard, T. and Symansky, S.A.). The advantages of fiscal stimuli concern the volume of activities and the higher public awareness of policy activities that could help to stabilise expectations. Counter-cyclical fiscal policy became a central tool for macroeconomic policy in the aftermath of the Great Depression and of the Keynesian revolution and maintained a prominent position in economic policy as well as in the academic discourse in the 1960s and 1970s. In the following decades, fiscal policy as a counter-cyclical tool fell out of favour, particularly in the academic world. The reputation of discretionary fiscal measures was tarnished because of several reasons, not least the view that these measures are constrained by political agendas and particularistic interests.[2] The rejection of discretionary fiscal policy was strong in the economic profession, whereas fiscal stimulus measures were generally still accepted and implemented by policy-makers in the face of (severe) shocks (Blanchard, O. et al.).

Governments across the world made intensive use of fiscal policy to combat the economic crisis which began in 2008. One reason for the heavy reliance on counter-cyclical fiscal policies for crisis management can be found in the rapid exhaustion of alternative policy tools: after a long period characterised by stable inflation and low interest rates, most countries had little room left for effective monetary policy. The intensive use of fiscal policies is, however, also connected to the depth of the crisis and to the challenge it represented with respect to stabilisation. From the onset of the crisis, it became clear that the economic slump would be markedly deeper than in usual cyclical downturns and that its effects on unemployment rates would be long lasting.

2 This process was accompanied by the rise of monetarism as a dominant theory in mainstream economics. According to prominent monetarists like Milton Friedman, policy-makers should refrain from influencing the economy using discretionary, demand-side policies. The popularity of monetarist views increased partly due to the inability of Keynesian economics to solve the problems of rising unemployment and inflation in the 1970s.

Empirical evidence indicates that recessions after a financial crisis have more severe effects on output and employment than recessions which have their origin in other economic adversities (Reinhart, C.M. and Rogoff, K.S., 2008). Against this backdrop, 'it was clear that fiscal stimulus would have ample time to yield a beneficial impact despite implementation lags' (Blanchard, O. et al.). Although comparisons of different crises across time and place have to be interpreted with caution, fiscal policies are generally associated with positive effects on the length and depth of financial crises. Baldacci, E. et al. study the impact of different stimulus measures on the duration of banking crises in the last three decades. They find that discretionary government consumption (such as higher transfers) has a greater ability to shorten a banking crisis than government investment; whereas stimulus packages focused on investment show the largest positive effect on output in the medium-term. This suggests that optimal fiscal stimulus can be achieved through a careful mix of measures with immediate demand effects and with positive medium-term growth effects.

The case for a strong public intervention to stabilise the economy is corroborated by comparisons between the present crisis and its best known historical antecedents, i.e. the Great Depression in the United States and Japan's lost decade in the 1990s. Studies which explore the general role of fiscal stimulus in both the Great Depression and Japan's lost decade stress the importance of prolonged and aggressive intervention (see Spilimbergo, A. et al., 2008; Fatás, A. and Mihov, I., 2009; Aiginger, K.). The present crisis was characterised by a decline in manufacturing, trade and stock markets on a comparable scale with the Great Depression. A major difference lies in the duration of the two episodes, as in the Great Depression, production and trade fell over a long period of time, with bank failures happening in different waves over years (Aiginger, K.). Employment, unemployment and GDP all had a less favourable development in the wake of the Great Depression than they have so far had in the current crisis. This can be linked to the restrictive fiscal policy stance during the first years of the depression, when the US government tried to keep budgets balanced and counteract the automatic stabilisers by increasing tariffs and taxes and by cutting expenditure. The view that the economy would recover on its own had fatal and long-lasting consequences. In 1937, contractionary effects as a consequence of the attempt to balance the budget led to another relatively severe recession (Romer, C.D.). Also in the case of Japan, the long crisis duration can be associated with restrictive fiscal policies, as a new downturn 'was initiated by a larger-than expected fall in household spending after the April 1997 tax hike and cuts in public investment' (Spilimbergo, A. et al., 2008: 24). (Fatás A. and Mihov, I., 2009: 68) come to the conclusion that the Japanese experience 'offers evidence of what happens in a post-bubble economy with a struggling financial sector if policy interventions are not aggressive: debt still increases and possibly by much more than if a fiscal stimulus is introduced.'

Research on past economic crises deals with economic stabilisation focusing on indicators such as aggregate demand or measures for financial sector stability. Policy responses and the extent of automatic stabilisation are measured through total government budgets or single items such as tax revenues, public consumption and public investment. There exists some anecdotal evidence for the stabilising effects of social protection measures. Aiginger, K. for instance reports that work relief programmes undertaken by the US government in the 1930s, where unemployed were hired for low wages, lowered the unemployment rate significantly at that time. In 1935, the unemployment rate stood at 14.2 per cent, whereas it would have been 20.1 per cent if the relief programme workers had been included. The specific role and contribution of social expenditure and of the social protection system for economic stabilisation has, however, not been singled out in analytical terms. This lack of evidence can largely be linked to the difficulty and high data requirements necessary for isolating the effects of single institutional aspects and government interventions on aggregate measures for output, employment and consumption.

Comparisons between the present situation and past crisis situations are complicated by the uniqueness of the modern European social protection systems. The magnitude of social spending in the EU, with a share of 25 per cent of GDP, implies a much larger automatic response to the crisis than during the Great Depression. Even during Japan's lost decade, social spending played a comparatively minor role, with a share of public social expenditure on GDP of 11.2 per cent in 1990. In the present crisis, the extent of automatic stabilisation provided by the social protection system has been magnified by a wide array of discretionary measures targeted at low-income groups and households hit by unemployment (see chapter 2 for more details).

Although difficult to verify in empirical terms, the positive effects of social protection policies and institutions in the face of a crisis need not to be confined to the stabilisation of employment and disposable income. A major function of the social protection system is its stabilising effect on expectations (Tichy, G.). While stabilising effects on income and employment are of great importance to smooth cyclical economic fluctuations, the general effect of reducing uncertainty arguably carries a particularly large weight for consumption stabilisation in the context of a severe and potentially prolonged crisis. The fact that the social protection system reduces uncertainty on a personal as well as on an economy-wide level stems from a simple logic. Confronted with the perspective of unemployment or uncertainty about future income, households will refrain from spending even if their disposable income has not been immediately affected. As a matter of fact, savings rates increased in the wake of the crisis.[3] Higher private saving rates are to be expected in the coming years in those countries which experienced a surge of household debt before the crisis. The effects of the crisis on consumption have, however, been more moderate than expected given the severity of the downturn. In 2009, private consumption fell by 1.8 per cent in the EU and 0.8 per cent in the euro area. Newly released data indicate that in the US the decline in private consumption was even less pronounced in 2009 (-0.6 per cent, after -0.2 per cent in 2008). The automatic responses of the social protection system, as well as ad hoc measures implemented during the crisis, had a positive impact on present and future income perspectives of the population. We can thus assume that they dampened the spread of insecurity and contributed decisively to strengthen anti-cyclical behaviour on the part of private households.

The large increase in unemployment furthermore demonstrates that deep economic downturns affect households very asymmetrically. Job loss leads to a sharp decline in income for the unemployed and their families, at the same time other social groups are affected only marginally through stagnating real wages. The challenge for social policy which results from these asymmetric effects of the crisis is further enhanced by the presence of in-work poverty. As the OECD highlights in its 2009 *Employment Outlook*, even before the crisis, poverty rates in the working-age population were sizeable.[4] Although employment represents an important avenue out of poverty, 'on average 7 per cent of individuals living in households with at least one worker are poor in the OECD area' (OECD, 2009c: 167). According to these data, the working poor account for more than 60 per cent of all the poor of working age. In some countries, including the EU Member States Greece and Portugal, this proportion increases to 80 per cent (OECD, 2009c: 167; data refer to mid-2000s). This issue is becoming increasingly important in connection with the crisis as the risk of poverty will be acerbated not only for those who lose their job, but also for those who will work fewer hours.

[3] In the EU, the share of households' gross savings on available income rose from 11.0 % in 2008 to 13.4 % in 2009; in the United States the savings rate went from 2.7 % in 2008 to 4.2 % in 2009 (data from Eurostat and Bureau of Economic Analysis, WIFO calculations).

[4] The average for the OECD area lies at 10 %, with particularly high rates in Mexico, Poland, Turkey and the United States, and low rates in the four Nordic countries (Norway, Denmark, Finland, Sweden), Austria, the Czech Republic and France.

For most of the working poor, underemployment represents the major problem, as data for 21 European countries indicate that only slightly more than 20 per cent of the working poor work full-time, all-year round (OECD, 2009c). In the case of families with children, low-income workers might be unable to secure economic self-sufficiency even if they hold a full-time job. The OECD therefore recommends that governments put in place a solid safety net for those individuals with weak employment prospects. In this respect, social protection has not only a stabilising function in the short-term but can also make a positive contribution to future economic development. Children are confronted with more than proportional poverty risks and with detrimental effects of poverty on their development.[5] Numerous studies highlight that incomes tend to persist across generations and that children largely 'inherit' their parents' socio-economic status (d'Addio, A.C.). Parental poverty is associated with lower levels of good health, nutrition and housing, affecting child development and the risk of poverty in adulthood. Institutional arrangements and measures that address poverty and social exclusion are necessary to secure adequate life chances to children that are confronted with poverty. In economic terms, transfers addressing the socially needy, as well as in-kind benefits such as low-priced, high-quality childcare and education, can thus be regarded as long-term, stabilising investments in human capital and as a way to reduce the intergenerational transmission of inequality.

1.3. Social protection as automatic stabiliser in the cycle

Earlier macroeconomic studies on automatic stabilisers focused mainly on taxes and regarded unemployment benefits as the only government social spending item with stabilising properties. This view has been questioned on several grounds. Firstly, there are good theoretical and empirical reasons to think that unemployment compensation is not the only social expenditure which reacts to the cycle and has a stabilising effect on income and consumption. In the second place, there is evidence that social spending may actually have a larger stabilising effect than the average of total government expenditure.

Darby, J. and Melitz, J. argue that besides unemployment benefits, expenditures on health, retirement, incapacity and sick pay also increase in times of economic downturn. The counter-cyclical movement of spending on old age can be comprehended intuitively, as 'strong forces act to lower the average age of retirement in recessions, thereby causing the numbers of retirees to exceed the long-term trend, and to raise the average age of retirement in expansions, thereby causing the number of retirees to fall below trend' (*ibidem*: 719). Empirical evidence for this statement comes from Darby, J. et al., who report a significant impact of the cycle on labour participation rates for both sexes, especially in the over 54 age-group in France, Japan, Sweden and the US. The counter-cyclical component of retirement decisions and of social spending on old age is well documented in a number of other studies, too. Coile, C. and Levine, P. show that downturns influence retirement decisions in the US, to the extent that an increase in the unemployment rate of 3 percentage points raises the retirement hazard for workers aged 55-69 by 5 to 10 per cent. This phenomenon is not driven by labour supply decisions only, firms in many Western countries have a strong incentive to encourage early retirement and to lay off older workers during recessions on the basis of the structure of payroll taxes, contributions to health insurance and social security systems (see Hutchens, R.). Hakola, T. and Uusitalo, R. confirm the importance of firm behaviour in contributing to counter-cyclical movements in retirement with an analysis based on Finnish data.

[5] According to EUROSTAT data in 2008, 17 % of the population in the EU-27 were at risk of poverty. In 20 of the 27 Member States, child at-risk-of-poverty rates were higher than for the total population, averaging 20 % in the EU-27.

A similar line of reasoning also applies to incapacity benefits. Arguably, health and disability do not represent dichotomous states and do to a certain extent respond to economic incentives. Marginal workers with health problems may face a choice between declaring incapacity or unemployment, depending on types of available benefits and on overall employment perspectives. Accordingly, more workers can be expected to report incapacitated in times of economic downturn. Black, D. et al. investigate the impact of economic growth on disability programme participation and find that permanent job destruction has a sizeable effect on disability programme use. A review of the literature suggests that labour market variables go some way to explain both the growth over time and the regional distribution of disability benefit recipients (McVicar, D.).

The case with respect to sick-pay benefits and to general health expenditure is less clear-cut. There is abundant evidence for the existence of a pro-cyclical pattern of sick leave, covering a broad range of countries (see, for instance, Kenyon, P. and Dawkins, P.; Fahr, R. and Frick, B.).[6] More in general, studies indicate that the working populations' health status is counter cyclical and worsens during booms. In spite of this, it has been argued that public health spending might deviate from this pattern, as it is related to health care (Darby, J. and Melitz, J.). According to this hypothesis, even if people are healthier on average in recessions, they might consume more health care. In fact, much health care can be postponed and individuals might be induced to consume more of it when they have more leisure time and face lower opportunity costs (particularly in cases where health care is covered by health insurance).

In spite of some conflicting theoretical expectations with respect to the stabilising effects of specific social spending items, recent empirical evidence indicates that government spending in social areas has on average a more stabilising effect than total government spending as a whole. Furceri, D. finds that total social spending is able to absorb about 16 per cent of shocks to GDP in OECD countries. This result is robust to different specifications, with estimations ranging between 12 and 23 per cent. Afonso, A. and Furceri, D. analyse the period from 1980 to 2005 and find that both for EU-15 and EMU countries, social benefits provide the largest amount of consumption stabilisation of all fiscal variables. In accordance with the consensus expressed in the economic literature, the component of government spending that reacts most to the economic cycle is unemployment benefits. According to Furceri, D., unemployment benefits provide a smoothing to income fluctuations of about 5 per cent. Roughly the same amount of stabilisation can, however, also be attributed to spending on old age. Regarding the other components it is mainly spending devoted to active labour market policies and spending related to incapacity, health and family which contributes to smooth income fluctuations (Furceri, D.).

Recent evidence provided by the OECD sheds light on specific aspects of the reaction of spending on unemployment to cyclical fluctuations (see OECD, 2009c). Overall expenditure on unemployment is highly counter-cyclical. Significant differences between passive and active measures can be observed, especially as to the proportionality with which spending reacts to changes in the absolute number of unemployed. Estimates based on the historically typical reaction of spending indicate that in the OECD countries per person resources for labour market policies do not rise in proportion to the increase in unemployment (OECD, 2009c, 2010b). This finding is driven by a sharp decline in per person resources for active measures. As we would expect, unemployment benefits move proportionally with the number of unemployed. This implies that during a recession public employment services are confronted with significant constraints in assisting unemployed people and that they have to ration active measures.

[6] This is consistent with the hypothesis that in times of rising unemployment workers will be particularly loath to report sick, as unemployment may act as "worker discipline device" (Shapiro, C. and Stiglitz, J.E.).

This finding can be linked to the difficulty to adjust active labour market policies quickly in the face of a downturn. Spending on unemployment is less responsive to cyclical unemployment than to trend developments in the unemployment rate. With respect to activating measures, such as training or job search assistance, capacity constraints may be an important barrier to rapid expansion of service offerings. Looking at the cyclicality of more detailed programme categories the OECD finds that expenditures on training have been totally unresponsive to cyclical unemployment, whereas they represent the category of active measures that has been most responsive to changes in trend unemployment. Conversely, direct job-creation schemes display the opposite pattern, i.e. a strong correlation with cyclical unemployment and none with trend unemployment (OECD, 2009c).

The ability of the state to smooth income shocks through social expenditure is equally present in economic downturns and upswings. Furceri, D. finds that unemployment benefits, as well as spending on old age, lead to a bigger income smoothing effect in downturns, however this difference is of a small magnitude and low statistical significance. On a similar note, Darby, J. and Melitz, J. do not find any remarkable difference in the stabilisation effect of social spending between boom and bust periods. What determines the effectiveness of automatic stabilisers? Furceri, D. comes to the conclusion that the size of the deficit has a little or negligible effect on the efficiency of social spending in providing income smoothing. A similar conclusion was reached by Arreaza, A. et al. with a view on total government spending.[7] The same is true with respect to a differentiation between countries with high versus low discretionary spending volatility. The studies do however corroborate the intuitive view that the size of government expenditure matters for the effectiveness of automatic stabilisers. Estimates on the amount of income smoothing provided by social spending display positive and statistically significant coefficients for all countries. The strength of reactions of automatic stabilisers during the business cycle primarily depends on the size of government, i.e. the dimension of the social system and on the volume of taxes and contributions in relation to GDP. Overall, Furceri, D. confirms that countries with a larger share of social spending on GDP are indeed those where income smoothing following an output shock is the largest. This is consistent with previous research on macroeconomic stabilisation effects of overall government expenditure. Galí, J. presents evidence of a negative correlation between government size (measured as the ratio of government spending to GDP) and volatility, thus implying that larger governments stabilise output. Fatás, A. and Mihov, I., 2001 carry out further tests using intranational data covering US states, and corroborate the view that government size can be interpreted as a proxy for automatic stabilisers.

In spite of the consistent picture which emerges from the literature, we should not overlook the possibility of large differences across countries in the stabilising impact of the social protection system. As will be discussed in detail in chapter 2 of this report, such differences can be related to the structure and financing of the social protection system. The most important stabilising effect of social protection stems from the automatic reaction of revenues and expenditures. The quantitative reaction on the revenue side is generally stronger, as financing of the social security system - irrespective of whether this happens through payroll taxes or through (income) taxes - depends primarily on the development of wages and employment. Differences exist in the responsiveness of different revenue components to changes in output.[8] Different forms of revenue have different elasticities and hence are inherently more or less stabilising.

[7] In addition, Arreaza, A. et al. investigate the hypothesis that the level of the government deficit affects the ability of the private sector to smooth consumption through crowding out, but they find no support for this hypothesis.

[8] The technical term used by economists is the (output) elasticity of taxes.

The empirical literature indicates that in general the elasticity of tax revenues (especially income taxes) is higher than that of social security contributions.

This reflects the progressive structure of personal income taxes and the close link to profitability for corporate taxes. Payroll taxes and social security contributions (particularly if capped at a nominal level) have considerably lower elasticities (Baunsgaard, T. and Symansky, S.A.).

Table 1: Summary of tax elasticities, OECD countries

	Corporate income tax	Personal income tax	Social security contributions
Average (unweighted)	1.49	1.25	0.68
Median	1.52	1.18	0.69
Min	1.08	0.70	0.00
Max	2.08	1.92	0.92

Source: Baunsgaard, T. and Symansky, S.A. The tax elasticities are the product of the elasticity of tax revenue with respect to the tax base and the elasticity of the tax base with respect to the output gap.

Not only the size of government and financing structure of the welfare state but also other institutional and structural country characteristics might influence the level of stabilisation provided by single social spending items and therefore result in considerable cross-country heterogeneity with respect to automatic stabilisation through social protection. One case in point is represented by retirement benefits, with incentives of firms to encourage early retirement during recessions likely to be influenced by features of payroll taxes, entitlement rules and social security payments, as well as by differences in labour regulations and trade union power (Hutchens, R.; Darby, J. and Melitz, J.). Another important institutional aspect concerns the existence of minimum income levels, both in the guise of primary market incomes through minimum wages and of secondary incomes through minimum income schemes. Minimum wages represent a well-established component of labour market regulation in most European countries and they are an increasingly important issue for wage settings institutions in the EU (European Commission, 2009b). In a number of countries the real value of the minimum wage has been rising faster than average wages in the economy (Schulten, T.). Currently, 20 out of 27 EU Member States have a statutory minimum wage covering the whole economy. The group of countries with no statutory minimum wage (comprising Germany, Austria, Italy, Sweden, Denmark and Finland)[9] is characterised by high collective bargaining coverage, which means that in these countries the majority of workers is covered by a form of minimum wage negotiated by social partners at the sectoral level.

In spite of wide-spread diffusion of minimum wage legislation in the EU, its macroeconomic relevance has to be assessed at the national level. For one thing, minimum wages display large cross-country variation in terms of absolute and relative value. The ratio of the minimum wage relative to the average wage in the economy ranges between 30 and 50 per cent depending on the country (Schulten, T.). Further distinctions can be made with respect to the share of the workforce which is paid the minimum wage and to the minimum wage coverage of specific labour force groups (for instance women and young workers). Furthermore, the actual role and impact of minimum wage legislation depends crucially on its interaction with other labour market institutions as well as with the national tax and benefit system.

[9] Cyprus has a statutory minimum wage for specific occupations in which unionisation and collective bargaining coverage are low (European Commission, 2009b).

This is true for potential negative effects of the minimum wage (especially disemployment due to a distortion of wage setting) as well as for positive effects.

Generally speaking, minimum wages can represent a stabilising factor in the economy by supporting consumption and preventing excessive downward real wage flexibility. Arguably minimum wages possess a signalling function and therefore affect not only the least paid workers but the whole wage distribution. Minimum wage legislation can also help to combat poverty. The direct effect of minimum wages on poverty might however be of limited magnitude, as the main beneficiaries of the minimum wage might be living in households with other sources of income (Gosling, A.; Sutherland, H., 2001b). Beside the direct stabilisation of earned income of those receiving the lowest wages, minimum wages can have an important indirect effect by making paid work more attractive relative to out-of-work benefits and thus help avoid poverty traps. In addition, statutory minimum wages can be seen as a complement to in-work benefits and as an integral part of the social protection system. Due to the stickiness of wages in the short-term, minimum wages are unlikely to have played a prominent role when the economic crisis was unfolding. Although their immediate stabilising effect was probably of limited magnitude, they might represent an important labour market variable with respect to economic recovery. In fact, the presence of minimum wage legislation will be felt more intensely in the medium-term, as its influence on wage formation and on labour market agents' behaviour will come to the fore.

Whereas minimum wages play prevalently an indirect role in the strategy to combat poverty, minimum income legislation is more explicitly geared at lifting beneficiaries out of poverty. Almost all EU Member States have some form of minimum income scheme for people of working age. Their main aim is to ensure a minimum standard of living for individuals and households which have no other means of financial support. The extent to which minimum income schemes raise income levels above the poverty threshold does however vary widely across Member States. Further cross-country distinctions concern eligibility conditions and take-up rates of the benefit, as well as mechanisms for its uprating and the link between benefit reception, active labour market integration and access to services. According to the EU network of national independent experts on social exclusion, commissioned by the European Commission, minimum income schemes in most countries fall short of preserving people from poverty (Frazer, H. and Marlier, E.). A handful of countries, such as the Netherlands, Ireland and Denmark, come close to achieving the at-risk-of-poverty threshold with their minimum income schemes. In numerous countries experts are very negative about the adequacy of social assistance and other transfers on reducing poverty. Nevertheless, the level of payments in most cases is sufficient to make a contribution to reduce the intensity of poverty.

As in the case of minimum wages, the economic impact of minimum income schemes is likely to vary considerably between countries. Although some minimum income schemes apply only out of work, in the majority of countries they function also as in-work benefits, at least in specific cases. The impact of the economic crisis and of rising unemployment had already begun to have tangible repercussions on the number of those seeking support in the course of 2009 (Frazer, H. and Marlier, E.). In conjunction with discretionary measures targeted at household incomes, minimum income transfers have thus exerted a stabilising function during the most dramatic phases of the crisis. We can however expect the need for adequate income support to increase with some delay with respect to the trough of the economic recession. Labour market developments typically lag behind the business cycle: This empirical regularity is highlighted by the fact that unemployment rates in Europe are expected to peak in the course of 2010, at a time when most economies are registering timid signs of growth.

In addition, many individuals will fall back to minimum income benefits only once their unemployment benefits and in some cases also their personal savings are exhausted. In a scenario where numerous workers will not be able to return to employment or at least to full employment for some time after the crisis, this will result in large scale reliance on the social protection system and on basic forms of income support.

Accordingly, the main impact of minimum income schemes – both positively in terms of social protection and economic stabilisation and negatively in terms of financial strain on national budgets – has yet to come.

1.4. Active social policy via fiscal stimuli

In a 'normal' recession, when GDP does not grow or slightly declines for two or three quarters, the work of automatic stabilisers is the most important policy tool to mitigate the decline in demand and production. But in times of a deep and lasting crisis, active fiscal stimuli gain importance. As early as the end of 2008 – when first data about the marked drop of GDP became available – the IMF was calling for worldwide extensive fiscal stimuli (Spilimbergo, A. et al., 2008). An optimal fiscal package has been described as 'timely, large, lasting, diversified, contingent, collective and sustainable' (*ibidem*: 3). The empirical estimates of the quantitative effects of fiscal stimuli on GDP offer a very broad range of results. In general, one can summarise that the size of fiscal multipliers depends on the spillovers into savings and imports as well as on the response of monetary policy to fiscal action.[10] Multiplying effects of a fiscal stimulus on GDP are higher:

- when households with a low savings and a high consumption rate are profiting from the measures, since low income households typically show a much higher marginal propensity to consume than high income households - measures from which the poor profit most are therefore more effective;
- when small amounts of additional demand are captured by imports; multipliers in larger economies are therefore generally higher than in smaller ones, and – especially relevant in the current world wide crisis - internationally coordinated fiscal stimuli are much more effective than single country measures;
- when fiscal measures are accommodated by monetary measures; as expansionary fiscal policy tends to increase interest rates, a low interest rate policy by monetary authorities counteracts this threat and increases the multiplier effect.

Generally speaking, the highest multipliers expected concern government investment expenditures, as the effect on GDP is immediate and not dampened by household's savings (Freedman, C. et al.). Decision and implementation lags are however often very high. The multiplier concept has its origin in the traditional Keynesian textbook model, according to which an increase in spending of any form gets magnified through subsequent rounds of consumption spending. The multiplier will be an increasing function of the marginal propensity to consume (Fatás, A. and Mihov, I., 2009). Accordingly, strong multipliers can be expected with social transfers targeted towards households which are liquidity constrained and have high propensities to consume. Multiplier effects of general transfers or general tax cuts are considerably smaller, especially in periods of high uncertainty, where they tend to increase the propensity to save. This qualifies social policy in the form of transfers to the social groups affected as an effective instrument of discretionary fiscal action.

[10] Basically the fiscal multiplier is "the ratio of a change in output (…) to an exogenous change in the fiscal deficit." (Spilimbergo, A. et al., 2009: 2) If a fiscal stimulus by one million euros increases GDP in the European Union by a half or two million euros, the multiplier is a half or two, respectively.

Authors from a neoclassical perspective are much more critical about the positive effects of fiscal stimulus. This scepticism is rooted in the idea that private households behave on the basis of rational expectations and anticipate that they will have to repay present government expenditure in the future. This implies limited stabilising effect of fiscal policy, as additional disposable income will be saved to pay for future taxes.

The coordinated worldwide fiscal stimulus in response to the crisis has induced increased interest in the effectiveness of the measures taken. Consequently, a large number of studies that estimate multipliers of different forms of government interventions have been reconsidered recently. The IMF compiled multiplier estimates from a number of studies (Spilimbergo, A. et al., 2009). The authors report two studies which are concerned with the euro area as a whole. This is important because of the high interconnectedness of the European economies. A single country perspective cannot capture the whole multiplier because part of the stimulus will drain into imports.

Table 2: Multipliers for the euro area

	Fiscal shock	One year	Two years	Three years	Cumulative over two years
Dalsgaard, T. et al.[1]	Government spending	1.2	0.9	0.5	2.1
	Government spending (global impulse)	1.9	1.5	0.7	3.4
Freedman, C. et al.[2]	Government investment	0.5	0.3	-0.1	0.8

Source: Spilimbergo, A. et al., 2009. [1]Authors assume monetary accommodation. [2]Authors assume no monetary accommodation. Monetary accommodation refers to the behaviour of central banks relative to an expansionary stance by governments. If government spending increases and monetary authorities implement monetary accommodation (i.e. they leave interest rates constant or lower them), central bankers support the public effort to boost growth by providing the necessary financing conditions. Whether central banks opt for monetary accommodation or not is typically dependent on the prevailing inflation expectations.

The results obtained by Dalsgaard, T. et al. and Freedman, C. et al. show a considerable degree of variation. This is because the latter assume no monetary accommodation (Spilimbergo, A. et al., 2008: 8). A similar set of multipliers has been compiled by the OECD in an interim chapter for the *Economic Outlook* 2009 (OECD, 2009a). The average results of a number of studies are listed below. In this case, only studies which assumed accommodative monetary policy were considered.

Table 3: OECD survey on multipliers, range of estimates based on large-scale models

	Studies with both 1st and 2nd year multipliers					
	1st year			2nd year (cumulative)		
	low	high	mean	low	high	mean
Purchases of goods and services	0.9	1.9	1.2	0.5	2.2	1.3
Corporate tax cut	0.1	0.5	0.3	0.2	0.8	0.5
Personal income tax cut	0.1	1.1	0.5	0.2	1.4	0.8
Indirect tax cut	0	0.6	0.2	0	0.8	0.4
Social security contribution cut	0	0.5	0.3	0.2	1	0.6

Source: OECD, 2009a. Only studies which assumed monetary accommodation were considered.

The figures clearly show that purchases of goods and services by governments have the highest stimulating effect. This is recognised in a note from the IMF, which also claims that 'in the current circumstances, its [i.e. public spending on goods and services] first round effects are more certain than those related to transfers or tax cuts' (Spilimbergo, A. et al., 2008: 5). The fact that government investment has the highest multiplier is also confirmed by Baldacci, E. et al., whose findings suggest a crowding-in effect of public investment rather than the crowding out effect predicted by rational expectation models. A comparison of Tables 2 and 3 indicates that the Dalsgaard, T. et al. study for the euro area, which is not part of the OECD sample, is within the range of results surveyed by the OECD. The low results found by Freedman, C. et al. can be explained by differences in methodology, in particular the assumptions with respect to monetary policy and private household behaviour.

The actual multipliers attached to the measures which have been implemented in the course of the current crisis may depend on numerous factors and vary considerably across countries. As interest rates fell to a minimum in the course of the crisis, one would expect multipliers to be closer to estimates based on the assumption of accommodating monetary policy (such as Dalsgaard, T. et al.). The effect of governmental action on expectations and uncertainty can be considered from different viewpoints. On the one hand, it can be assumed that strong intervention to stabilise incomes and support employment has had a beneficial effect on private consumption. Governments across the EU have implemented a broad range of measures aimed at low-income groups and households hit by unemployment, such as increased tax allowances, higher benefits and additional cash hand-outs. Numerous households will have had little choice but to spend this additional disposable income. On the other hand, the comparatively high multiplier for general personal tax cuts reported in the OECD survey can be questioned under current macroeconomic conditions. As the IMF points out, decreases in wealth and high uncertainty have led households to cut consumption and take a 'wait and see attitude' (Spilimbergo, A. et al., 2009: 6).

The size of multipliers is normally analysed regarding the effects on GDP. Especially in periods of deep labour market crisis, the effects on employment might be more important. The ranking of multipliers concerning employment effects will in general be similar to that of income multipliers with the exception of direct public employment, where the job effects tend to be much higher than with any other measure.

This can also be true for employment subsidies to firms. The employment effects of fiscal stimuli and of employment subsidies can be of great macroeconomic importance in periods where unemployment rates experience a sharp increase. Severe recessions can arguably lead to an inefficient number of layoffs as the full economic cost of a displacement is higher in recessions when longer unemployment spells and harsher effects on individual careers can be expected (OECD, 2009c). This hypothesis explains the strong interest in short-time working schemes and other forms of employment subsidies in the course of the present crisis. Such schemes can be successful at avoiding cases where employers dismiss workers and thus waste human capital, although the jobs in question would be viable in the long-run. It is, however, very difficult to verify empirically to which extent employment subsidies achieve this objective. These measures are not undisputed due to the likely presence of deadweight and displacement effects which can hamper structural adjustment.[11] The same is true of other government actions which are targeted at supporting labour demand directly, such as public works programmes and employment guarantee schemes.

Other forms of active labour market policy (ALMP) are less controversial from a theoretical viewpoint and have also been reinforced across the EU in the course of the crisis. The most wide-spread reaction has been to step up efforts to train both employed and unemployed workers and to intensify job search assistance and overall public employment services capacities (Cazes, S. et al.). Some countries also implemented other types of policy changes or new initiatives, such as increasing incentives for entrepreneurship. This response represents a discretionary component of stabilisation, complementing the automatic stabilisation through mainly passive labour market expenditure discussed in the previous section. The overarching objective of activating measures is to improve the match between labour demand and supply and to bring people (back) into employment. Against the backdrop of the economic crisis, its impact has to be assessed with a view to short and medium-term effects and to be differentiated by type of measure. Some measures are unlikely to impact unemployment positively in a situation where labour demand is low. Job search assistance, which represents one of the main components of ALMP, is a good case in point. Job search programmes, consisting of activities such as skill assessment and presentation training, can be particularly useful for workers who lack the necessary skills to find a job. A recent meta-analysis of ALMP indicates that such programmes have a favourable short-run impact on unemployment (Card, D. et al.). Arguably, they are however ineffective in a situation where job openings are scarce, because firms reduce hiring and those currently employed are reluctant to risk a job change. As evidence from past recessions – at least in the United States - suggests, it is mainly reduced job openings and the subsequent collapse in hiring that drives the unemployment rate once the cycle has reached the trough (Cazes, S. et al.).

Hence, we can expect more positive employment effects of ALMP to emerge in the medium or even long-run. Although the worst stage of the crisis has been overcome, weak economic growth and the lag between growth and unemployment rates represent a major challenge. ALMP can contribute to maintain and increase the employability of the unemployed, and thus help them find a job once the labour market situation improves. Not unlike short-time working schemes and other measures that support existing jobs, activating measures can have long-term effects on employment and growth by preserving and enhancing human capital. Numerous measures, including on-the-job training, work experience and apprenticeship programmes aim at improving the employability of beneficiaries by increasing their productivity (Calmfors, L. et al.).

[11] Employment subsidies can interfere with the allocative efficiency of the market and thus result in a suboptimal market equilibrium. Displacement effects refer to cases in which subsidies are used to support jobs which would have been retained even in absence of the subsidy. Deadweight losses can occur when employment subsidies result in the preservation of inefficient jobs and firms.

Depending on its macro-economic setting and labour market situation, each individual country is confronted with the task to develop a suitable package of policies and measures. Card, D. et al. find that many ALMP programmes, especially classroom and on-the-job training programmes, appear in a more favourable light in longer-term evaluations (with impact estimates two or three years after treatment). Due to the depth of the recent crisis and the length of the drawn-out recovery, this represents an encouraging finding. Measures to increase human capital formation could specifically focus on the long-term and go beyond what is usually conceived as labour market policy. Bell, D.N.F. and Blanchflower, D.G., 2010 for instance argue that special efforts should be made to help youth to prevent the long-term impact of unemployment on their future by supporting and encouraging them to undertake further or higher education to improve their skills. Investment in the youngest groups of the population is going to pay off in the long-run as the financial burden of young people which fail to integrate in labour market and society is going to be much larger - under the assumption that we can provide measures which are adequate to avoid long-term youth unemployment.

1.5. Concluding remarks and open questions

The discussion of economic stabilisation from the viewpoint of social policies and the social protection system raises a number of issues which are relevant for the present report. One interesting point concerns the relation between fiscal stimulus packages and automatic stabilisers. As automatic stabilisers are occurring automatically, one could ask whether countries with strong effects of this category of fiscal policy have less need for additional active fiscal stimuli. On the other hand, countries with a larger size of government could be more open for state involvement in economic affairs, which in turn could lead to more discretionary fiscal activity rather than to substitution between the two. Empirical evidence on this topic is mixed, with some studies finding no relation between the size of automatic stabilisers and the size of discretionary actions (Dolls, M. et al.) and others a – albeit rather weak – negative correlation (Padoan, P.C.). This question will be discussed in more detail in section 2.2.

Irrespective of the actual relationship between automatic and discretionary stabilisation, economists tend to express clear preferences for a stronger role of automatic stabilisation. This is particularly true regarding emerging and developing economies, where fiscal policy and specifically social spending has been found to be pro-cyclical (Braun, M. and di Gresia, L.; Ilzetzki, E. and Vegh, C.A.). Also with respect to high-income countries, some thought is being given to increasing the size of automatic response to economic downturns. The IMF has recently made a case for enhancing traditional automatic stabilisers by setting up rules to link temporary fiscal policy changes to chosen economic indicators (Baunsgaard, T. and Symansky, S.A.; Blanchard, O. et al.). This would correspond to automating a larger fraction of discretionary fiscal response, for instance with temporary tax policies targeted at low-income households triggered by the crossing of a threshold by the unemployment rate or another macro variable. An example for such an automated fiscal policy can be found in Denmark, where a rise in unemployment leads automatically to channelling more resources into active labour market policy (OECD, 2009b). Additional costs and deficits resulting from this policy in times of crisis should be counterbalanced by an adequate reduction of expenditure in times of decreasing unemployment.

A further issue which is of relevance to the present report refers to the medium- and long-term implications of stabilisation through social protection for economic growth and labour market developments. One risk clearly associated with the stabilising role of economic policy lies in the difficulty of drawing a distinction between cyclical developments and structural changes. There exists a trade-off between the macroeconomic need for stabilisation in the short-term and policies to support long-term economic growth.

Short-term macroeconomic stabilisation is beneficial as large under-utilisation of resources can have damaging long-term effects if it leads to under-investment and failure to maintain physical and human capital (van den Noord, P.). On the other hand, if the current economic crisis in not only a cyclical phenomenon, but is also associated with a decline in the EU's growth potential, stabilisation may have a negative effect on future economic performance. It can be questioned, for instance, whether institutional arrangements and policy measures that induce long-term exits (i.e. retirement) from the labour force in the face of a crisis represent a sound approach (Darby, J. and Melitz, J.). Similar questions can be raised with respect to the long-term effects of crisis-related measures such as employment subsidies, income support schemes or overly generous short-time work programmes.

Not only discretionary measures but also permanent, institutional characteristics of the social protection system can entail different economic implications and thus policy recommendations, depending on whether we look at the short-term and crisis management or at the long-term and recovery support. For instance, it can be argued that minimum wages will contribute positively to economic recovery by stabilising the real wage adjustment and counteracting pressure to expand the number of low-wage jobs and of working poor. Simultaneously, minimum wages could have detrimental effects on employment creation by distorting real wage adjustments to an extent which chokes off labour demand. The existence and magnitude of such distortionary effects will largely depend on their real value relative to the prevailing market wage rate as well as on their interaction with the tax and benefit system. Potential negative effects would be felt particularly among youth and other individuals without work experience. Since these people are among those hit hardest by the crisis anyway, it is important to pay sufficient attention to potentially undesirable outcomes of existing labour market and social protection institutions. On a similar note, minimum income schemes are likely to play a crucial role for stabilising income (and thus consumption) of the poorest groups in society. In this case, too potentially counterproductive effects might emerge, especially due to the creation of poverty traps and a negative impact on labour market participation.

More generally, economic stabilisation through social protection is linked to issues of timeliness and financial sustainability, which are of paramount importance for a successful management of the post-crisis period and which will be discussed at length in the following sections.

2. SOCIAL PROTECTION AS ECONOMIC STABILISER

The preceding chapter discussed the role of automatic and discretionary stabilisation at a general level in order to identify the basic features, advantages, costs and benefits of different types of policies. This section will now provide an empirical account of how automatic and discretionary measures to stabilise the economy and the labour market have worked in the current crisis in EU Member States.

As a first step, the report will describe and analyse core systems of social protection such as unemployment insurance and basic income support, as well as basic features of the tax system, in order to assess their capacity for automatic stabilisation. This comparative analysis is based on the institutional arrangements in place at the outset of the recent crisis. Automatic stabilisation depends in particular on the generosity of the benefit system, i.e. coverage, formal and practical access to benefits and income replacement received by different socio-economic groups. The study focuses in particular on vulnerable groups such as holders of fixed-term contracts, low pay workers, labour market (re-)entrants, and working and non-working poor. Additional discretionary measures, however, can and have in fact addressed these groups to some extent.

The second step will provide an assessment of the impact of existing systems of social protection in terms of an automatic stabilisation of incomes. Discretionary measures are assessed in parallel and compared to automatic stabilisers. Both elements show considerable variation across countries.

With the third step, we will discuss the issue of timing regarding automatic and discretionary stabilisation.

Fourthly, while anti-crisis measures adopted at the outset of a recession are expansionary, in later phases the fiscal costs come into play. Therefore, we analyse the budgetary implications of automatic and discretionary stabilisation and the resulting constraints on public budgets.

Finally, with the fifth step the consequences of broad socio-economic developments for the labour market in a situation of crisis are analysed. In particular, we analyse which socio-economic groups have been most affected by the economic crisis and its labour market effects in different countries and to what extent have there been actual differences in access to and generosity of benefits received.

2.1. The quality dimension of social protection systems

KEY FINDINGS

- In most EU Member States, social protection against unemployment is based on two pillars: unemployment insurance and minimum income support. While means-tested income support is generally available as a basic social security net in most EU Member States, unemployment insurance systems are more exclusive, as they do not equally protect every type of workers. The extent of unemployment risks and the 'quality' of social protection provided to different socio-economic groups do not coincide, so those most affected are often the least protected. Hence, a dual pattern of social protection applies. However, an optimum system of social protection should try to avoid this double disadvantage.
- The first phase of discretionary anti-crisis interventions was characterised by a number of reforms strengthening the current unemployment insurance benefit system in place, in particular by easing access or improving benefit generosity for non-standard workers who had been made redundant.
- A number of countries have also expanded public measures encouraging working time flexibility, in particular short-time work schemes, to prevent dismissals. They are standing features of unemployment protection in many EU Member States, but they have become more widespread recently; and they have been made more generous and attractive for firms in order to set incentives to save jobs during the crisis.
- Furthermore, activation policies aimed at labour market (re)integration were rather reinforced than reversed. In particular, most countries have emphasised job placement and publicly funded training within the framework of active labour market policies.

Systems of social protection play a major role in buffering economic crises. The institutional set-up of social protection in place before a crisis affects the labour market is therefore one major element to consider when comparing economic and social consequences to the 2008-09 crisis. First, as shown in the preceding section, social safety nets provide income security for individuals and households and thereby stabilise national demand in a phase of rising or high unemployment. Here, two elements have to be distinguished:

(i) the first tier of unemployment benefits stemming from unemployment insurance generally tied to contributions and substantial prior employment;

(ii) the second tier of means-tested minimum income support and related benefits for inactive or long-term unemployed people, including housing allowances etc.

2.1.1. Unemployment insurance

Unemployment insurance benefits provide for income replacement in case of redundancies if certain national entitlement and availability criteria are met. Of particular importance is a sufficient employment record in terms of duration and earnings. While fixed-term contracts are often covered by unemployment insurance, holders of these types of jobs may not have a substantial entitlement to unemployment insurance benefits if waiting periods are not fulfilled due to interrupted employment spells.

In addition, part-time employees or low-wage workers, while covered by the insurance, may only be able to draw very limited benefits from unemployment insurance due to the close link between earnings-related contributions and benefits. Furthermore, national systems of unemployment insurance vary in their coverage of different types of non-standard employment, such as self employment or marginal part time.

Table 4 provides evidence on access criteria to unemployment insurance coverage and benefit receipt. It refers to the situation in 2008, i.e. at the outset of the current economic crisis.

It is particularly important to note that there are substantial minimum employment and contribution requirements which tend to leave labour market entrants with very short employment spells without substantial benefit claims. The same is true for self-employed in a number of countries and marginal part-time workers in Austria and Germany.

Payment rates, as well as minimum and maximum benefits, also vary considerably, with a rather long maximum benefit duration but a relatively compressed distribution of benefits in countries such as Denmark and Belgium and mostly shorter, but more status-protecting, insurance benefits in France, Germany, Luxembourg or the Netherlands.

Table 4: Entitlement criteria, employment forms covered by unemployment insurance and benefit generosity of unemployment insurance, 2008

	Employment (E) and contribution (C) conditions	Insurance voluntary (V) or compulsory (C)	Coverage of non-standard work		Maximum duration (months)	Payment rate (% of earnings base)		Minimum benefit % of AW*	Maximum benefit % of AW*
			part-time	self-employed		initial	at end of entitlement period		
Austria	E+C: 1 year in 2	C	> 366 EUR p.m.	voluntary	9	55			39
Belgium	E+C: 468 days in 27 months	C	yes	no	Unlimited	60	50 (after one year)	24	33
Bulgaria	E: 9 months in 15 months	C	yes	no	12			19	39
Cyprus (2007)			yes	no					
Czech Republic	E+C: 12 months in 3 years	C	yes	yes	6	50	45 (after 3 months)	--	58
Denmark	E: 52 weeks in 3 years, C: membership fee	V	yes	voluntary	48	90		42	51
Estonia	C: at least 12 months in the last 36 months	V	yes	no	12			--	--
Finland	E: 43 weeks in 28 months, C: 10 months.	V	yes	voluntary	23	Basic benefit (17 % of AW*) plus up to 45 % of earnings exceeding basic benefit.		--	None
France	C: 6 months in 22 months	C	yes	no	23	57-75		30	240
Germany	E: 12 months, C: 12 months in 2 years	C	> 400 EUR p.m.	voluntary continuation of	15	60		--	94

	Employment (E) and contribution (C) conditions	Insurance voluntary (V) or compulsory (C)	Coverage of non-standard work		Maximum duration (months)	Payment rate (% of earnings base)		Minimum benefit % of AW*	Maximum benefit % of AW*
			part-time	self-em-ployed		initial	at end of entitlement period		
				insurance after start-up					
Greece	E+C: 125 days in 14 months or 200 days in 2 years	C	yes	no	12	Basic benefit (19 % of AW*).		11	21
Hungary	E+C: 365 days in 4 years.	C	yes	yes	9	60		21	42
Ireland	C: 39 weeks in 1 year (or 26 'reckonable' contributions in 2 years). 52 weeks' contributions paid since starting work	C	yes	no	15	Fixed amount (24 % of AW*).		--	--
Italy	C: 52 weeks in 2 years	C	yes	no	7	50	40 (after six months)	--	47
Latvia	C: at least 12 months in the last 18 months	C	yes	yes	9			30	38
Lithuania	C: at least 18 months in the last 3 years	C	yes	no	9				33
Luxembourg	E+C: 26 weeks in 1 year	C	yes	yes	12	80		--	90
Malta	C: at least 50 weekly social security contributions, of which 20 in benefit year	C	yes	no	5.2			13	33

	Employment (E) and contribution (C) conditions	Insurance voluntary (V) or compulsory (C)	Coverage of non-standard work		Maximum duration (months)	Payment rate (% of earnings base)		Minimum benefit % of AW*	Maximum benefit % of AW*
			part-time	self-employed		initial	at end of entitlement period		
Netherlands	E: 26 weeks in 36 weeks	C	yes	no	38	75	70 (after 2 months)	37	107
Poland	E+C: 365 days in 18 months and earnings > 1/2 minimum wage	C	yes	yes	12	Fixed amount (24 % of AW*)		16	24
Portugal	E+C: 450 days in 2 years	C	yes	no	30	65		30	91
Romania	E: at least 12 months of the last 2 years, C: 6/9/12 months for those who contributed at least 1/5/10 years	C	yes	voluntary	12			62	131
Slovak Republic	E+C: 3 years in 4 years	C	yes	voluntary	6	50		33	33
Slovenia	E: at least 12 of the last 18 months	C	yes	voluntary	24			45	135
Spain	E: None, C: at least 360 days in the last 6 years	C	yes	no	24	70	60 (after six months)	31	
Sweden	C: 360 days in 6 years	C	yes	voluntary	14	80	70 (after 200 days)	24	50
United Kingdom	E: less than 16 hours a week C: 12 months in 2 years	C	yes	no	6	Fixed amount (9 % of AW*).		7	9

Note: * **AW** = National Average Wage.

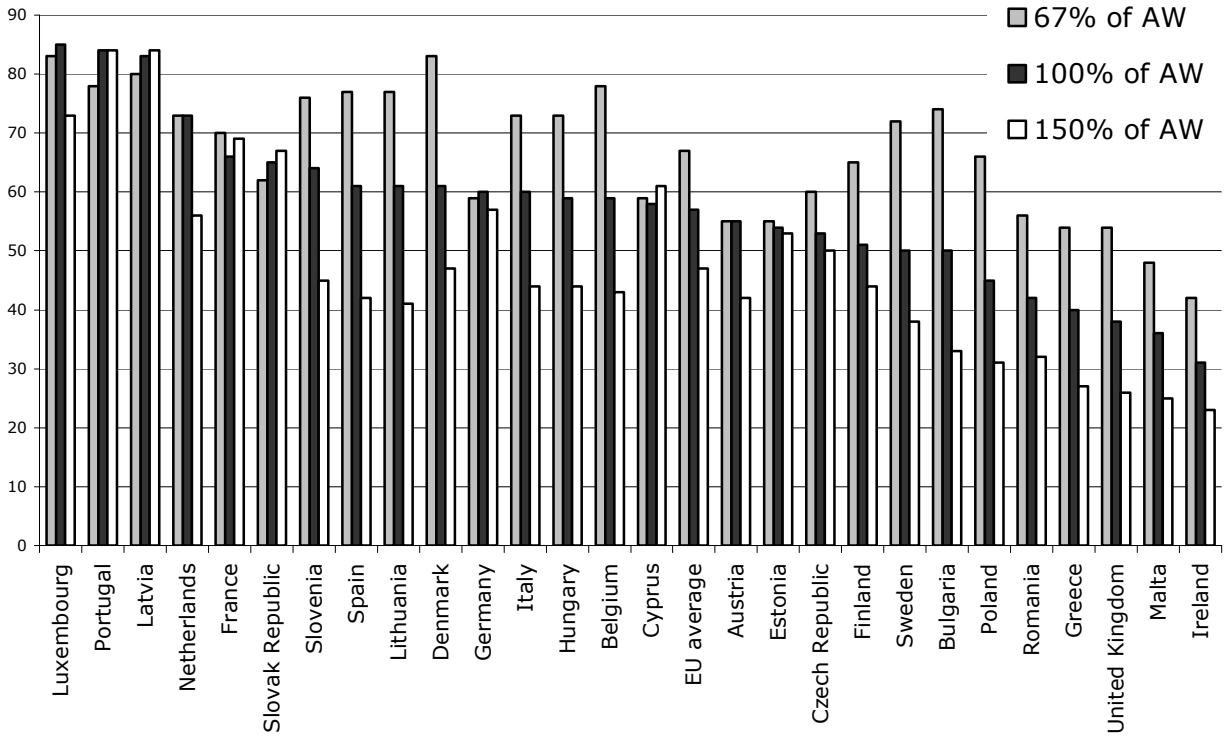
Source: OECD.

Apart from the more or less inclusive character of unemployment insurance, the generosity of unemployment insurance benefits is a crucial feature in assessing its role as an automatic stabiliser. To evaluate this, the extent of income replacement and the maximum duration of benefit have to be taken into account. Table 4 also provides the formal replacement rates together with upper or lower limits as well as information on the maximum duration of unemployment insurance benefits.

Taking into account the institutional framework, the OECD provides net replacement rates of unemployment insurance for selected household types and different earnings levels. These calculations refer to the initial phase of unemployment. They do not include basic income support schemes, i.e. social assistance and unemployment assistance, and related benefits such as housing allowances (see www.oecd.org/els/social/workincentives).

Figure 1 shows the net replacement rates of single people at three different earnings levels in 2008.

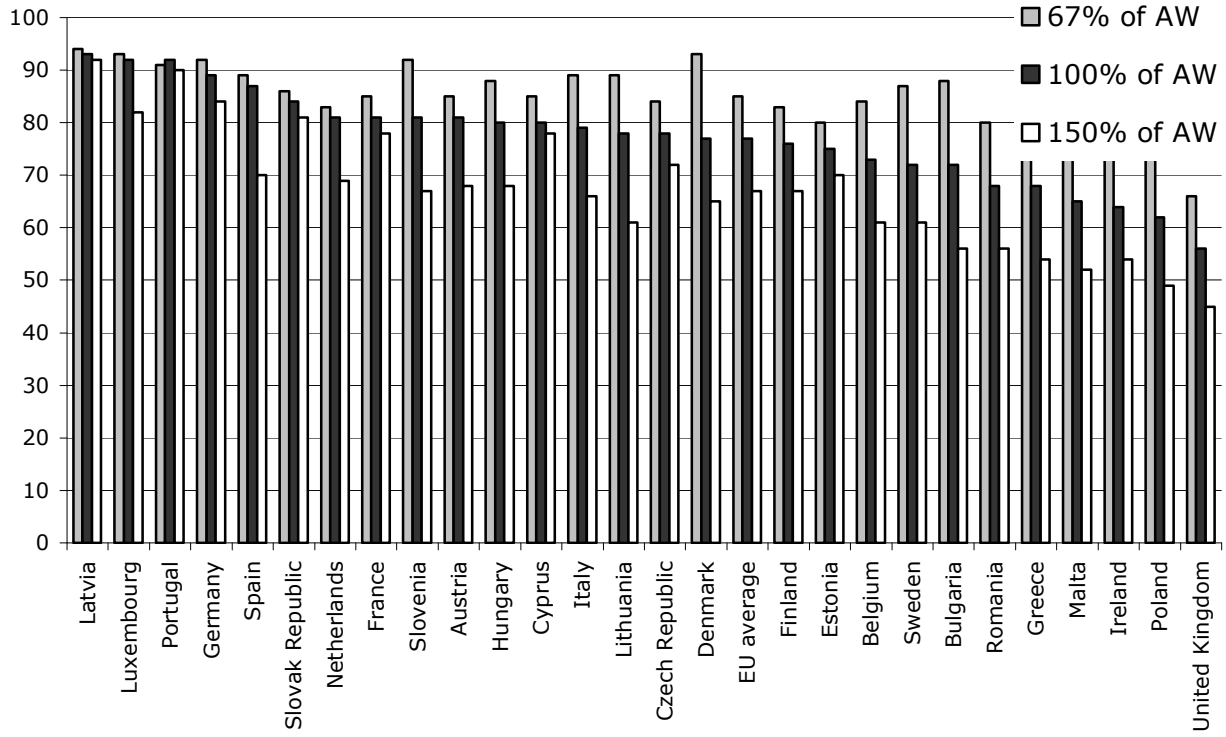
Figure 1: Net replacement rates of unemployment insurance, single people at three earnings levels, 2008



Source: OECD.

Figure 2 extends the perspective to families, taking dual earner couples with two children as an example. Overall, there are large cross-country variations in the first tier of unemployment benefits provided by insurance systems.

Figure 2: Net replacement rates of unemployment insurance, two earner couples with two children, at three earnings levels, 2008



Source: OECD.

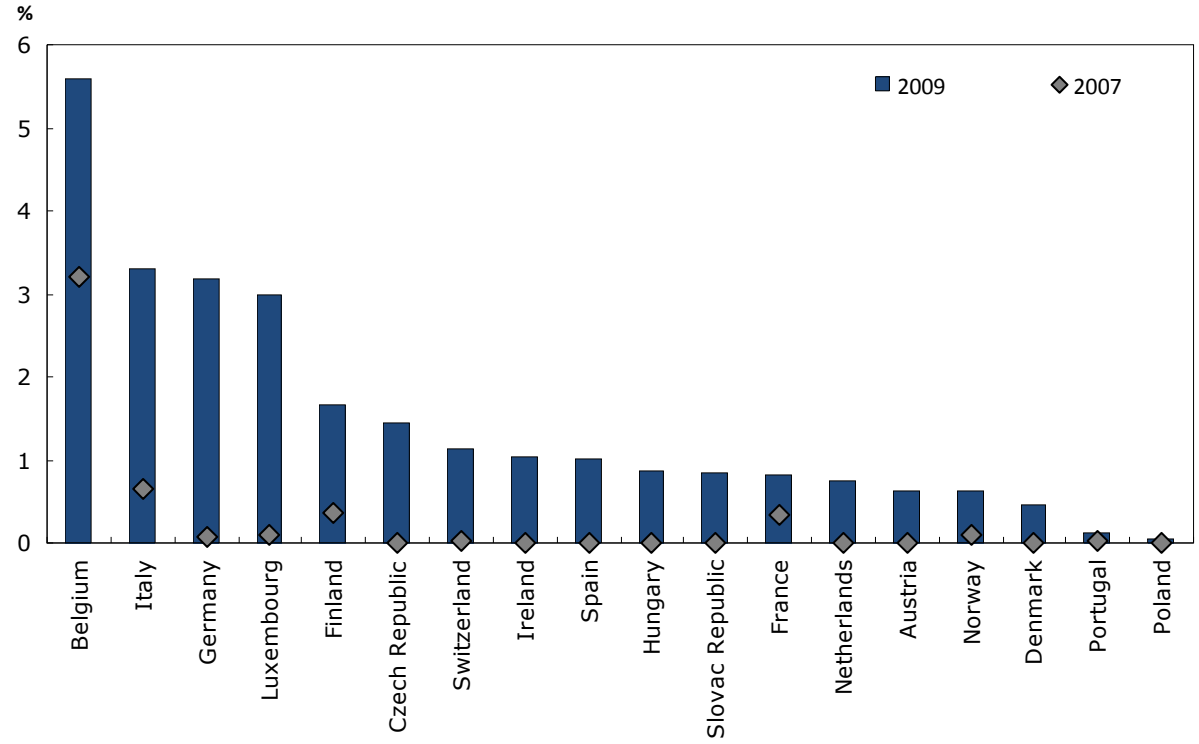
Special focus on short-time work schemes

One element of unemployment insurance that has been of particular importance in most European countries during the current crisis is partial unemployment or short-time work allowance. Short-time work schemes can be classified as a specific element of automatic stabilisation embedded in a country's labour market policy arrangement. They have been adopted in some, but not all, of the EU Member States. If the employer reduces work-hours and pay due to lack of demand, the unemployment insurance provides the employee a partial replacement of the earnings lost and – if the employer continues to face labour costs during this time – additional employer support.

Table A5 in the annex gives an overview of core features of both existing short-time work schemes (some of which have been modified during the current crisis) as well as recently introduced schemes. Core elements of short-time work schemes are (i) sectoral coverage, (ii) work-sharing requirements, (iii) eligibility requirements (in particular proof of a difficult economic situation on the employer side and sufficient unemployment insurance contributions on the worker side), (iv) conditionality in terms of non-dismissals after short-time work (e.g. in Austria, France and the Netherlands) or a requirement for workers to participate in training in order to access the programme (e.g. in the Czech Republic, Hungary, the Netherlands and Portugal) or receive more generous subsidies (e.g. in Finland, Austria, Poland, Belgium and Germany) and (v) the generosity of the public support in terms of the amount and duration of public support per firm and worker. Discretionary action has temporarily increased these schemes in terms of generosity, scope or worker coverage (see Arpaia et al.; European Foundation; OECD, 2010b), e.g. by longer durations, a wider sectoral coverage or better access of non-standard workers; but still there are significant variations in the importance of short-time work schemes across EU Member States. In particular, non-standard workers still face difficulties in accessing to these schemes.

Figure 3 shows the extent to which short-time work schemes were used during the most recent economic crisis. Generosity of the system and easiness of access can basically explain the strong variation across countries in interaction with the specific motivation of employers to rely on short-time work. But very generous and large systems may lack proper targeting and therefore risk being less cost-efficient. The annual average stock of short-time workers was more than 5 per cent of all employees in Belgium in 2009 and around 3 per cent in Italy, Germany and Luxembourg. Apart from Belgium's heavy reliance on short-time work, which had already begun by 2007, all the countries experienced a marked increase from very low levels.

Figure 3: Annual average stock of employees participating in short-time work schemes as percentage of all employees

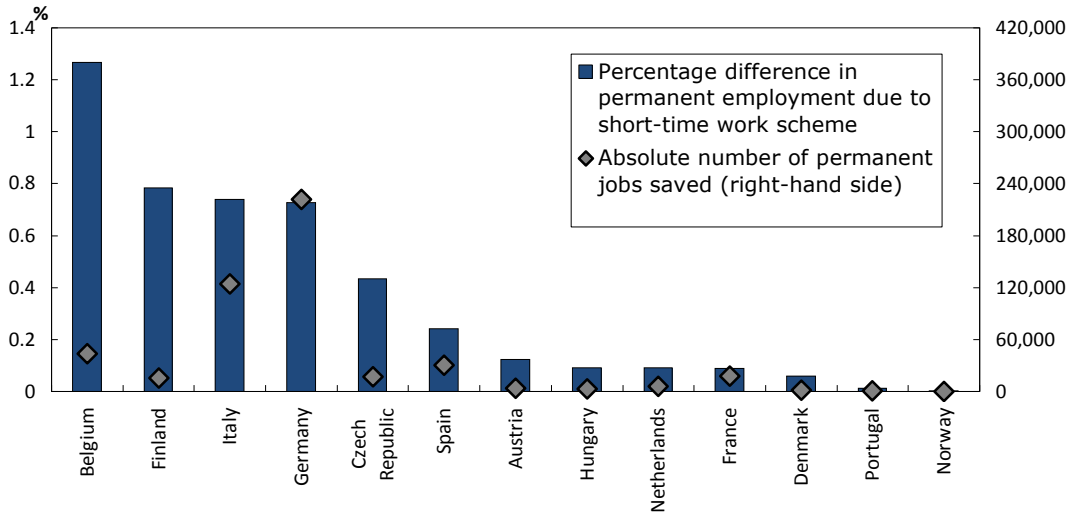


Source: OECD, 2010b.

Adoption of short-time work when counted per head or in full-time equivalents is not a straightforward indicator of effectiveness, as some of the jobs under short-time work scheme may not be viable in the medium-run due to a permanent loss in productivity, and some short-time workers would have been retained even in the absence of a public subsidy. In effect, strong subsidisation of short-time work may just reduce the attractiveness of other, mainly intra-firm measures to help stabilise the stock of employees. However, unemployment has increased less in countries with elaborate short-time work schemes than elsewhere.

The OECD Employment Outlook 2010 (OECD, 2010b) provides one of the first assessments of the effectiveness of short-time work schemes. The OECD finds that short-time work schemes change the adaptation strategies of firms in a situation of crisis. Short-time work subsidies encourage a reduction of working time (and hourly wages) of permanent workers, but lowers the risk of permanent staff being dismissed. These schemes do not help temporary workers, as their risk of dismissal is not affected, i.e. short-time work schemes set incentives to keep their skilled core labour force but provide no benefits for workers on fixed-term contracts. OECD estimates suggest that these programmes have preserved more than 200,000 jobs in Germany and about 120,000 in Italy. In Belgium, for example, short-time work programmes saved 1.3 per cent of permanent employees from losing their jobs in the 2008-09 crisis. However, take-up was already significant before the crisis, and so this estimate must be seen as the upper limit of the actual effect. Short-time work stabilised between 0.2 and 0.8 per cent of permanent jobs in Spain, the Czech Republic, Germany, Italy and Finland. The OECD could not find effects of recently introduced new short-time work schemes. Setting up a new scheme takes more time, making the labour market impact hard to identify.

Figure 4: The contribution of short-time work schemes to the preservation of jobs during the current recession



Source: OECD, 2010b.

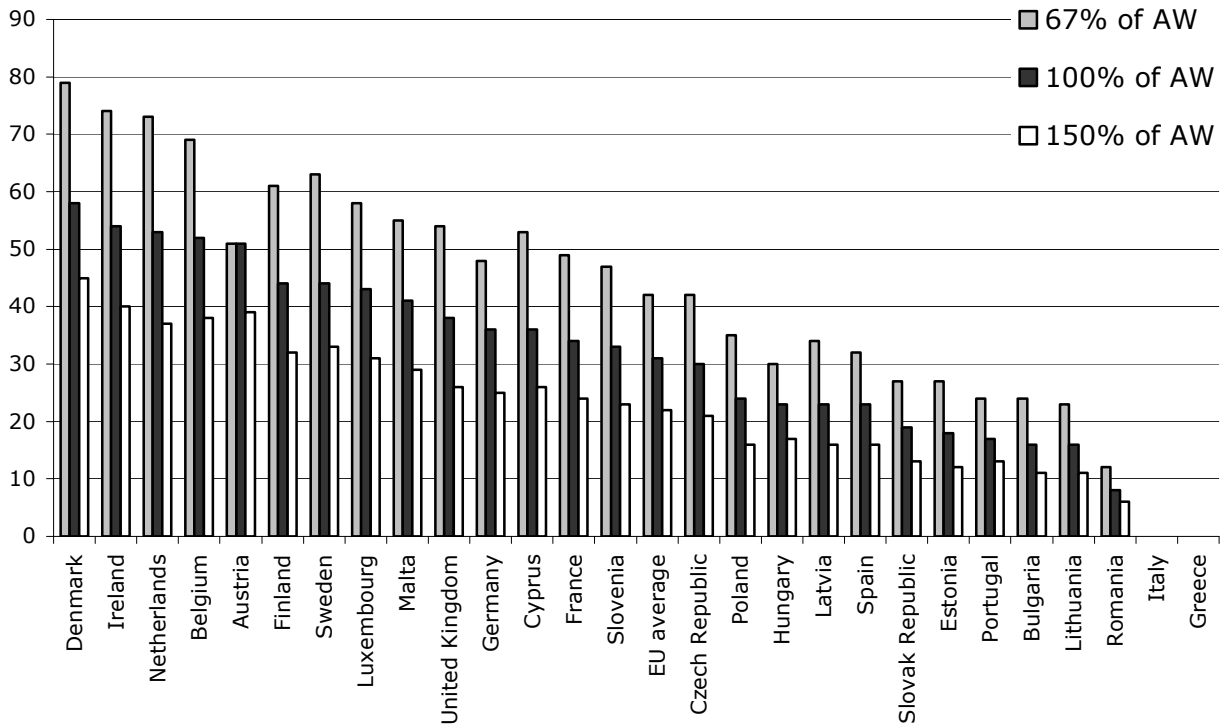
In general, unemployment insurance benefits tend to be generous for those with a solid employment record and substantial earnings. However, unemployment insurance benefits may not be available for vulnerable groups who either do not meet the entitlement criteria or do not have substantial benefit claims but face a higher risk of unemployment due to a more difficult situation on the labour market before and during crises. This concerns particular groups such as (i) employees with fixed-term contracts and a short employment record, some of them labour market entrants, (ii) employees with low monthly earnings due to low hourly pay or part-time work, (iii) the self-employed. These groups tend to be affected by unemployment more than groups which are better integrated into the unemployment insurance system. But they may actually not have access to substantial insurance benefits in practice. Access to short-time work schemes, which provide an additional safeguard against unemployment, is also biased in favour of the core labour force, i.e. workers with specific skills and substantial tenure.

2.1.2. Minimum income support

Minimum income support is a second and basic safety net providing basic social benefits for those not eligible for unemployment insurance or additional benefits in cases when unemployment insurance benefits do not suffice to avoid poverty. In general, the receipt of minimum income support depends on household-related means testing. It is not time-limited in European countries, but some age restrictions and availability criteria apply.

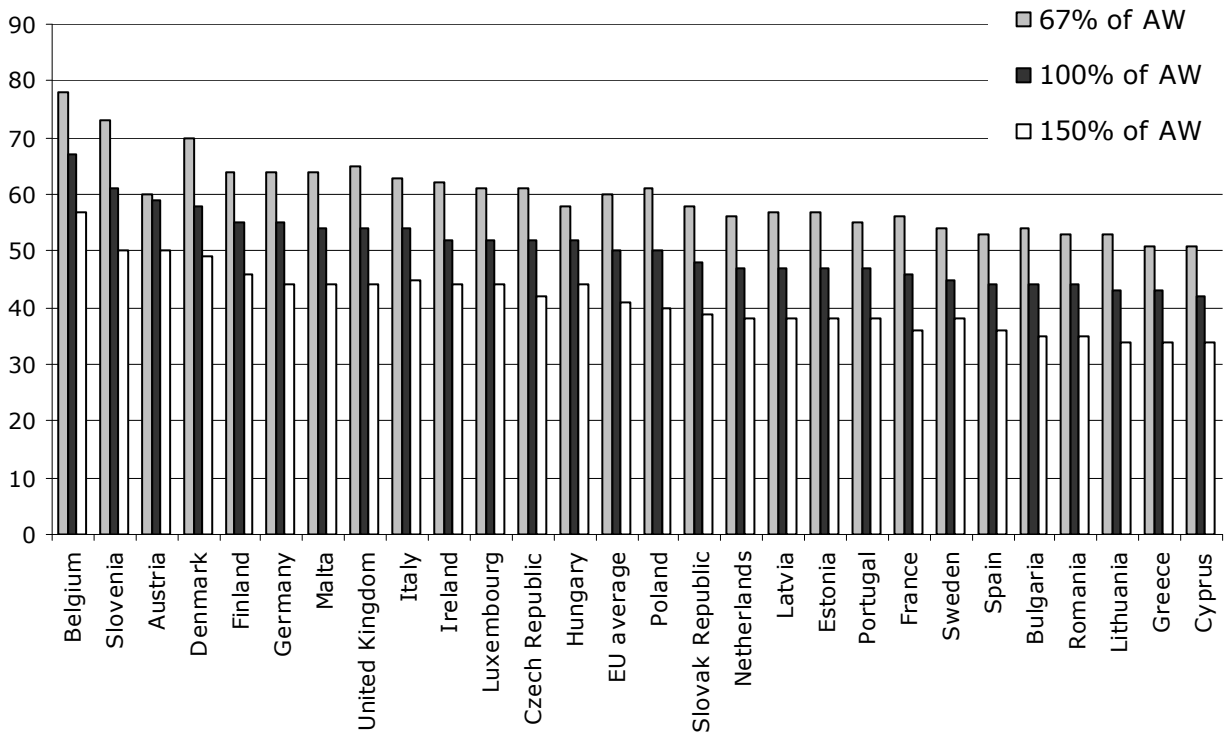
The generosity of minimum income support is more complex to assess, as other means-tested benefits can play a major role, in particular child-related and housing benefits (see appendix tables A2 for unemployment assistance and A3 for social assistance). A reliable measure of basic income support generosity can be calculated as a combination of different relevant benefits available to typical target groups, including housing and child allowances after longer unemployment.

Figure 5: Net replacement rate after 5 years of unemployment, single people, 2008, at different earnings levels



Source: OECD.

Figure 6: Net replacement rate after 5 years of unemployment, single people, 2008, at different earnings levels



Source: OECD.

Minimum income support is of particular importance to individuals who cannot rely on more generous insurance benefits. However, severe problems in terms of poverty arise if minimum income support is not available or unsuitable in providing poverty relief.

2.1.3. Progressive taxation

Apart from unemployment benefits, progressive taxes also contribute to automatic stabilisation, since lower income stemming from reduced earnings as a consequence of a reduction in wages or working-time are taxed less heavily than normal earnings. The income stabilisation coefficient TAU from Table A9, in the appendix, can be taken as an average measure of the progressiveness of the tax and contribution system referring to all income groups. Continental European and Scandinavian countries with well developed welfare states rank at the top, whereas Mediterranean and Central European countries show a less progressive element.

Table 5: Income stabilisation coefficients

Denmark	0.558
Belgium	0.527
Germany	0.481
Hungary	0.476
Austria	0.439
Sweden	0.420
Netherlands	0.397
Finland	0.396
Luxembourg	0.374
France	0.370
Ireland	0.363
United Kingdom	0.352
Italy	0.346
Slovenia	0.317
Portugal	0.303
Poland	0.301
Greece	0.291
Spain	0.277
Estonia	0.253

Source: see Table A9, in the appendix.

2.1.4. Automatic and discretionary stabilisation

Automatic stabilisers in terms of social protection have the major advantage of providing income replacement immediately, i.e. when unemployment starts to rise, to those integrated into the benefit systems. While means-tested income support is generally available as a basic social security net in most EU Member States, unemployment insurance systems are more exclusive, as they do not equally protect each type of worker. The extent of unemployment risks and the 'quality' of social protection provided to different socio-economic groups do not coincide, and in general, those most affected are the least protected. Hence, a dualised pattern of social protection applies. However, an optimum system of social protection should try to avoid this double disadvantage.

A discretionary expansion of benefit generosity or easing access to benefits can play a substantial role in reaction to crises. However, discretionary changes to benefit systems or the creation of new benefits may take some time and may be more difficult to administer and deliver, in particular if new groups are to be integrated or new benefits created – or if fiscal restrictions are considered.

During the current crisis, policy-makers have implemented a number of discretionary reforms to social protection systems as Table 6 shows. The first phase of discretionary anti-crisis interventions was indeed characterised by a number of reforms strengthening the current unemployment insurance benefit system, in particular by easing access or improving benefit generosity for non-standard workers who had been made redundant. A number of countries have also expanded public measures encouraging working-time flexibility, in particular short-time work schemes, to prevent dismissals. This does not preclude, however, that subsequent reforms in a phase of austerity will lead to further dualisation in the sense that benefit cuts may address non-standard workers, i.e. workers with 'atypical' contracts, more than social security systems of the core workforce.

Furthermore, activation policies aimed at labour market (re)integration have so far, at least, been reinforced rather than reversed. In particular, most countries have emphasised job placement and publicly funded training within the framework of active labour market policies.

Table 6: Discretionary measures

Recovery Measures to support the labour market in European Union Member States																										
Nr	Belgium	Bulgaria	Czech Republic	Denmark	Germany	Estonia	Ireland	Greece	Spain	France	Italy	Cyprus	Latvia	Lithuania	Luxembourg	Hungary	Malta	Netherlands	Austria	Poland	Portugal	Romania	Slovenia	Slovakia	Finland	Sweden	United Kingdom	EU-27
Encouraging flexible working-time	*	*	+	*	++					*	*	*		*	*	*		+	+		*		+	+				16
Improving job placement and investing in re-training	*	*	+	+	++		+	+	+	++	*	*		*		+	*	+	*		*	*	+	*	++	+	++	23
Maintaining/reinforcing social protection	*	++				*	++	+		*	+		*								*	*			*	+	+	13
Reinforcing activation	*	++	*	*	*		++	*	+	*	*			++	*		*		*	*			*	++	+	+		19
Supporting employment by cutting labour costs	+	+		++	+		+		+	+			*	*	*	*		++	*		*	+	*	*	+	++	+	20
Revising EPL in line with flexicurity		*				*						*		*														4
Enhancing education and life-long learning		*		*	*									*					*		*					*		7
Supporting the income of vulnerable groups	++	*		*	++			+	*	*	*		++		*		*		+	*	+	*		*	*	*	++	8
Mitigating the impact of financial crisis on individuals		*	*			*	*		++	*	*	*		*	*	+			*		*				*		*	15
Others	*		*	*						*			*	*					*			++			*	*		11

++ highly significant measures taken, + somewhat significant measures taken, *measures taken, EU-27 column: number of countries which implemented the corresponding measure.
Source: European Commission, 2009a; OECD, 2010b.

2.2. Quantitative impact: Automatic stabilisers and discretionary measures

KEY FINDINGS

- The tax and transfer system determines the way in which a given unemployment or income shock to gross income translates into a change in households' disposable income. The impact of automatic stabilisation on individuals and the economy can be simulated based on a model incorporating individual data available for most EU Member States and the US. It incorporates unemployment benefits, social insurance contributions and progressive income taxes.
- Due to the more progressive tax system and the more elaborated welfare state, the extent of automatic stabilisation in the EU is significantly larger than in the US. While the tax system stabilises disposable income most after an income shock, automatic stabilisation through unemployment benefits is most important when unemployment rises.
- There are marked differences in the extent of automatic stabilisation across EU Member States. In the case of an income shock, stabilisation is strongest in Denmark, where automatic stabilisers cushion 56 per cent of the shock. Belgium, Germany and Hungary also have strong automatic stabilisers. The lowest values are found for Estonia, Spain and Greece. Regarding an unemployment shock, the stabilisation effect is largest in Denmark, Sweden, Germany, Belgium and Luxembourg, reaching about 60 per cent and more. Scandinavian and Continental European countries have significantly larger mechanisms of automatic stabilisation than Southern and Central European countries.
- When the crisis spread across the continent, European governments responded with discretionary policy to a varying extent, reaching about 1.3 per cent on average, but making up to more than 2 per cent of GDP in Finland, Spain, the Czech Republic and Sweden. Social policy played an important role in almost every national stimulus package and, on average, represented about two thirds of discretionary measures.
- Macroeconomic simulations show that, with a certain time lag, discretionary social policy action has a stabilising effect on GDP, basically mirroring the size of the stimulus. Discretionary social policy measures implemented in response to the crisis accounted for 1.07 per cent of GDP in 2008 for the years 2009 and 2010. The cumulated multiplier for these discretionary expenditures amounts to 0.85. Every euro directed to discretionary social policy measures in the wake crisis resulted in an additional 85 cents GDP. Countries which implemented significant measures have grown faster. Since GDP benefits are distributed unequally, the cumulated multiplier is smaller in major European economies and larger for small countries. A coordinated policy in the European Union has a larger effect than single Member State action.
- Benefits from a discretionary social stance are equally observable on labour markets. Employment rises significantly and unemployment declines. According to our estimations, the social policy stimulus packages in 20 EU Member States created 330,000 new jobs at the peak of their effect. The decline in unemployment is slightly lower. The discretionary measures' expansionary effects have spared 300,000 people from unemployment. A coordinated European social policy approach clearly makes a difference for national labour markets.

2.2.1. Automatic stabilisation

Throughout Europe, the current economic and financial crisis has had a severe impact on incomes and employment. While the magnitude of the shocks is usually measured at the macro level, the resulting welfare effects depend not only on the total size of losses but also on their distribution across different groups of society and the cushioning effect of the tax benefit system. This chapter investigates to what extent the tax and transfer systems in Europe (and the US) protect households at different income levels and in different European countries against income losses and unemployment. In particular, we analyse the role of automatic stabilisers, which are widely seen to play a key role in stabilising demand and output.

Automatic stabilisers are usually defined as those elements of fiscal policy which mitigate output fluctuations without discretionary government action (see, e.g., Eaton, J. and Rosen, H.S.). Despite the importance of automatic stabilisers for stabilising the economy, 'very little work has been done on automatic stabilisation [...] in the last 20 years' (Blanchard, O.). However, in the current crisis, it is especially important to assess the contribution of automatic stabilisers to overall fiscal expansion and to compare their magnitude across countries. Previous research on automatic stabilisation has mainly relied on macro data. However, these approaches raise several issues, in particular the challenge of separating discretionary actions from automatic stabilisers in combination with identification problems resulting from endogenous regressors. Exceptions based on micro data are Auerbach, A. and Feenberg, D. for the US and Mabbett, D. and Schelkle, W. for the EU-15. More comparative work based on micro data has been conducted on the differences in the tax wedge and effective marginal tax rates between the US and European countries (see, e.g., Piketty, T. and Saez, E.; European Commission, 2010a). The workings of automatic stabilisers in an economic crisis have also been discussed in a recent report by the European Commission (European Commission, 2010b), which refers to the results by Dolls, M. et al, which are the basis of this chapter.

In this chapter, we combine these two strands of the literature to compare the magnitude and composition of automatic stabilisation between the US and Europe based on micro data estimates. We analyse the impact of automatic stabilisers using microsimulation models for 19 European countries (EUROMOD) and the US (TAXSIM). The microsimulation approach allows us to investigate the causal effects of different types of shocks on household disposable income, holding everything else constant and therefore avoiding endogeneity problems (see Bourguignon, F. and Spadaro, A.). We can hence single out the role of automatic stabilisation, which is not possible in an ex-post evaluation (or with macro data), as it is not possible to disentangle the effects of automatic stabilisers, active fiscal and monetary policy and behavioural responses, such as changes in labour supply or disability benefit take-up.

We run two controlled experiments of macro shocks to income and employment. The first is a proportional decline in household gross income by 5 per cent (income shock). This is the usual way of modelling shocks in simulation studies analysing automatic stabilisers. However, economic downturns typically affect households asymmetrically, with some households losing their jobs and suffering a sharp decline in income and other households being much less affected, as wages are usually rigid in the short-term. We therefore consider a second macro shock where some households become unemployed, so that the unemployment rate increases such that total household income decreases by 5 per cent (unemployment shock). We show that these two types of shocks and the resulting stabilisation coefficients can be interpreted as an average effective marginal tax rate (EMTR) for the whole tax benefit system at the intensive (proportional income shock) or extensive (unemployment shock) margin.

As our measure of automatic stabilisation, we extend the normalised tax change (Auerbach, A. and Feenberg, D.) to include other taxes as well as social contributions and benefits. Our income stabilisation coefficient relates the shock absorption of the whole tax and transfer system to the overall size of the income shock. We take into account personal income taxes at all government levels, social insurance contributions and payroll taxes as well as transfers to private households such as unemployment benefits.[12] Computations are conducted according to the tax benefit rules which were in force before 2008, in order to avoid an endogeneity problem resulting from policy responses after the start of the crisis.

Furthermore, we identify how much weight current pre-crisis tax benefit systems put on different income groups to protect them from income losses. In the next step, we compare the effects across countries in order to evaluate the cushioning effect of different welfare state regimes and to cluster the countries according to the stabilising effect of their tax benefit systems.

Theoretical framework

The extent to which automatic stabilisers mitigate the impact of income shocks on household demand essentially depends on two factors. Firstly, the tax and transfer system determines the way in which a given shock to gross income translates into a change in disposable income. For instance, in the presence of a proportional income tax with a tax rate of 40 per cent, a shock on gross income of EUR 100 leads to a decline in disposable income of EUR 60. In this case, the tax absorbs 40 per cent of the shock to gross income. A progressive tax, in turn, would have a stronger stabilising effect. The second factor is the link between current disposable income and current demand for goods and services. If the income shock is perceived as transitory and current demand depends on some concept of permanent income, and if households can borrow or use accumulated savings, their demand will not change. In this case, the impact of automatic stabilisers on current demand would be equal to zero. Things are different, however, if households are liquidity constrained. In this scenario, their current expenditures do depend on disposable income, so that automatic stabilisers play a role. In this chapter, however, we will concentrate on the first factor: the stabilisation of disposable income after shocks on gross income. More information on the measurement of automatic stabilisation is provided in the Appendix (see pages 162-167).

Microsimulation using TAXSIM and EUROMOD

We use microsimulation techniques to simulate taxes, benefits and disposable income under different scenarios for a representative micro-data sample of households. Simulation analysis allows us to conduct a controlled experiment by changing the parameters of interest while holding everything else constant (cf. Bourguignon, F. and Spadaro, A.). We, therefore, do not have to deal with endogeneity problems when identifying the effects of the policy reform under consideration.

Simulations are carried out using TAXSIM - the NBER's microsimulation model for calculating liabilities under US Federal and State income tax laws from individual data - and EUROMOD, a static tax-benefit model for 19 EU countries, which was designed for comparative analysis.[13]

[12] We abstract from other taxes, in particular corporate income taxes. For an analysis of automatic stabilisers in the corporate tax system, see Devereux, M.P. and Fuest, C.; and Buettner, T. and Fuest, C.

[13] For more information on TAXSIM see Feenberg, D.R. and Coutts, E. or visit http://www.nber.org/taxsim/. For further information on EUROMOD see Sutherland, H., 2001a, 2007. There are also country reports available with detailed information on the input data, the modelling and validation of each tax benefit system, see http://www.iser.essex.ac.uk/research/euromod. The tax-benefit systems included in the model have been

The models can simulate most direct taxes and benefits, apart from those based on previous contributions, as this information is usually not available from the cross-sectional survey data used as input datasets. Information on these instruments is taken directly from the original data sources. Both models assume full benefit take-up and tax compliance, focusing on the intended effects of tax-benefit systems. The main stages of the simulations are the following. First, a micro-data sample and tax-benefit rules are read into the model. Then for each tax and benefit instrument, the model constructs corresponding assessment units, ascertains which are eligible for that instrument and determines the amount of benefit or tax liability for each member of the unit. Finally, after all taxes and benefits in question are simulated, disposable income is calculated.

Scenarios

The existing literature on stabilisation so far has concentrated on increases in earnings or gross incomes to examine the stabilising impact of tax benefit systems. In light of the current economic crisis, there is much more interest in a downturn scenario. Reinhart, C. and Rogoff, K., 2009, stress that recessions following a financial crisis have particularly severe effects on asset prices, output and unemployment. Therefore, we are interested not only in a scenario of a uniform decrease in incomes but also in an increase of the unemployment rate. We compare a scenario where gross incomes are proportionally decreased by 5 per cent for all households (income shock) to a scenario where some households are made unemployed and therefore lose all their labour earnings (unemployment shock). In the latter scenario, the unemployment rate increases such that total household income decreases by 5 per cent as well in order to make both scenarios as comparable as possible.[14]

The increase of the unemployment rate is modelled through re-weighting of our samples.[15] The weights of the unemployed are increased while those of the employed with similar characteristics are decreased, i.e., in effect, a fraction of employed households is made unemployed. With this re-weighting approach, we control for several individual and household characteristics that determine the risk of becoming unemployed. The implicit assumption behind this approach is that the socio-demographic characteristics of the unemployed remain constant.[16]

validated against aggregated administrative statistics as well as national tax-benefit models (where available), and the robustness checked through numerous applications (see, e.g., Bargain, O.).

[14] Our scenarios can be seen as a conservative estimate of the expected impact of the current crisis (see Reinhart, C. and Rogoff, K., 2009 for effects of previous crises). The (qualitative) results are robust with respect to different sizes of the shocks. The results for the unemployment shock do not change much when we model it as an increase of the unemployment rate by 5 percentage points for each country. It would be further possible to derive more complicated scenarios with different shocks on different income sources or a combination of income and unemployment shock. However, this would only have an impact on the distribution of changes which are not relevant in the analysis of this chapter. Therefore, we focus on these two simple scenarios in order to make our analysis as simple as possible. One should note, though, that our analysis is not a forecasting exercise. We do not aim at quantifying the exact effects of the current economic crisis but of stylised scenarios in order to explore the built-in automatic stabilisers of existing pre-crisis tax-benefit systems. Conducting an ex-post analysis would include discretionary government reactions and behavioural responses (see, e.g., Aaberge, R. et al. for an empirical ex-post analysis of a previous crisis in the Nordic countries) and we would not be able to identify the role of automatic stabilisation.

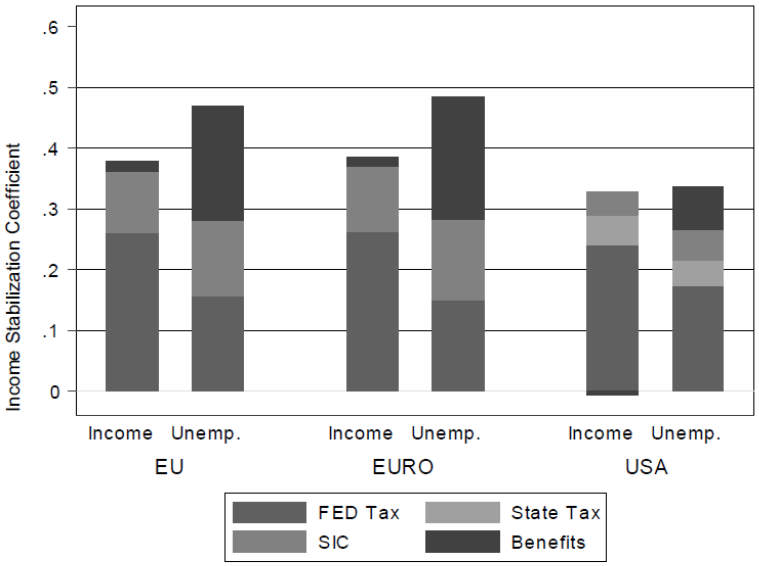
[15] For the re-weighting procedure, we follow the approach of Immervoll, H. et al., 2006, who have also simulated an increase in unemployment through re-weighting of the sample. Their analysis focuses on changes in absolute and relative poverty rates after changes in the income distribution and the employment rate.

[16] Cf. Deville, J.C. and Särndal, C.-E., and DiNardo, J. et al. This approach is equivalent to estimating probabilities of becoming unemployed (see, e.g., Bell, D.N.F. and Blanchflower, D.G.) and then selecting the individuals with the highest probabilities when controlling for the same characteristics in the re-weighting estimation (see Herault, N.).

US vs. Europe

We start our analysis by comparing the US to Europe. Our simulation model includes 19 European countries which we treat as one single country (i.e. the 'United States of Europe'). All of them are EU Member States, which is why we refer to this group as the EU, bearing in mind that some EU Member States are missing. We also consider the countries of the euro area and refer to this group as 'EURO'. Figure 6 summarises the results of our baseline simulation, which focuses on the income tax, social insurance contributions (or payroll taxes) paid by employees and benefits. Consider first the income shock. Approximately 38 per cent of such a shock would be absorbed by automatic stabilisers in the EU (and the euro zone). For the US, we find a slightly lower value of 32 per cent. This difference of just six percentage points is surprising in so far as automatic stabilisers in Europe are usually considered to be drastically higher than in the US.[17] Our results qualify this view to a certain degree, at least as far as proportional income shocks are concerned. Figure 7 shows that taxes and social insurance contributions are the dominating factors which drive in case of a uniform income shock. Benefits are of minor importance in this scenario.

Figure 7: Decomposition of stabilisation coefficient for both scenarios – US vs EU



Source: Own calculations based on EUROMOD and TAXSIM

In the case of the unemployment shock, the difference between the EU and the US is larger. EU automatic stabilisers now absorb 47 per cent of the shock (49 per cent in the euro zone), whereas the stabilisation effect in the US is only 34 per cent. This difference can be explained with the importance of unemployment benefits, which account for a large part of stabilisation in Europe in this scenario. Table A8 in the appendix shows that benefits alone absorb 19 per cent of the shock in Europe compared to just 7 per cent in the US.

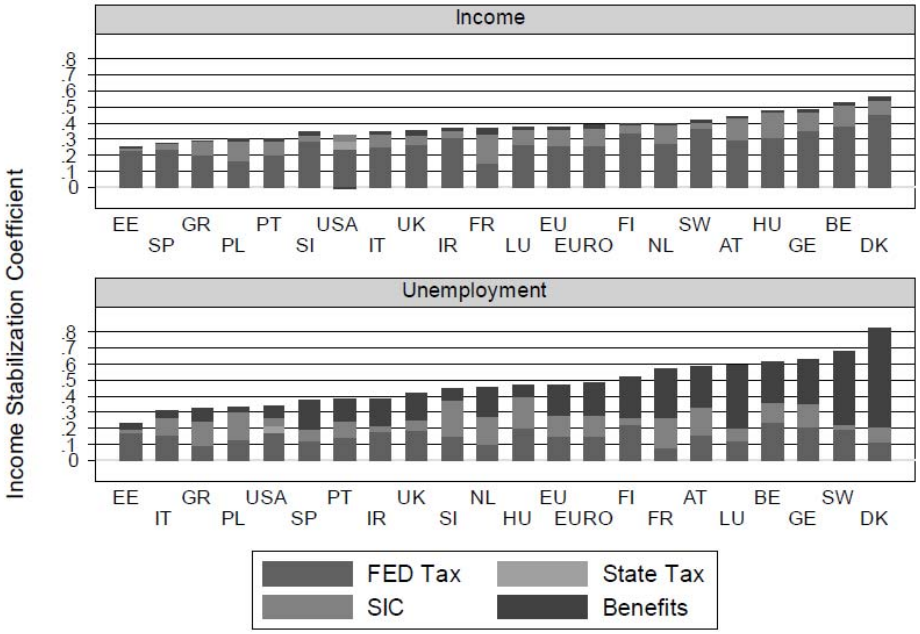
[17] Note that for the US, the value of the stabilisation coefficient for federal income taxes only is below 25 per cent, which is in line with the results of Auerbach, A. and Feenberg, D.).

Country decomposition

The results for the stabilisation coefficient vary considerably across countries, as can be seen from Figure 8 (and Tables A7 and A8 in the appendix).

In the case of the income shock, we find the highest stabilisation coefficient for Denmark, where automatic stabilisers cushion 56 per cent of the shock. Belgium (53 per cent), Germany (48) and, surprisingly, Hungary (48) also have strong automatic stabilisers. The lowest values are found for Estonia (25 per cent), Spain (28) and Greece (29). With the exception of France, taxes seem to have a stronger stabilising role than social security contributions. In France, social security contributions are progressive and therefore have an important role for disposable income stabilisation.

Figure 8: Decomposition of income stabilisation coefficient for both scenarios – country ranking



Source: Own calculations based on EUROMOD and TAXSIM

In the case of the unemployment shock, the stabilisation coefficients are larger for the majority of countries. Again, the highest value emerges for Denmark (82 per cent), followed by Sweden (68), Germany (62) Belgium (61) and Luxembourg (59). The relatively low value of stabilisation from (unemployment) benefits in Finland compared to its neighbouring Nordic countries might be surprising at a first glance but can be explained with the fact that Finland has the least generous unemployment benefits of the Nordic countries (see Aaberge et al., 2000). Hungary (47 per cent) is now at the EU average due to the relatively low level of unemployment benefits which are important for disposable income stabilisation in case of an unemployment shock. At the other end of the spectrum, there are some countries with values below the US level of 34 per cent. These include Estonia (23 per cent), Italy (31), and, to a lesser extent, Poland (33).

With regards to personal income tax, it is surprising that the values for the US (federal and state level income tax combined) are higher than the EU average. To some extent, this qualifies the widespread view that tax progressivity is higher in Europe (e.g., Alesina, A. and Glaeser, E.L. or Piketty, T. and Saez, E.).

Of course, this can be partly explained by the considerable heterogeneity within Europe. But still, only a few countries like Belgium, Germany and the Nordic countries have higher contributions of stabilisation originating from the personal income tax.

Stabilisation of different income groups

Table A9 shows that in the case of the proportional income shock, the stabilisation coefficients are an increasing function of the income quantiles. This result is due to higher changes between market and disposable income for high income groups. It is worth mentioning that even a proportional tax would yield increasing coefficients for higher quantiles, i.e. progressivity of the income tax is not required for this result.

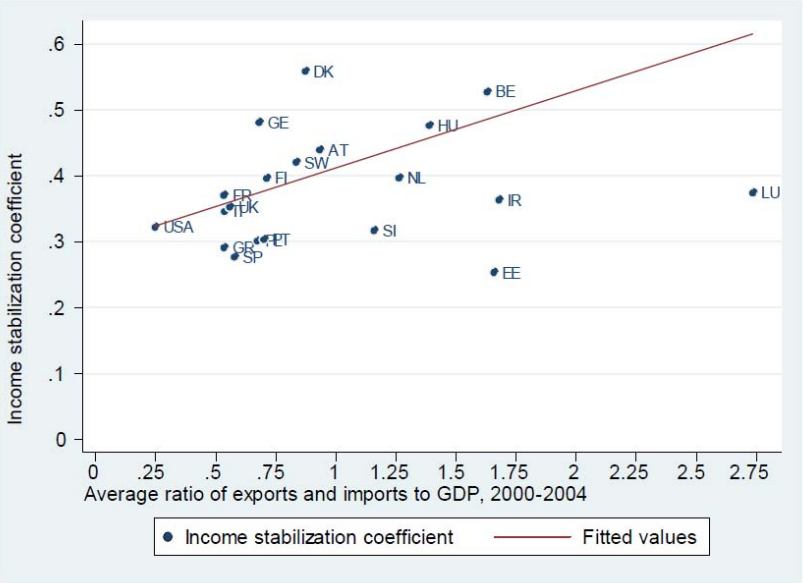
In contrast to the increasing stabilisation by income quantile for the income shock, stabilisation results for the unemployment shock follow a somewhat different pattern as demonstrated in Table A10. Here, with the exception of some Eastern and Southern European countries, we also find high stabilisation for the lowest income groups. As the unemployment shock is modelled through re-weighting of our sample, taking into account individual characteristics of the unemployed, a large part of the newly unemployed comes from lower income quantiles. The fact that tax and transfer systems in countries such as Estonia, Greece, Italy, Poland, Portugal, Slovenia or Spain provide only weak stabilisation for low income groups can be explained by rather low unemployment benefits in these countries.

Automatic stabilisers and openness of the economy

It is a striking feature of our results that automatic stabilisers differ significantly within Europe. In particular, automatic stabilisers in Eastern and Southern European countries are much weaker than in the rest of Europe. One factor contributing to this is that government size is often positively correlated with per capita incomes, at least in Europe. The stabilisation of disposable incomes will therefore be higher in high income countries, just as a side effect of a larger public sector.

But differences in automatic stabilisers across countries may also have other reasons. In particular, the effectiveness of demand stabilisation as a way of stabilising domestic output is smaller, the more open the economy. In very open economies, domestic output will depend heavily on export demand and higher demand by domestic households will partly lead to higher imports. Clearly, openness of the economy has a number of other implications for the tax and transfer system, including the view that more open economies need more insurance against shocks as argued, e.g., by Rodrik, D. Figure 8 depicts the relationship between income stabilisation coefficients and openness as measured by the ratio of exports plus imports over GDP. As Figure 8 shows, it is not the case that more open economies have weaker automatic stabilisers, the correlation is even positive (0.57). Our results thus support the hypothesis of Rodrik, D.: that income stabilisation is higher in more open economies.

Figure 9: Income stabilisation coefficient and openness of the economy



Source: Own calculations based on EUROMOD and TAXSIM, Heston et al. (2006).

Cluster analysis

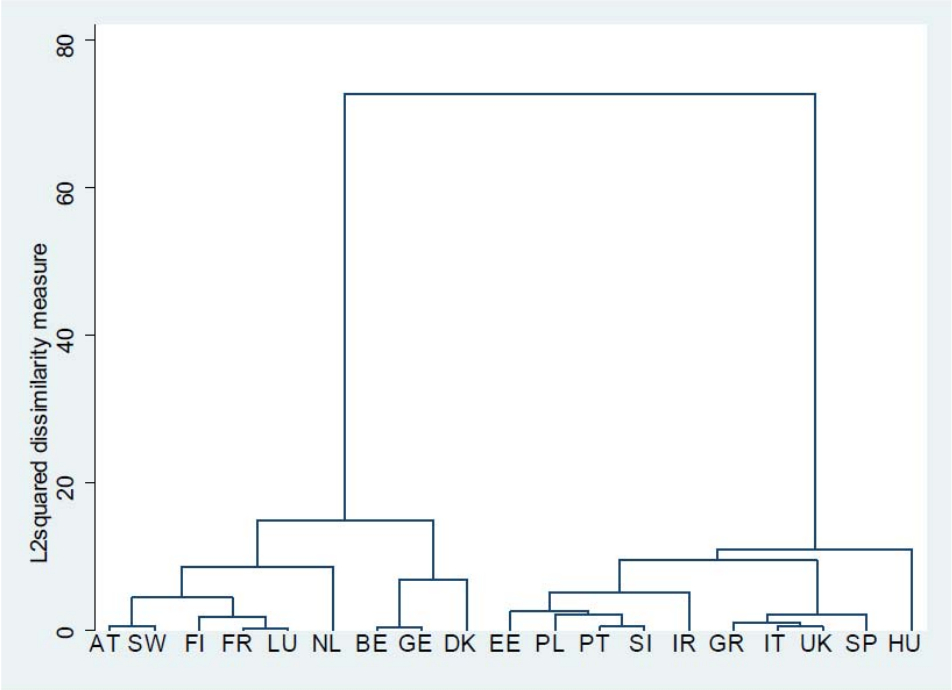
In order to compare the clustering of countries with respect to the different measures of automatic stabilisation and controlling for several variables, we conduct a hierarchical cluster analysis to group countries that have similar characteristics across a set of variables. When performing a cluster analysis, a number of technical decisions have to be made. First, all variables have been standardised from 0 to 1 using z-scores, to prevent the results being driven by large absolute values of some variables. Our method of grouping the countries is the common Ward's linkage, which combines such clusters which minimally increase the squared sum of errors. Our results will be illustrated in a 'dendrogram', which graphically presents the information concerning which observations are grouped together at various levels of (dis)similarity. At the bottom of the dendrogram, each observation is considered as its own cluster. Vertical lines extend up for each observation. At various (dis)similarity values these lines are connected to the lines from other observations with a horizontal line. The observations continue to combine until, at the top of the dendrogram, all observations are grouped together. The height of the vertical lines and the range of the (dis)similarity axis give visual clues about the strength of the clustering. In our case, the measure for the distance between cases is the common 'squared Euclidean'. Generally, long vertical lines indicate more distinct separation between groups, short lines more similarity, respectively.[18]

We perform a cluster analysis on the basis of the stabilisation coefficients for the income and unemployment shock combined with inequality in market income and the ratio of direct to indirect taxes. The dendogram is shown in Figure 10. In accordance with the classical typology of welfare state regimes (Esping-Andersen, G., and Ferrera, M.), the dendogram groups Continental and Nordic countries to the left and Anglo-Saxon, Southern and Eastern European countries to the right. The US, not included in the figure, clearly also belongs to the Anglo-Saxon countries.

[18]Note that the general clustering results presented here are robust to different linkage or dissimilarity measure specifications. We report the results for the most common combination found in the literature.

The former group is characterised by a rather high level of income stabilisation, modest inequality in market income and an important role of direct taxes and SIC, whereas countries from the latter group tend to rank at the other end of the spectrum.

Figure 10: Cluster analysis



Source: Own calculations based on EUROMOD.

Conclusions

In this chapter, we have used the microsimulation models for the tax and transfer systems of 19 European countries (EUROMOD) and the US (TAXSIM) to investigate the extent to which automatic stabilisers cushion household disposable income in the event of macroeconomic shocks. Our simulations focus on the personal income tax, employee social insurance contributions and benefits. We find that the amount of automatic stabilisation depends strongly on the type of income shock. In the case of a proportional income shock, approximately 38 per cent of the shock would be absorbed by automatic stabilisers in the EU. For the US, we find a value of 32 per cent. Within the EU, there is considerable heterogeneity, and results range from a value of 25 per cent for Estonia to 56 per cent for Denmark. In general, automatic stabilisers in Eastern and Southern European countries are considerably lower than in Continental and Northern European countries.

In the case of an unemployment shock, which affects households asymmetrically, the difference between the EU and the US is larger. EU automatic stabilisers absorb 47 per cent of the shock, whereas the stabilisation effect in the US is only 34 per cent. Again, there is considerable heterogeneity within the EU.

These results suggest that social transfers, in particular the rather generous systems of unemployment insurance in Europe, play a key role in the stabilisation of disposable incomes and explain a large part of the difference in automatic stabilisers between Europe and the US. This is confirmed by the decomposition of stabilisation effects in our analysis. In the case of the unemployment shocks, benefits alone absorb 19 per cent of the shock in Europe compared to just 7 per cent in the US, whereas the stabilising effect of income taxes (taking into account state taxes in the US as well) is similar.

To some extent, this qualifies the view that automatic stabilisers are larger in Europe than in the US. This is only true for countries like Belgium, Denmark, Finland, Germany or Sweden because taxes and social security contributions are higher in these countries.

An important result of our analysis is that automatic stabilisers are very heterogeneous within Europe. Interestingly, Eastern and Southern European countries are characterised by rather low automatic stabilisers. This is surprising, at least from an insurance point of view, because lower average income (and wealth) implies that households are more vulnerable to income shocks. One explanation for this finding could be that countries with lower per capita incomes tend to have smaller public sectors. From this perspective, weaker automatic stabilisers in Eastern and Southern European countries are a potentially unintended side effect of the lower demand for government activity including redistribution. Another potential explanation, the idea that more open economies have weaker automatic stabilisers because domestic demand spills over to other countries, seems to be inconsistent with the data, at least as far as the simple correlation between stabilisation coefficients and trade to GDP ratios is concerned.

2.2.2. The role of discretionary measures

This chapter discusses the impact of discretionary social policy measures on macroeconomic development. In a first step we present an overview of the fiscal stimuli of all EU-27 countries. Some countries, which have been particularly active in the field of social policy, will be discussed in more detail. In a second step, we simulate the macroeconomic impact of the stimulus packages and present the results. The focus hereby lies on changes in GDP, employment and private consumption as well as on the effect of coordinated pan-European measures compared to single country discretionary policy. We find that social policy plays an important role in stabilising the economy. Additionally, coordinated policy is more effective in terms of the multiplier for almost all countries.

Overview of social policy measures in Europe

European politics responded quickly to the economic crisis which unfolded after the collapse of Lehman Brothers in August 2008 by implementing stimulus packages to stabilise the economy. In February 2009, the stimulus programmes were already designed and agreed on by national governments (Saha, D. and von Weizsäcker, J.: 1ff). Only two countries, Spain and the United Kingdom, had employed stabilising measures as early as 2008. Both countries had had substantial problems in their housing sectors, where the crisis originated in its early stages. When the crisis spread across the continent, European governments responded with discretionary policy; social policy played an important role in (almost) every national stimulus package. Many Member States directed large fractions of overall stimulus measures to discretionary social policy (European Commission, 2010: 47; see Table 7 below).

Table 7 presents a summary of the size of discretionary social policy packages implemented in the 27 member countries of the European Union during 2009 and 2010. The table is split into two parts: since sound quantitative figures have been available for only 16 countries, these countries constitute the upper part of the table. For these countries, the policy efforts for 2009 and 2010 are presented both in absolute numbers and in per cent of the 2008 GDP. In addition, they are decomposed in revenue and expenditure measures. For the other 11 countries, we used information obtained from the European Commission (European Commission, 2009a).

Table 7: Aggregate discretionary social policy in the European Union for 2009 and 2010

	in billion euros	in % of 2008 GDP	revenue measures in % of 2008 GDP	expenditure measures in % 2008 GDP	fraction of total stimulus
Belgium	5.29	1.53	1.03	0.50	0.96
Germany	39.07	1.57	1.24	0.33	0.53
Greece	1.04	0.43	0.00	0.43	0.69
Spain	26.42	2.43	1.66	0.77	0.68
France	5.50	0.28	0.13	0.15	0.43
Italy	3.31	0.21	0.00	0.21	0.65
Netherlands	7.34	1.23	1.12	0.11	0.80
Austria	4.54	1.61	1.35	0.26	0.90
Portugal	1.02	0.61	0.00	0.61	0.77
Slovak Republic	0.71	1.10	0.61	0.49	0.95
Finland	4.93	2.68	2.39	0.29	0.84
Euro zone	99.18	1.07			
Czech Republic	2.98	2.14	2.01	0.14	0.66
Denmark	3.98	1.71	0.68	1.02	0.67
Sweden	7.35	2.47	1.73	0.74	0.88
United Kingdom	12.34	0.76	0.59	0.17	0.45
Poland	1.18	0.40	0.31	0.09	0.22
unweighted average 16 countries		1.32	0.93	0.40	0.69
unweighted average 11 euro countries		1.24	0.87	0.38	0.75
			labour market	purchasing power of households	
Estonia			0.50	0.00	
Ireland			0.20	0.80	
Latvia			0.00	0.60	
Malta			0.00	0.40	
Romania			0.00	0.10	
Slovenia			0.80	0.00	
Bulgaria			0.00	0.00	
Cyprus			0.00	0.00	
Lithuania			0.00	0.00	
Luxembourg			n.a.	n.a.	
Hungary			0.00	0.00	

Source: OECD, 2009d, European Commission, 2009a.

According to this document, four countries, Bulgaria, Cyprus, Hungary and Lithuania, completely refrained from implementing discretionary social policy measures during the crisis. Figures for Luxembourg were not available. Estonia, Ireland, Latvia, Malta, Romania and Slovenia implemented expansionary policies. Policies have been subsumed under either labour market or purchasing power of household measures. The range for both is between 0.1 and 0.8 per cent of GDP for 2009 and 2010. The European Commission reports significant labour market policies for Estonia and Slovenia. Considerable purchasing power measures have been implemented by Ireland, Latvia and Malta (European Commission, 2009a: 21).[19]

In the euro area as a whole, the total stimulus for discretionary social policy measures amounts to roughly EUR 100 billion which is equivalent to 1.07 per cent of GDP in 2008. Large contributions in absolute terms come from Germany (EUR 39 billion = 1.57 per cent of GDP) and Spain[20] (EUR 26.4 billion = 2.43 per cent of GDP). Relative to domestic output Austria, Belgium, Finland, Germany, the Netherlands, Slovakia and Spain opted for a strong social policy response to the crisis. The corresponding numbers are 1.61 per cent of GDP for Austria, 1.53 for Belgium, 2.68 for Finland, 1.23 for the Netherlands and 1.1 for Slovakia. These countries clearly reveal a preference for policy measures on the revenue side. Tax cuts for low income groups and families, as well as cuts in social security contributions, generally account for a large share of overall social policy stimulus packages. Among the euro countries with large policy impulses, only Belgium, Slovakia and Spain were significantly active on the expenditure side, with measures of about 0.5 per cent of GDP.

The remaining countries of the euro area did not implement large-scale discretionary policies (Saha, D. and von Weizsäcker, J.; OECD, 2009a). Measures in France amounted to 0.28 per cent of GDP, equally distributed on the revenue and the expenditure side. The three Mediterranean countries, Italy, Greece and Portugal show a common pattern. Policies on the expenditure side, consisting of transfers towards various groups which were affected by the crisis, account for the whole social policy stimulus.

Outside the euro area Sweden and Denmark, two countries with a long and strong welfare state tradition, but also the Czech Republic, implemented significant packages, close to or even above 2 per cent of GDP. The Czech government has focused on the revenue side; Denmark and Sweden, on the other hand, have exhibited a preference for direct social policy through expenditure measures (as opposed to indirect revenue measures). The corresponding figures are 1.02 per cent of GDP for Denmark and 0.74 for Sweden, which mark the upper bound of the sample. The measures in the United Kingdom amounted to 0.76 per cent of GDP, which equals roughly GBP 11 billion, and ranks third in absolute numbers. Poland's discretionary social policies amounted to 0.4 per cent of GDP, with a clear focus on the revenue side, just as in the case of the United Kingdom.

[19] The EC document also lists specific social policies, but they are not quantified, hence the vague description. Furthermore documents on the stimulus packages in the European Union (OECD, 2009a, European Commission 2009a, Saha, D. and von Weizsäcker, J.) are not consistent on various occasions. The most detailed report on this subject is from the OECD (cf. OECD, 2009a), which therefore forms the basis of the simulations carried out later in this chapter.

[20] Since Spain and also the United Kingdom have been severely affected by a sharp decline in housing markets from the early stages of the crisis on, these two countries implemented discretionary social policy measures already in 2008, which are included here.

For the 16 countries in the European Union with available data, the unweighted average of total social stimulus measures in 2009 and 2010 is 1.32 per cent of GDP. As previously mentioned, the focus is on revenue measures, which on average amount to 0.93 per cent of GDP. Discretionary social policies on the expenditure side, on the other hand, only amount to roughly only 0.4 per cent of GDP. For the whole sample, the unweighted share of social policy measures in total stimulus efforts is 69 per cent.

For the 11 countries in the euro area, the respective values are 1.24 per cent regarding total measures, whereby 0.87 per cent is directed to revenue measures and 0.38 to expenditure measures. The social policy share of total stimulus efforts is slightly higher at 75 per cent.

According to the classification of different types of welfare states, the following observations can be made. The Scandinavians have implemented the largest social policy packages and, with the exception of Finland, they have also put considerable weight on the expenditure side. Discretionary social policy in the Continental European welfare states exhibits a larger focus on revenue measures and is not as substantial relative to GDP as in Scandinavia. It is striking, however, that France implemented only very moderate measures. In the Anglo-Saxon welfare states the social policy stance was in comparison much less expansionary. The share of social policy measures in total stimulus efforts in the UK is small. Ireland completely refrained from a social policy stimulus. In the Mediterranean countries discretionary policies have been small and based exclusively on the expenditure side. The exception is Spain, where a broad and substantial social policy stimulus package was implemented. For the countries which became EU Member States in 2004 (EU-10), it is notable that the majority of them refrained from implementing discretionary social policies. In Poland, Slovakia and the Czech Republic, where policy held an expansionary stance, measures vary considerably.[21]

Selected country examples

The following paragraphs highlight the composition of social policy in those countries which have been particularly active in this field.

In absolute terms the biggest social policy impulse comes from Germany. The two stimulus packages address the needs of vulnerable groups both by measures on the revenue and on the expenditure side. On the revenue side direct taxes are cut by increasing the basic tax-free allowance and lowering the entry tax rate by one percentage point. This measure amounts to EUR 8.9 billion for 2009 and 2010 and supports low income groups. Furthermore, the contributions to the social security systems have been significantly reduced, by EUR 17.5 billion for the same period (OECD, 2009a: 18).

On the expenditure side there are higher permanent and temporary transfers, as well as increased government consumption through active labour market policy measures. Temporary transfers consist of subsidies for social security contributions for firms participating in the short-time working scheme and one-off payments for households with children. In combination with permanently higher child benefits and higher tax-free child allowances these measures amount to EUR 5.3 billion in 2009 and EUR 3.6 billion in 2010.

Higher government consumption due to increased resources for the public employment is dedicated to activate and train the (newly) unemployed. This adds another EUR 3.5 billion to the German social policy stimulus, which amounts to roughly EUR 39 billion in total, equal to 1.57 per cent of the 2008 GDP and accounts for 53 per cent of Germany's total stimulus.

[21] For Slovenia no detailed information was available.

As mentioned before, Spain had already passed a stimulus bill earlier than most European countries. The bursting of the housing bubble had severely affected the country since summer 2007. Hence, direct tax cuts have accounted for an EUR 18 billion impulse from 2008 till 2010. The bulk of the measures consist of an increased tax credit targeted at low income households (OECD 2009a: 34). Household and business transfers totalling to EUR 5.2 billion for the same period, with 2.8 billion effective in 2008 and 1.2 billion in the following two years. Business transfers include liquidity support and wage subsidies.

Direct government consumption is aimed at increasing public sector wages and enhancing public employment services. These measures constitute a further impact of EUR 3 billion, so that total Spanish measures amount to roughly EUR 26 billion, equal to 2.43 per cent of GDP and 68 per cent of Spain's total stimulus.

A country which has been particularly active in the realm of social policy is Sweden. Public employment has been increased, in 2009 and 2010, by channelling resources into the education sector, specific authorities as well as into public employment services. These measures amount to 21 billion Swedish Krona (equivalent to EUR 2 billion)[22]. Further expenditure via transfers amounting to SKK 2.5 billion (EUR 0.23 billion) have been directed to the unemployed, retirees and students. Expenditure measures thus amount to 0.74 per cent of GDP.

Direct taxes and social security contributions have been reduced in various ways. A SKK 30 billion tax credit (EUR 2.8 billion) has been targeted at low income groups; business taxes and social security contributions have been decreased by SKK 12 billion (EUR 1.1 billion); and other direct tax cuts, for example for pensioners, amount to roughly SKK 15 billion (EUR 1.4 billion). Total measures account for SKK 78 billion (EUR 7.3 billion), roughly equivalent to 2.5 per cent of the 2008 GDP and to 88 per cent of Sweden's total discretionary policies (OECD, 2009a: 35).

Denmark's discretionary measures rank highest relative to GDP among all members of the European Union. The Danish government has placed emphasis on the expenditure side, with increased spending aimed at public employment. This measure amounts to DKK 15.6 billion (EUR 2.1 billion). Together with Sweden, Denmark is the only country which has significantly counteracted the decline in employment by offering more public sector jobs. Increased transfers, including higher pension payments, add another DKK 2.2 billion (EUR 0.3 billion) to the 1.02 per cent of GDP directly spent on social issues (OECD, 2009a: 15).

Belgium also introduced a well-balanced social policy impulse. Measures on the expenditure side include an increase in unemployment benefits, electricity bill subsidies and a general adaptation of social benefits. They amount to roughly EUR 1.6 billion, equal to 0.5 per cent of GDP. This figure compares favourably to most other European nations. On the revenue side, various tax reductions plus the indexation of brackets correspond to approximately EUR 3 billion, which gives a total Belgian discretionary effort of 1.53 per cent of GDP (OECD, 2009a: 12). The country's total stimulus almost entirely consist in social policy measures, their fraction is 96 per cent of overall efforts.

Among the EU-10, the Czech Republic has implemented the largest social policy stimulus by far. The major share consists of lower social security contributions (CZK 74 of 79 billion or 2.8 of EUR 3 billion). Employee contributions have been cut by 1.5 per cent and employers of low wage workers have also received support (OECD 2009a: 14). These measures account for 66 per cent of the total stimulus in the Czech Republic.

[22] For all conversions from national currencies to euro, average exchange rates for 2009 have been used.

Simulation of the effects of social policy measures

This section presents the results of our simulations which estimate the macroeconomic impact of the social policy measures described in the previous section. The data for 20 EU Member States were analysed using the Oxford World Economic Model (Oxford Economic Forecasting). This model is particularly suited for an analysis of coordinated stimulus policy in Europe because it is able to identify cross-border spill over effects. Hence, a comparison between nationwide and coordinated European policy efforts is possible.

In the first step, the data on the social policy stimulus packages obtained from the OECD (OECD, 2009a) were adjusted for the Oxford model in order to shock the corresponding variables both on the revenue and the expenditure side. These simulations were carried out inversely. Since the base version of the Oxford model already includes the stimulus measures, a scenario without them was simulated. This makes it possible to account for the difference, which is the positive effect stemming from the expansionary social policy.

The first round of simulations showed that the Oxford model inherently generates a rise in the interest rate in response to an expansionary fiscal policy. Since monetary policy in Europe has been accommodative throughout the crises, this tightening effect was corrected. In our simulations, the interest rates were kept constant with respect to the baseline solution.

The outcomes of the second round of simulations confirm the results of the studies on multipliers, which were discussed in chapter 1 of this report. When monetary policy is accommodative, the impact of discretionary social policy (and of fiscal policy in general) is significantly higher than with passive or tightening monetary policy.

Tables 8 to 11 present the results of the simulations. The impact of social policy measures on GDP, private consumption, employment and unemployment is shown for the period from 2010 until 2012. For reasons of applicability, the amount of the stimulus packages was divided and added quarterly to the model (e.g. EUR 1 billion of additional transfers in 2009 was implemented as EUR 250 million each in Q1 – Q4 2009)[23]. Hence the full impact of the packages comes into effect from the last quarter of 2010 onwards. Therefore significant impacts are observable with a lag. They begin in 2011 and generally culminate in 2012.

The tables are designed to reflect the positive feedback mechanism of a coordinated European counter-cyclical social policy. For every year the number in the first column indicates the outcome of the national policies assuming that the rest of the European Union refrains from additional spending. The number in the right column shows the results for a European wide coordinated policy effort in each country. The suggestion that coordinated policy in the European Union has a larger multiplier effect is confirmed. Due to the spill-over mechanisms, there are some effects even in countries which refrained from implementing any discretionary social policy.

[23] This is a simplification due to the complexity which is involved in simultaneously estimating and comparing the impact of 16 countries' stimulus packages. The real world pattern according to which discretionary social policies were implemented is different and could not be accurately reproduced in the model.

Table 8: GDP effects of expansionary social policy

	2010		2011		2012		2012		2012
	Single country	EU - coordinated	Single country	EU - coordinated	Single country	EU - coordinated	Single country (cumulated)	EU - coordinated (cumulated)	Cumulated multiplier (EU - coordinated)[24]
EURO	-	0.20	-	0.30	-	0.40		0.90	0.84
GERMANY	0.30	0.30	0.40	0.50	0.40	0.60	1.10	1.40	0.89
FRANCE	0.00	0.00	0.00	0.10	0.00	0.10	0.00	0.20	0.71
ITALY	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.30	1.43
UK	0.00	0.10	0.10	0.20	0.20	0.30	0.30	0.60	0.79
AUSTRIA	0.30	0.40	0.30	0.50	0.40	0.60	1.00	1.50	0.93
BELGIUM	0.20	0.30	0.20	0.30	0.10	0.30	0.50	0.90	0.59
BULGARIA	-	0.00	-	0.00	-	0.10	-	0.10	
CZECH	0.10	0.20	0.20	0.60	0.10	0.30	0.40	1.10	0.51
DENMARK	0.50	0.50	0.60	0.70	0.60	0.90	1.70	2.10	1.23
FINLAND	0.70	0.90	0.60	0.90	0.70	1.20	2.00	3.00	1.12
GREECE	0.10	0.10	0.00	0.10	0.00	0.10	0.10	0.30	0.69
HUNGARY	-	0.20	-	0.50	-	0.20	-	0.90	
IRELAND	-	0.10	-	0.20	-	0.40	-	0.70	
NETHERLANDS	0.10	0.30	0.30	0.50	0.30	0.60	0.70	1.40	1.14
POLAND	0.00	0.10	0.00	0.20	0.10	0.20	0.10	0.50	1.24
PORTUGAL	0.10	0.20	0.20	0.30	0.10	0.40	0.40	0.90	1.46
ROMANIA	-	0.00	-	0.00	-	0.00	-	0.00	
SLOVAKIA	0.00	0.10	0.00	0.10	0.00	0.20	0.00	0.40	0.36
SPAIN	0.30	0.40	0.50	0.60	0.70	0.80	1.50	1.80	0.74
SWEDEN	0.20	0.30	0.50	0.70	0.70	1.00	1.40	2.00	0.81

[24] The cumulated multiplier indicates the growth effect of every euro spent on discretionary social policy when the measures have developed their full impact in the model. A cumulated multiplier of 1.23 means that EUR 1 billion ultimately yields EUR 1.23 billion additional output.

Impact of discretionary measures on GDP

Table 8 depicts the stabilising impact of discretionary social policy on GDP. Unfortunately not all countries of the EU-27 are included in the Oxford World Economic Model.[25] For the vast majority of countries where results were obtained, they implicate significant benefits from discretionary social policy, both from a single country perspective and even more in a coordinated European scenario.[26]

In the single country scenarios, the GDP effects for the whole sample are proportionate to the total stimulus. Countries which relied more on expenditure measures, such as Denmark, Spain or Sweden, experience a greater impact on GDP.

Regarding the benefits of the coordinated social policy stimulus, three patterns are clearly visible among the Member States. In all cases, the effect on GDP is larger than in the single country scenario. In the four major European economies, Germany, France, Italy and the United Kingdom, the additional growth effects from discretionary social policy range between 0.1 and 0.2 per cent of GDP. The results for Spain are similar.

Germany, which implemented the largest social policy stimulus package, is also the country which receives the highest benefits from a coordinated policy, among the four big countries. Our results are consistent with the simulations conducted by other institutes (Projektgruppe Gemeinschaftsdiagnose, 2010: 35). The Halle Institute for Economic Research (IWH) found that total stimulus measures culminate in a 1 per cent higher GDP. Since social policy amounts to roughly 60 per cent of total stimulus (cf. EC 2009: 15), our results are within the same range. When the GDP effects from expansionary social policy from 2010 to 2012 are cumulated, German GDP in 2012 is 1.4 per cent higher. This implies that once the measures have entirely worked their way through the model, the cumulated multiplier is around 0.9.

The individual stimulus packages in France and Italy had no significant impact on their macroeconomic variables. However, the two countries benefit from their European neighbours policies. Although the GDP effect looks quite small, these gains protect several thousand people from unemployment.

The results for the United Kingdom are moderate because only a small part of the overall stimulus package qualifies as social policy. This also complicates comparisons with simulations from other institutions, which calculate an effect on GDP of up to 1.5 per cent (Barrell, R. et al.: 42). Our simulations peak at 0.3 per cent of additional GDP in 2012. When the benefits are cumulated over the years, Britain's GDP in the coordinated scenario is 0.6 per cent higher, yielding a cumulated multiplier of roughly 0.8.

In Spain, benefits from discretionary policy rise from 0.4 per cent of GDP in 2010 to 0.8 per cent in 2012, in the coordinated scenario.[27] The cumulated effect amounts to 1.8 per cent of GDP in 2012, hence the cumulated multiplier is about 0.75.

The second pattern which emerges from our results concerns countries which either did not implement discretionary measures at all (such as Greece, Hungary and Ireland) or where policies did not show any considerable results in the single-country scenario (e.g. Poland and Slovakia). Generally, there is a benefit from the stimulus programmes of their European neighbours, up to 0.4 per cent (Ireland in 2012) or 0.5 per cent (Hungary in 2011) of GDP.

[25] Results are missing for Estonia, Latvia, Lithuania, Luxembourg, Malta, Slovenia and Cyprus.
[26] Bulgaria and Romania are the exception. They did not implement any substantial stimulus packages themselves and according to the simulations, they do not gain from the measures of their 25 European partner countries.
[27] Unfortunately, no comparable study came to our attention so far.

If these expansionary impacts are cumulated, GDP in 2012 is 0.9 per cent higher in Hungary and 0.7 per cent higher in Ireland, due to expansionary social policy measures in other EU countries. For Poland the respective number is 0.5, for Slovakia 0.4.

A third group comprises countries which significantly gained growth from their own policies and also benefited substantially from the stimuli of the rest of the European Union. The three Scandinavian countries Denmark, Finland and Sweden, and also Austria, Belgium, the Netherlands, Portugal and the Czech Republic qualify for this group.

The Scandinavian countries, where some of the largest social stimulus packages were implemented, also exhibit the highest economic benefits. When total measures are in effect in Denmark (i.e. 2011), they add 0.6 per cent to GDP for the two following years. The positive contribution of European wide social policy amounts to 0.1 per cent of GDP in 2011 and to 0.3 per cent in 2012. Simulations from De Økonomiske Råd (the Danish Economic Council) calculate positive growth effects from direct tax and public consumption measures of 1.1 per cent of GDP in the first year, and 0.6 per cent in the second.[28] The figures compare fairly well to our calculations. De Økonomiske Råd finds peak effects of 1.1 per cent of GDP; our corresponding result amounts to 0.9 per cent of GDP. The level of 2012 GDP in Denmark is 2.1 per cent higher than without discretionary policy. Every Danish krona spent on social policy thus ultimately yields 1.2 krona of additional income.

Finland and Sweden also accrue substantial benefits both from their own social policy stimulus and from the one of European neighbours. In Finland, benefits peak at 1.2 per cent in 2012 in the coordinated scenario. The cumulated effect on the level of GDP in 2012 is 3 per cent, implying a cumulated multiplier of roughly 1.1. In Sweden, the additional growth effects reach their maximum in 2012 at 1 per cent of GDP. The cumulated growth effects for the same year amount to 2 per cent, implicating a cumulated multiplier of 0.8.

For Austria, the impact of total measures is 0.3 per cent of GDP in 2011 and 0.4 per cent in 2012. The European discretionary efforts add 0.2 per cent additional growth every year. Simulations by the Austrian Institute of Economic Research WIFO (Breuss, F. et al., 2009: 680) yield slightly higher results. For the tax reform supporting household incomes (which accounts for the major part of the country's social policy package), effects of 0.4 per cent of GDP in the first and 0.6 per cent in the second year are calculated. The cumulated effects on growth amount to 1.5 per cent of GDP in 2012.

In Belgium, the GDP gains due to social policy amount to 0.3 per cent every year in the coordinated scenario. These result in a cumulated GDP level for 2012 which is 0.9 per cent higher than without discretionary measures. The corresponding cumulated multiplier is comparatively low, at roughly 0.6.

The Netherlands gain additional growth amounting to 0.5 per cent in 2011 and 0.6 per cent in 2012 according to the calculations. The impact on the GDP level in 2012 is 1.4 per cent, implying a cumulated multiplier of roughly 1.1.

For the euro area as a whole, the GDP gains are 0.2 per cent in 2010, expanding to 0.3 per cent in 2011 and peaking at 0.4 per cent in 2012. Thus we expect the level of GDP in 2012 to be 0.9 per cent higher than without the coordinated social stimulus effort. The corresponding cumulated multiplier effect is roughly 0.85, which matches with the results obtained for the major European economies.

[28] This information was courteously provided by Mr. John Smidt from De Økonomiske Råd.

The conclusions regarding the GDP effects of the social policy stimulus programmes in the European Union are straightforward. Every country which implemented significant measures grows faster, even in the single country scenario. Furthermore for every country, the coordinated policy impulse has positive effects on GDP.

These gains are however unequally distributed among large and small EU-member countries. The coordinated stimulus boosts growth more in smaller than in larger countries.

Impact of discretionary measures on consumption

In the next step, the repercussions of expansionary social policy on consumption will be considered. Since the biggest contribution to total demand comes from private consumption, it is of particular interest to ask to which extent private consumption expenditure can be stabilised through discretionary social policy. As can be seen from Table 9, a clear pattern according to which the benefits are distributed across countries, fails to emerge from our analysis.

Some countries which based their discretionary social policies on a balanced approach between revenue and expenditure measures exhibit a substantial consumption increase. This is the case for Belgium, Denmark, Spain and Sweden. When the effects peak in 2012, private consumption is 1.4 per cent higher in Belgium, 2.4 per cent higher in Denmark, 1.8 per cent higher in Spain and 2.7 per cent higher in Sweden than in the baseline scenario. In Slovakia, where the social stimulus package has a similar structure, there is almost no positive impact on consumption.

There are countries, however, where the implemented discretionary policies were centred on revenue measures and which consequently also accrue significantly higher private consumption. Austria, Finland and the Netherlands qualify for this category. Private consumption is increased by 1.7 per cent in Austria, 2.9 in Finland and 1.1 in the Netherlands at the height of the repercussions. The Czech Republic deviates from this pattern. The expansionary revenue measures amount to over 2 per cent of GDP but consumption increases peak at only moderate 0.8 per cent in 2011. The reason is that the country's revenue policy consists in temporarily reduced social security contributions (cf. OECD, 2009a: 14), and hence, there is no direct link to disposable income. A country whose social stimulus is located solely on the expenditure side, which also benefits from higher consumption, is Portugal. The effects amount to 0.6 per cent in 2012. Major economies like Germany and the United Kingdom exhibit more moderate increases in private consumption than their smaller European neighbours. The respective numbers are 0.8 for Germany and 0.4 for the United Kingdom, when increases peak in the coordinated scenario.

Table 9: Private consumption effects of expansionary social policy

	2010		2011		2012	
	Single country	EU - coordinated	Single country	EU - coordinated	Single country	EU - coordinated
EURO	-	0.40	-	0.50	-	0.60
GERMANY	0.60	0.70	0.80	0.80	0.70	0.80
FRANCE	0.00	0.00	-0.10	-0.10	-0.10	-0.10
ITALY	0.00	0.00	0.00	0.00	0.00	0.00
UK	0.10	0.10	0.20	0.20	0.30	0.40
AUSTRIA	1.00	1.10	1.40	1.50	1.60	1.70
BELGIUM	1.20	1.20	1.30	1.40	1.30	1.40
BULGARIA	-	0.00	-	0.00	-	0.00
CZECH	0.40	0.40	0.50	0.80	0.10	0.40
DENMARK	1.20	1.10	2.00	2.00	2.20	2.40
FINLAND	1.40	1.70	2.00	2.60	2.20	2.90
GREECE	0.10	0.10	0.00	0.10	0.00	0.10
HUNGARY	-	0.00	-	0.40	-	0.40
IRELAND	-	0.00	-	0.10	-	0.10
NETHERLANDS	0.40	0.40	0.70	0.80	0.90	1.10
POLAND	0.00	0.00	0.10	0.20	0.10	0.30
PORTUGAL	0.30	0.40	0.50	0.60	0.50	0.60
ROMANIA	-	0.00	-	-0.10	-	-0.20
SLOVAKIA	0.00	0.00	0.00	0.00	0.00	0.10
SPAIN	0.70	0.80	1.40	1.40	1.70	1.80
SWEDEN	0.70	0.70	1.50	1.70	2.20	2.70

In general, the results suggest that additional gains from coordinated European policy are relatively small when private consumption is considered. On the contrary, results for GDP and employment (see below) indicate significant cross-country spill-over effects. When private consumption is considered, the benefit from EU-wide policy coordination is less pronounced. An interesting fact is that contrary to GDP and employment, consumption expenditure reacts to discretionary policy with a comparatively small lag. Effects are already substantial in 2010, and in 2011, they are quite close to the peak.

Since the majority of revenue measures were targeted at low income households, this is not surprising. They high propensity of these households to spend additional income entirely creates an instantaneous effect on private consumption.

Impact of discretionary measures on employment

In the final step, we discuss the stimulus packages' impact on the European labour markets. We thereby focus on increases in total employment and decreases in unemployment. The corresponding figures are shown in Tables 10 and 11, respectively. These figures help to gauge the overall effects of stimulus measures on European labour markets. The quantitative results represent approximations and have to be interpreted with caution, especially with respect to figures referring to single countries.

When the attention is directed to the overall impact, significant positive effects for total employment are visible for the EU (represented by the 20 Member States the simulations are effectuated for). In the coordinated policy scenario, 112,000 new jobs are created by the expansionary social stance as early as in 2010. In 2011, when the stimulus reaches its full effect, the number of new jobs climbs up to 237,000 and culminates in 330,000 new working places in 2012. The difference to the single country scenario is very sizeable, and amounts to more than 135,000 jobs at the height of the expansionary effects.

The bulk of new jobs are created in the euro area, where two thirds of the overall increases take place. Outside the euro area, the United Kingdom, Sweden, Poland and Denmark account for substantial absolute employment increases. Since employment and the reaction of labour markets are a major concern in the context of the recent crisis, the results for single countries will now briefly be discussed.

In the previous discussion, it was noted that the four major European economies plus Spain accrued only moderate benefits from coordinated European policy as far as GDP was considered. When we focus employment, the results show that additional production, even when it seems comparatively small, creates several thousand jobs. Hence, the coordinated European social policy approach clearly makes a difference for national labour markets.

In Germany almost 20,000 additional workplaces are created by 2011 through spill-over effects. The increase in employment of around 45,500 in the single country scenario is elevated to 67,000. In 2012, the European wide expansionary efforts account for more than 32,000 new jobs, with a total of 91,900 more people employed than in the baseline scenario. Similar results are found for the United Kingdom. At the height of the expansionary impulse of social policy, the cross-border spill-over effects almost double the number of new jobs from 30,200 to 54,900.

In the three remaining major economies, the European policy impulse creates new opportunities for roughly 10,000 people. This impact is observable in 2012, when the expansionary effects culminate. The corresponding numbers for France are – 1,900 in the single-country case and 6,000 in the coordinated scenario. In Italy, employment rises from 1,470 in the single case to 13,000 in the coordinated scenario. In Spain, the number of jobs increases between 43,500 and 52,400.

There are several other countries whose labour markets benefit substantially from the coordinated approach of social policy.[29] The most impressive example is Poland, where employment in 2012 surges from 4,600 in the single case to 17,600 in the coordinated scenario. Similarly, the number of new jobs almost doubles in the Netherlands, Belgium and the Czech Republic. In the Netherlands, employment increases from 6,100 to 11,700.

[29] Again only figures at the peak of effects will be discussed.

In Belgium, the corresponding numbers are 4,800 and 8,900; and in the Czech Republic, 2,300 and 4,500. Sweden, on the other hand, benefits from a high increase in absolute numbers: new jobs in 2012 rise from 15,800 in the single case to 23,200 in the coordinated scenario.

Table 10: Employment increases through expansionary social policy

	2010		2011		2012	
	Single country	EU - coordinated	Single country	EU - coordinated	Single country	EU - coordinated
EURO	-	85251	-	152298	-	218604
GERMANY	21410	27060	47550	67000	59790	91950
FRANCE	-869	2070	-1489	3970	-1959	5910
ITALY	870	4620	1300	7950	1470	13060
UK	3849	7560	17100	32730	30260	54990
AUSTRIA	4432	5287	4475	6158	5565	8069
BELGIUM	3399	4240	4132	6355	4844	8912
BULGARIA	0	191	0	381	0	308
CZECH	1653	3074	2945	9235	2330	4549
DENMARK	4581	5012	6121	7690	7738	10975
FINLAND	5307	7302	4847	6931	6117	9939
GREECE	1560	2199	687	2216	*	2853
HUNGARY	0	1461	0	6406	0	2303
IRELAND	0	783	0	1451	0	2649
NETHERLANDS	1451	2637	4323	8008	6102	11770
POLAND	1230	3480	2830	14260	4660	17610
PORTUGAL	2694	3630	4047	7070	4580	9757
ROMANIA	0	646	0	603	0	-2215
SLOVAKIA	*	443	*	939	*	1295
SPAIN	20910	24980	29380	34250	43480	52440
SWEDEN	3724	5372	9150	13424	15826	23264
Total	79283	112047	146242	237027	193859	330388

* The employment increases generated by the model are negligible.

A view on unemployment (see Table 11) yields by and large the same results. The decrease in unemployment is slightly smaller than the increase in employment, which is due to the fact that not every new job is taken by a currently unemployed person.

Table 11: Unemployment decreases (in 1000s) through expansionary social policy

	2010		2011		2012	
	Single country	EU - coordinated	Single country	EU - coordinated	Single country	EU - coordinated
EURO	-	85251	-	152298	-	218604
GERMANY	21410	27060	47550	67000	59790	91950
FRANCE	-869	2070	-1489	3970	-1959	5910
ITALY	870	4620	1300	7950	1470	13060
UK	3849	7560	17100	32730	30260	54990
AUSTRIA	4432	5287	4475	6158	5565	8069
BELGIUM	3399	4240	4132	6355	4844	8912
BULGARIA	0	191	0	381	0	308
CZECH	1653	3074	2945	9235	2330	4549
DENMARK	4581	5012	6121	7690	7738	10975
FINLAND	5307	7302	4847	6931	6117	9939
GREECE	1560	2199	687	2216	*	2853
HUNGARY	0	1461	0	6406	0	2303
IRELAND	0	783	0	1451	0	2649
NETHERLANDS	1451	2637	4323	8008	6102	11770
POLAND	1230	3480	2830	14260	4660	17610
PORTUGAL	2694	3630	4047	7070	4580	9757
ROMANIA	0	646	0	603	0	-2215
SLOVAKIA	*	443	*	939	*	1295
SPAIN	20910	24980	29380	34250	43480	52440
SWEDEN	3724	5372	9150	13424	15826	23264
Total	79283	112047	146242	237027	193859	330388

* The employment increases generated by the model are negligible.

For the 20 EU Member States in the sample, the number of unemployed people declines by 105,000 in 2010 in the coordinated scenario. This figure doubles to 216,000 in 2011, when the social policy stimulus develops its full effect and peaks at roughly 300,000 in 2012. The difference to the single country scenario is again highly significant. At its peak it amounts to more than 130,000 people. The bulk of the decrease in unemployment is again concentrated in the euro area.

When the individual countries are considered, the decline in unemployment corresponds to the increase in employment.[30] The major economies in Europe benefit significantly in absolute numbers when unemployment is concerned. The decrease amounts to several ten thousand people in policy-active countries like Germany and the United Kingdom. In France and Italy, spill-over effects terminate unemployment spells for several thousand people. Smaller countries which benefit relatively strongly are Poland, the Netherlands, Belgium and the Czech Republic.

Conclusions

Our simulations indicate that active discretionary social policy yields substantial benefits for the EU. Social policy measures increase output and they have a positive impact on employment and consumption. The spill-over effects across countries which can be observed in our simulations provide a strong rationale for a coordinated and simultaneous policy intervention. The positive effect of a coordinated policy approach is, however, unequally distributed among small and large economies: as we would expect due to the comparatively smaller weight that foreign trade has on the domestic economy in large countries, the latter benefit less than smaller ones from fiscal stimuli implemented in neighbouring countries.

For the euro area as a whole, the cumulated GDP effects estimated with the help of the Oxford World Economic Model amount to 0.9 per cent for the period 2010-2012. Discretionary social policy measures implemented in response to the crisis accounted for 1.07 per cent of GDP in 2008 for 2009 and 2010. Accordingly, the cumulated multiplier for these discretionary expenditures amounts to 0.85. In other words, every euro directed to discretionary social policy measures in the wake crisis resulted in 85 cents of additional GDP. Since GDP benefits are distributed unequally, the cumulated multiplier is smaller in major European economies and larger for small countries.

Benefits from a discretionary social stance are equally observable in labour markets. Employment rises significantly and unemployment declines. According to our estimations, the social policy stimulus packages in 20 EU Member States created 330,000 new jobs at the height of their effect. The decline in unemployment is slightly lower. The discretionary measures' expansionary effects have spared 300,000 people from unemployment.

A positive impact which our simulations do not reflect is the reduction of uncertainty on an economy wide level which discretionary social policy induces. Well-targeted discretionary measures can be particularly valid in this respect. Households can be insured against income or wealth losses, which in turn diminishes their uncertainty, stabilises their expectations and hence smoothes their spending behaviour. Since private household consumption is by far the largest component of GDP, we can expect positive employment effects as a result. This aspect is, however, not modelled in our simulations and thus we cannot quantify the extent to which the reduction of uncertainty contributed to contain the rise in unemployment during the crisis.

To our knowledge, this is the first estimation of the stabilizing effects of discretionary social policy on a European wide level. Our results fall in line with simulations conducted on a nationwide level by other Institutes (Breuss, F. et al., De Økkonomiske Råd, Horn, G. et al., Projektgruppe Gemeinschaftsdiagnose). However, a study for all 27 European Union Member States could not be implemented, mainly due to the fact that comprehensive data on stimulus packages in Europe is not available.

[30] The fact that unemployment decreases in some small countries are larger than employment increases stems from rounding errors. Standard result tables in the Oxford WEM list unemployment decreases in thousands, whereas figures on employment can only be extracted individually and are given in absolute numbers.

Our results nevertheless imply that in the difficult task to provide stabilisation in the face of the severest economic crisis since the Great Depression, discretionary social policies implemented in the European Union clearly play a vital and positive role.

Uncertainty and the beneficial effects of social policy

Private household's expectations are an important determinant of macroeconomic development. Social protection systems and discretionary social policy influence these expectations especially in periods of severe economic disruptions. Social policy insures individuals against various economic risks and therefore diminishes uncertainty. Uncertainty is not measurable per se but there are indicators which can serve as a proxy. Since uncertainty is likely to increase savings, variations in household saving rates can be interpreted as a reflection of prevailing uncertainty. The IMF indicates that precautionary savings can dampen economic recovery after a severe financial crisis: 'History suggests that these forces tend to be long lasting following financial crisis, entailing sluggish recoveries after periods of sharply contracting activity' (IMF, 2009b: 3). In the World Economic Outlook from April 2009 (IMF, 2009a: 111), data on household saving rates in the course of severe financial crises are presented. The authors observe an increase of 5 percentage points in households' savings (as a share of GDP) with respect to pre-crisis levels within two years.

Household savings data for the major European economies (cf. OECD, 2009d: 293) show a substantial increase in savings rates from 2008 onwards.[31] On average, the increase amounts to 3.3 percentage points in two years. The main determinants for the increase in savings rates are firstly the marked rise in unemployment and secondly the negative wealth effect on consumption after the bursting of the real estate bubble in some economies; both developments dampen private households´ expectations.

In Germany, however, private savings increased only moderately, with the share of household savings on GDP increasing from 11.2 per cent in 2008 to 12.3 per cent in 2010. Although the German economy suffered heavily during the current crisis due to the collapse of world trade, households did not significantly change their saving and consumption behaviour. It seems plausible to attribute this achievement to the social protection system in general and to *innovative* discretionary social policy in particular. The comprehensive short-time working scheme which prevented income losses for over one million households was a very important measure in this respect (for a detailed analysis see the case study on Germany in chapter 3). Thus uncertainty has been contained and expectations have been stabilised. Accordingly, private consumption remained stable.

In order to quantify the positive effect of this macroeconomic success, we conduct two simulations which analyse in a counterfactual way the macroeconomic effects of the stable savings rates. In the first scenario, we assume an increase of German savings rates in analogy to the pattern in other EU Member States.[32] In the second scenario, German saving rates rise following the pattern implied by the IMF study (IMF, 2009a: 111). In the simulations, we implement a build-up in savings rates by quarter to quarter steps during 2008 and 2009 and assume this continues throughout 2010 and 2011. The corresponding results are presented in Table 12.

[31] In some countries, saving rates began to surge in 2007, e.g. Spain and Sweden.

[32] The 16 countries are: Austria, Belgium, Czech Republic, Denmark, Finland, France, Hungary, Ireland, Italy, the Netherlands, Poland, Portugal, Slovak Republic, Sweden, Spain and United Kingdom. Due to availability of more recent data, we recalculated the 'EU-mean scenario'. The sample now consists of 16 countries because of data availability and because not all 27 Member States are modelled in the Oxford World Economic Model.

Table 12: Effects of increased uncertainty and precautionary saving in Germany

	2010		2011		2010 & 2011 Cumulated	
	EU-mean scenario	IMF scenario	EU-mean scenario	IMF scenario	EU-mean scenario	IMF scenario
On GDP	-0.6	-1.1	-0.9	-1.6	-1.5	-2.7
On Consumption	-2.1	-4.0	-2.9	-5.5		
On Unemployment (in thousands)	44.5	80.3	105.0	179.4		

The strongest effects are observed concerning private consumption. In the EU-mean scenario, private consumption outlays in Germany are 2.8 per cent lower in 2010 and 2.9 per cent lower in 2011 than in the baseline. When private saving rates rise even further according to the IMF scenario, German consumption declines by 4 per cent in 2010 and 5 per cent in 2011.

These declines have a severe impact on total output. GDP in Germany declines by 0.6 per cent in 2010 and 0.9 per cent in 2011 in the EU-mean scenario. This would yield a cumulated output loss of 1.5 per cent. (1.1 per cent in 2010, 1.6 per cent in 2011 and a cumulated total output loss of 2.7 per cent in the IMF scenario). As a consequence of these dampening effects on economic activity, unemployment rises significantly (by 105,000 and 179,400 people, respectively).

These results confirm the relevance of social protection systems and innovative social policy. Without the insurance against income loss, which the German short-time working scheme effectively provided, uncertainty and precautionary savings in Germany could have been rising as strong as in other EU countries. Our simulations provide evidence that – by stabilising the savings rate – discretionary social policy also stabilised macroeconomic development and the labour market. Higher savings rates and precautionary savings would have further aggravated the crisis in Germany.

2.3. Timing

KEY FINDINGS

- Discretionary measures work best when timely, temporary and targeted. While automatic stabilisers set in immediately, discretionary policy has to be timely, which means it has to be designed and initiated immediately when the economic downturn appears. When the policy is enacted too slowly, it risks acting not as an a-cyclical stabiliser, but as a pro-cyclical enhancer.
- Discretionary policy experiences two lags: first, an *outside lag* which captures the time between the implementation of policy and its results. This lag is not very large if the policy is correctly targeted. The second lag is more important, the *inside lag*. This lag represents the political process of identifying the economic problem and formulating a response. The duration of this lag is unpredictable as it depends not only on economic facts but also on political considerations. It is essential that discretionary measures are lasting and contingent in order to assure consumers that they will not face a sudden loss of income. Lasting in this case means the measures need to last as long as the recession, contingent means that it must also be possible to extend or expand them. However, measures must also expire at some point to allay fears about long-term fiscal stability.
- Taking the perspective of a policy cycle, we can identify three elements of the inside lag: The *recognition lag* represents the time it takes for a government to recognise a problem and start developing a policy response. In the current crisis, the recognition lag seems to be small, a period of about two months. The second lag within the policy process is the *decision lag*. If we take early September 2008 as our reference point for the end of the agenda-setting process, we can derive that the policy formulation process took between one (Germany's first stimulus) to five months (Finland, Czech Republic). Even if we would estimate a considerable *implementation lag* of six months, stimulus would still come into effect around June 2009 for the European countries, still very well within the period of economic distress and thus fully acting as counter-cyclical policy. It seems safe to state that in general European stimulus was enacted timely to act as a stabiliser against the crisis.
- Case studies show that several countries prolonged the lifespan of some measures beyond the limit that was first set. Even so, it is important to note that most measures were initiated with time limits or budgetary limits in place, guaranteeing their temporary nature as prolonging them could only be done by making a new discretionary decision.
- Discretionary measures related to objective parameters or existing automatic stabilisers tend to be easier to implement and show smaller time lags than fully discretionary measures. Stimulus related to automatic stabilisers is easy to maintain but also easy to phase out. Projects of a continued nature such as education and ensuring employability, initiated by stimulus measures, may prove more difficult to end as policy-makers may fear the loss of systems considered valuable for society.

2.3.1. Timeliness and the policy cycle

Timeliness

As was mentioned in the general considerations of economic stabilisation, fiscal stimulus has been and still remains a source of controversy between scholars. Economists have pointed out since the 1970s that fiscal stimulus was an inadequate way to deal with economic cycles, as it would create more distortions than actual benefits (Feldstein, M.; Blinder, A.S.; Taylor, J.B.). For them, the key to a successful a-cyclical policy lies within the use of monetary policy. The only way fiscal stabilisation could be applied was through the use of automatic stabilisers, as these evaded the problems that coincide with discretionary fiscal policy. Coutinho, L. quotes the most frequently heard drawbacks as the inflexibility of fiscal policy to be changed in a timely fashion, the potentially small impact of temporary measures and the fact that such policy is often used for political goals. Since automatic stabilisers come into effect automatically, adapt automatically to have the highest potential effect and do not need a policy decision, the problems associated with discretional stabilization are avoided.

Other economists oppose this school of thought. While they acknowledge the problems, they do not see them as a sufficient reason to abstain from using discretionary measures intended on stabilisation. They see discretionary policy as an adequate tool as long as it adheres to the three T's: *Timely, Temporary and Targeted* (Hubic, A. et al.). These three characteristics are the basic conditions which any discretionary policy needs to fulfill in order to make sure that it is also effective. Research shows that when the economic downturn is exceptional, as well in depth as in length, greater benefits can be expected from the use of discretionary policy (Blinder, A.S.; Gros, D.). The financial crisis obviously meets these conditions, both with respect to the depth as well as to the length of the recession.

We will not discuss the *targeted* characteristic of discretionary policy here. We will only say that discretionary policy needs to be targeted at groups with a high marginal propensity to consume in order for the multiplier to have an effect. Discretionary social policy aims at weak-income groups and is therefore already targeted by definition. Instead, we will focus on the time-related aspects. When stabilising, discretionary policy has to be *timely*, which means it has to be initiated immediately when the economic downturn becomes apparent. When the policy is enacted too slowly, it risks of acting not as a counter-cyclical stabiliser, but as a pro-cyclical enhancer. It would boost the economy at a time when it is no longer necessary, deepening the next economic downturn as the business cycle continues. It is therefore important to analyse whether the discretionary response by the European governments to the crisis has been enacted timely to stabilise the recession. Discretionary policy also needs to be *temporary*, it may not be enacted permanently. Discretionary policy means additional budget deficits and continued policy would raise doubts about fiscal sustainability. The crowding out effect might smother economic recovery by eliminating private investment trough higher interests rates (Hubic, A. et al.).

It seems natural that policy has to be enacted *timely*. In practice, however, this proves to be more difficult then might be expected. Economists wary of discretional policy correctly point out that there might be significant lags for a policy to be enacted and implemented. In fact, discretionary policy experiences two lags: first, an *outside lag* which captures the time between the implementation of policy and its results. This lag is by all not very large if the policy is correctly targeted. It cannot obtain results faster than automatic stabilisers, but it is for example faster than the use of monetary policy (Blinder, A.S.). The second lag is more important, the *inside lag*.

This lag represents the political process of identifying the economic problem and formulating a response. The duration of this lag is unpredictable as it depends not only on economic facts, but also on political considerations.

Outcomes may vary over political systems and ideological disputes. The shorter the lag, the better the discretionary measures help in stabilising the economy. The current crisis has prompted more attention as to how discretionary measures could be more automated in order to bypass the political bargaining process that might cause the policy not to be enacted timely. Baunsgaard, T. et al. suggested the use of economic trigger indicators for GDP or unemployment which would trigger automatic tax or expenditure policies.

The term *temporary* deserves a more thorough analysis. As mentioned earlier, the optimal stimulus for this financial crisis would have to be 'timely, large, lasting, diversified, contingent, collective and sustainable' (Spilimbergo, A. et al., 2008). The term lasting seems to contrast with the condition for discretional stimulus to be temporary. Also various economists find that temporary measures do not per se produce significant effects, depending on the sort of consumers. Rule-of-thumb consumers produce an effect as they spend their extra income. Other consumers might save more, thus eliminating the potential economic benefit (Hubic, A.). The explanation of these contradictions is found within the concept of uncertainty. When people receive additional benefits for duration shorter than the time they perceive the recession to last, they will refrain from additional consumption.

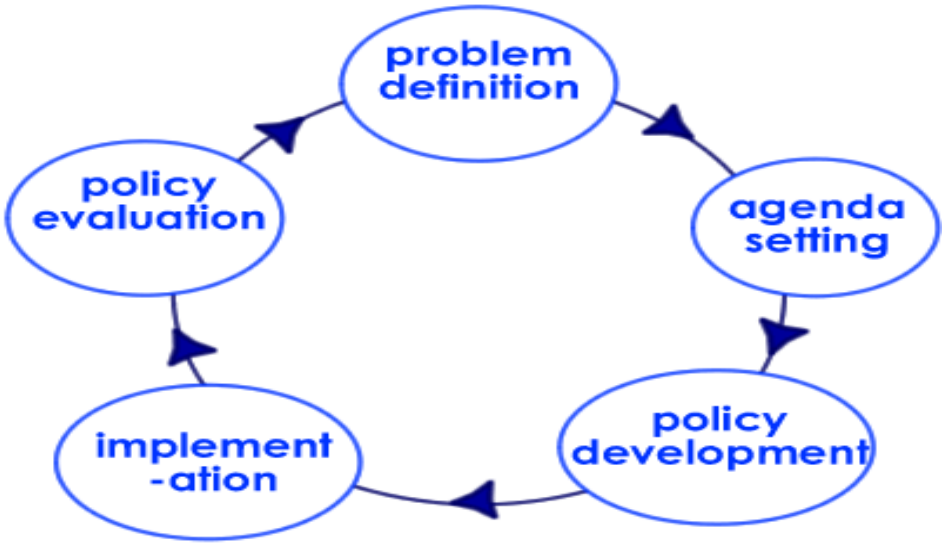
Therefore, it is essential that discretionary measures are lasting and contingent in order to assure consumers that they will not face a sudden loss of income. Lasting in this case means the measures need to last as long as the recession, contingent means that it must also be possible to extend or expand them. The uncertainty of their future will otherwise make consumers anticipate and encourage them to build up safeguards by saving their additional income. However, measures must also expire at some point to allay fears about long-term fiscal stability. 'Moreover, the literature on the quality of public finances, by stressing the negative relationship between government size and economic growth, at least beyond a certain minimal size, adds weight to the argument that spending increases should be temporary' (ibidem, 12).

With the knowledge of these two conditions of social discretional policy, needing them to be *timely* and *temporary*, we will further analyse how and if these conditions were met in the different stimulus programmes of the European governments in response to the Financial Crisis. Have these governments responded timely? Did significant lags occur and where precisely could it be found? Are the enacted discretionary measures temporary or lasting? As the crisis seems to be fading questions about the unwinding of stimulus programmes and decreasing government deficits are equally relevant to assess the policy response within Europe.

The policy cycle

To decide on fiscal stimulus is a policy decision. As such, it follows the policy cycle as shown below. The policy cycle is a tool often used to analyse the political process (Bridgeman, P. and Glyn, D.).

Figure 11: The policy cycle



Source: HuWY (itc.napier.ac.uk).

We can use the policy cycle to analyse how timely governments have responded to the crisis. All governments have announced at some time the stimulus measures they would or would not take in order to counter the effects of the economic downturn. While this is very important and useful information, this single moment in time does not capture the timing when measures actually came into effect, while this is exactly the information that is necessary to evaluate the timeliness of the discretionary policies. Therefore, we use the policy cycle to evaluate the entire decision making process.

The policy cycle consists out of four stages. First, there is the stage of *agenda setting*. In this stage, policy must first be noticed and placed on the political agenda in order to start its way through the political process. We must study when European governments were first made aware of the problem and started to treat it as a genuine problem that needed to be addressed. Once the problem is placed on the agenda, the second stage starts. *Policy formulation* is often considered the most interesting part of the policy cycle. It is this stage where policies are identified, alternatives are gathered and analysed and finally a decision tool is applied. It is at the end of this stage that we can place the public announcements of stimulus packages throughout Europe. Then the third stage sets in, the *implementation* stage. Between the announcements of policy and the actual start an administrative, but nonetheless also politicised, stage sets in with the consequence that it can take a lot of time before policy is truly activated. The last stage consists of *evaluation* of policy, assessing its merits and flaws and adjusting it to be more effective. Most, if not all, European countries have since reached this stage.

The duration of this entire process captures the *inside lag* of discretionary policy. As this lag is one of the important arguments against discretionary policy, we will conceptualise it further, dividing it into separate lags in the stages of the policy cycle. Economists often divide the inside lag into two separate lags (Sawyer, M.): the recognition lag and the decision or implementation lag. In order to be able to follow the policy cycle, we will make a difference between the decision lag, which is mostly a political lag and the implementation lag which reflects the political-administrative process to make a policy come into effect. Each stage, except the last one, will thus have its own lag. Agenda setting will correspond with the *recognition lag*, policy formulation with the *decision lag* and policy implementation with the *implementation lag*.

As the current crisis was recognised early on as a worldwide economic problem, we expect to find little evidence of a substantial *recognition lag*. We will look at government announcements to search for a decision lag. The most interesting, however, the implementation lag, is difficult to research for each country as it corresponds closely with local political procedures. We will focus on some countries case by case to see whether it can be considered as a considerable delay.

2.3.2. Timing of stabilising measures

A typology

There are two distinct forms of stabilising measures to counter downturns (or upturns) in the economic cycle. One is the use of automatic stabilisers, the other the use of discretionary measures. We will define them here and try to create a typology that allows us to study whether certain measures have different outcomes in relation to timing.

Automatic stabilisers are typically based on five components: income tax, corporate tax, social security contributions, indirect taxes and unemployment benefits. They are considered automatic, since they do not require a discretionary decision of any kind to come into effect; and they adjust automatically depending on economic conditions. As such, they change revenues and expenditures of governments and stabilise changes in the cyclical stance of the economy. Since each country has its own interrelated system of automatic stabilisers, an absolute definition is not possible. The effectiveness can therefore only be measured in reference to outcomes and the behaviour of the variables.

Discretionary measures are all those measures that explicitly need a discretionary decision in order to be enacted. However, this definition covers a large group of measures as not all decisions are of the same nature and gravity. For example, it may be a contested and long deliberated decision to decide on the allocation of a large investment fund, while a decision to adjust pensions can be based on external parameters, making a decision unbiased and easier to make. We will try to capture these differences by splitting up discretionary decisions into three different categories. Automatic stabilisers are the easiest decisions, as they require no decision at all, and so we will define these categories by the level of difficulty to make a discretionary decision.

The first category we define is one which contains the so-called *semi-automatic stabilisers*. These decisions can be considered as semi-automatic policy adjustment. It captures a continuum for the improvement of policy based on new information (Bhadwal, S. et al.). Discretionary measures are semi-automatic when the decision is based upon objective outside parameters, such as the unemployment rate or GDP changes. Once a certain limit is reached, policy-makers should automatically decide to enact certain measures. Since this response is decided in advance, the difficulty to make this decision is limited and the adjustment can be considered as almost automatic. However, the decision remains discretionary.

The second category contains those *discretionary measures related to automatic stabilisers*. This category is not taken from the literature but based on the observation of several stimulus packages. All of them are discretionary decisions, but often they are temporary adjustments of automatic stabilisation mechanisms. Therefore, this category is based on the same five components as automatic stabilisers listed above. Since the systems for these measures are already in place and only rates or additional contributions need to be defined, we deem this category of measures more difficult than semi-automatic stabilisers but still less difficult than the use of new fully discretional measures.

The third and last category consists of *fully discretional measures*. These measures are not based on the expansion or adjustment of existing programmes of stabilisation.

They are new and need to be completely designed, meaning that they must pass every step of the political process. As such, we predict that they will also take more time to be developed and implemented.

With this typology, we can study the inside lag of the policy process in more detail, trying to find differences in the lags experienced in the decision process of the different European stimulus packages.

Automatic stabilisers and timing

When automatic stabilisers are considered, timing is of no relevance. The definition of automatic stabilisers entails that they come into effect automatically, without the need for a decision. That makes them invulnerable to policy lags, as the policy process is completely bypassed. As discussed above, automatic stabilisers need to be measured in terms of outcomes. In the previous section (2.2.1.), the different stabilisation coefficients are calculated, showing the percentage of stabilisation they provide in the different European countries.

Discretionary measures and timing

Almost all European countries enacted large stimulus programmes consisting of various discretionary measures. In the following section, we will try to uncover the lags that these programmes experienced to be enacted. As the data available varies in source and detail, it is not possible yet to do a full mathematical analysis of the timely nature of the fiscal response. We will try to bring as much data together in order to obtain a first qualitative look at the timeliness of measures enacted throughout the EU. As this research focuses on the social stimulus measures taken by the European governments all data will be applied to this whenever possible. At several points, due to the availability of material, the entire stimulus will be used as reference. Since social stimulus represents almost 70 per cent of the total stimulus throughout the EU, the chance of distortions is unlikely.

Timely measures

The stimulus packages in different European countries were proposed between September 2008 and March 2009. To study the inside lag of these packages, we must look at the lags that this inside lag represents, the recognition lag, the decision lag and the implementation lag.

The *recognition lag* represents the time it takes for a government to recognise a problem and start developing a policy response. Even though the effect of the crisis did not affect each European country at the same time, the magnitude and consequences of the crisis were so large that we consider awareness to have started almost at the same time. The financial crisis started at the end of 2007, but its consequences for Europe only started to seep through in the third quarter of 2008. The crisis at that point seemed a US crisis with important effects abroad but still not a global crisis, as it is referred to now. In the course of 2008, several European banks ran into problems pushing the availability of credit on the European agenda. It is difficult to set an exact date as to when Europe became aware of the need for the creation of a substantial stimulus to counter the effects of the economic downturn. However, there are certain events and dates which can be safely seen as eye-openers that could not have been ignored. These are the fall of Leman Brothers on September 15, 2008, the 700 billion-dollar bailout in the United States during the same month, and the collapse of the entire Icelandic banking system early October 2008. These events cover a time span starting in September 2008 until the beginning of October 2008.

While this does not have to mean that every government started to take steps in the development of a stimulus package – as not deciding on a stimulus package is also a decision - , it does mean that at this point no government could be ignorant to the problem posed by the crisis. It also gives us a time frame to obtain an interval for the recognition lag. The recognition lag seems to be small, a period of about two months.

The full effect of the crisis on the economy became apparent late 2008. Initial forecasts expected a substantial decrease in growth but not an outright depression. The awareness started in the summer of 2008, with a focus in September 2008. As expected, the magnitude of the crisis made it hard to ignore, minimising the recognition lag almost equally for every European country.

The second lag within the policy process is the *decision lag*. How long did it take before European governments proposed their stimulus packages? Table 13 shows the size of the social stimulus packages in the 2008 GDP of 16 European countries discussed in previous sections, together with the date of announcement of these packages and the financial spread of measures throughout 2008-2010 as a percentage of the total (not only social) stimulus package. It is important to note that the date of announcement does not correspond with the date the packages were enacted. At the date of announcement, the political bargaining reached a compromise, but it had yet to pass through legislature and administration in order to become active. When there is more than one date marked, this means more packages were decided on during a later moment: several countries adapted additional packages during late 2009 and even 2010. However, these are not taken into account, as they are based on information not available at the start of the crisis. Only the initial response concerns us in this table.

Table 13: Size and timing[33] of social discretionary stimulus packages

Country	Stimulus size in % 2008 GDP	Timing	2008	2009	2010
Austria	1.61	NA	0	84	16
Belgium	1.53	Dec 11, 2008	0	60	40
Czech Republic	2.14	Feb 16, 2009	0	66	34
Denmark	1.71	NA	0	33	67
Finland	2.68	Jan 30, 2009	0	47	53
France	0.28	Dec, 2009	0	75	25
Germany	1.57	Oct 1, 2008 Jan 12, 2009	0	46	54
Greece	0.43	/	…	…	…
Italy	0.21	Nov 29, 2008 Feb 3, 2009	0	15	85
Netherlands	1.23	Nov 21, 2008	0	51	49
Poland	0.40	Dec 1, 2008	0	77	23
Portugal	0.61	Dec 13, 2008	0	100	0
Slovak Republic	1.10	Jan 28, 2009	0	42	58
Spain	2.43	Nov 28, 2008	31	46	23
Sweden	2.47	Dec 5, 2008	0	52	48
United Kingdom	0.76	Sept, 2008 Nov 24, 2008	15	93	-8
EU-stimulus	/	Nov 26, 2008	/	/	/

Source: OECD 2009a, EC 2009a, own data.

The earliest packages were adopted by the United Kingdom and Germany at the end of September and the beginning of October 2008; the latest were Finland and the Czech Republic at the end of January and beginning of February 2009. All other countries fall within this 4-month interval, with most countries announcing their plans at the end of November or beginning of December. The EU itself took up the case for a coordinated stimulus in November, pledging an EU-wide stimulus in December 2008. If we take early September as our reference point for the end of the agenda-setting process, we can derive that the policy formulation process took between one (Germany's first stimulus) to five months (Finland, Czech Republic). This interval represents the decision lag experienced in the response to the crisis.

Unfortunately, it is not possible to obtain data for the implementation dates of all these packages. Since most of them still have to undergo the process of legislative approval and administrative implementation after their announcement, the *implementation lag* might be considerable in several cases.

Even without knowledge of the implementation lag, we might still try to give a provisional answer to the question if measures were enacted timely to counter the crisis and not to create a pro-cyclical effect. The stimulus packages itself are spread out over a number of years, mostly 2009 and 2010. Only the UK and Spain had planned to enact measures in 2008. In the case of Spain, this mainly consists of tax cuts and measures to counter the national housing bubble in April 2008, making these measures less relevant as a response to the effects of the crisis which were only felt later on.

[33] Division of discretionary measures are based on the full fiscal stimulus package.

As most money has been directed to flow into the economy in 2009 and 2010, the obvious question is whether the economic downturn will still be in effect. Initial forecast from the IMF (2008a) predicted recovery by the end of 2009.

However, this concerns an end of the recession and not a return to pre-recession standards. Other studies show that a credit crunch generally needs a recovery time of 2.5 years, while a housing bubble only recovers after 4.5 years (Claessens, S. et al.). The effects of the recession are said to last well into 2010 and later. Eurostat data still shows a further rise of unemployment figures throughout Europe (Germany being the exception) well into 2010. GDP growth rate has been estimated at 1 per cent for 2010 the EU-27 and only 0.9 per cent for the euro area after a loss of 4.2 per cent in 2009.

Even if we would estimate a considerable implementation lag of six months, stimulus would still come into effect around June 2009 for European countries, still very well within the period of economic distress and thus fully acting as counter-cyclical policy. It seems safe to state that in general, European stimulus was enacted timely to act as a stabiliser against the crisis.

Temporary measures

Now that we have established the European stimulus to be timely, we need to address the question whether it is also temporary. Table 13 has shown the spread of the proposed stimulus packages, indicating that they as a whole would only last until the end of 2010. As such, the discretionary measures seem to be temporary. Of course, this only displays the intention of governments at the time discretionary packages were announced. The case studies will show that several countries prolonged the lifespan of some measures beyond the limit that was first set. Even so, it is important to note that most measures were initiated with time limits or budgetary limits in place, guaranteeing their temporary nature, as prolonging them could only be done by making a new discretionary decision.

Of course, governments cannot keep running deficits to stimulate the economy. Corsetti, G, identifies the three phases of a recession. After the phase of economic downturn and government response, the third phase has or is about to set in, one of fiscal consolidation and contraction. Several governments are discussing or have already started to cut expenditures in order to consolidate government budgets and end deficits. The UK has already started a programme of deficit reduction, effectively ending its stimulus to the economy. Greece, as a result of its large budget deficit, has been forced into strict austerity, but it has also been unable to decide on a stimulus package because of the same budget deficit. While fiscal consolidation is necessary and to be approved as means to avoid undermining long-term macro-economic stability (Corsetti, G.), questions about timing are crucial. Once again, the field of economics is divided on a swift retrenchment of government budgets, some applauding consolidation and urging governments to strict austerity, while other see an early contraction as a sure way to smother economic recovery. Countries within the euro zone will also have less favourable macro-economic result of contraction policies than those outside of it, since they have no direct control over the exchange rate and monetary policy (Hjelm, G.).

2.3.3. Case study: Belgium compared to the Netherlands

To delve deeper into the time-related aspect of the discretionary stimulus packages, we present a double case study of Belgium and the Netherlands, analysing their stimulus packages, the timeliness of the measures taken and the unwinding of the stimulus in general. The two countries make interesting cases as both are comparable in size but have a different state organisation and exhibit significant differences in social security systems and the functioning of the labour market. Belgium is a federal state divided in effect by two language groups. Coalition governments are regularly formed by five or more parties.

The Netherlands, in contrast, has a unitary state with coalitions generally based on three parties. Notable social differences are the systems of unemployment benefits and the unemployment rate.

Belgium is the only country with an unlimited duration on benefits, while unemployment benefits in the Netherlands have a maximum duration of 38 months, albeit the payment rate is higher in the Netherlands. Structural unemployment is also higher in Belgium than in the Netherlands, with a rate of 7.0 and 2.8 per cent, respectively, before the crisis in 2008. This list of differences is not exhaustive, but they may act as explanatory variables to the timing and contents of stimulus packages in both countries.

Both countries were at the fore when the financial crisis hit Europe. Several Belgian banks had to be bailed out because of large stocks of toxic assets. On September 28, 2008 the Dutch and Belgian governments both nationalised parts of Fortis Bank, after which Belgium also had to nationalise Dexia on October 1. As a result, we place the end of the agenda setting process for both countries in September, as we can be sure that both governments were made aware of the problems posed by the financial crisis. At that moment, the next stage of the policy process sets in, the formulation of a policy response. The Dutch government was the first to announce a stimulus package containing measures supporting the economy on November 21. Three weeks later, Belgium's federal government followed with its own stimulus package. In the Netherlands, the first package was followed by a second, which was passed through parliament on March 25, 2009. The Belgian first economic recovery law was passed a little later, on April 7, 2009, with a second law later in June.

Table 14: Policy cycle for general stimulus packages in Belgium and the Netherlands

	Belgium	Netherlands
Agenda setting	Late Sept, 2008	Late Sept, 2008
Policy formulation	Sept – Dec, 11 2008	Sept, 2008 - Nov 21, 2008 (Mar, 2009)
Implementation	Dec 11, 2008 – Apr 7/Jun 25, 2009	Nov 21, 2008 – Apr, 2009
Inside lag(min.)	27-39 weeks	10 - 27 weeks
Exit strategy?	December 31, 2010	Apr 1, 2010 Jul 11, 2011

Source: own data.

Table 14 shows the policy cycle for both countries. It is safe to assume that both countries started of the policy process at the same time, making a comparison additionally valuable. Of course, one must not forget that this comparison is based on an aggregated view of the total stimulus package. As a reference point for the start of the implementation stage we have taken the moment stimulus measures passed parliament either as an announcement of cabinet measures or as legislation. Individual measures may be enacted faster or slower, as not all are required to be translated into legislation. We will make a comparison on some of these specific measures later.

The comparison shows that it took the Netherlands about eight weeks to decide on an initial set of stimulus measures, a few weeks faster than the Belgian government, who needed 11 weeks. However, one has to be aware of the fact that the Belgian package was far more extensive and complete, while the complete Dutch package was only presented in March 2009, 26 weeks after the events in September. Comparing the implementation of social stimulus measures is a far more difficult matter.

The first Belgian economic recovery law came into effect on April 7, 2009. A second, containing addition matters concerning employment and the labour market was promulgated on June 25, 2009. Most measures were contained within these law proposals and set a clear date for implementation resulting in an implementation lag of about 17 weeks after announcement of the first package. The initial Dutch measures, however, were mostly cabinet measures that did not require approval by law, meaning that they came into effect almost immediately.

The start up of special job centres, for example, was initiated in November and was declared fully operational in the beginning of March, well before the first Belgian recovery law came into effect. Other non-social discretionary measures, such as investment programmes, were only approved by law in July 2009.

Neither stimulus was too late to have its effect as a stabilising tool in the economy, as the crisis and its effects lasted well into 2010. That being said, the Dutch approach seems to have been more efficient in responding timely. Explaining the causes of this difference would entail a far more detailed study, but the availability of tools, cabinet measures versus laws, matters. It is also possible that the complexity of the Belgian government took its toll on the response time needed to implement its stimulus package. One must also keep in mind that the efficiency of the measures does not guarantee their effectiveness.

The Belgian social stimulus

Table 15: Social stimulus measures taken by the Belgian government[34]

Typology	Measures	Duration	Budget in € mio
Discretionary measures related to automatic stabilisers	Cutting (corporate) Labour costs: - lower contributions on team and night labour - lowering general social charges - lower charges for researchers	 2010? 2010? Indefinitely	 428 823 38
	Flexible working time: - expansion temporary unemployment: higher benefits, broader application - flexible hours, reduced labour volume	 2009-2010 2009	 NA 100
	Social benefits: - increase of workers' pensions - increase in Family/age benefits - increase in welfare envelope - Dismissal premium for workers	 2009-2010?	 201.3 17.6 775.6 NA
	Income tax: - fast indexation of tax scales - increase Job premium	 2009 2009	 NA 85
Full discretionary measures	Expanded outplacement regulation	Indefinitely	NA
	Energy discounts: - onetime discount EUR 30/household - expanded discount gas and electricity	 2009 2009-2010	 135 31.4

Source: Belgian recovery plan 'Herstel het vertrouwen' law, June 25, 2009, own data.

The Belgian stimulus package consists almost entirely of social stimulus measures. Almost 96 per cent of the stimulus measures proposed in December were social measures (European Commission, 2009a). Another set of social measures was added in June specifically targeting employment, adding further to the measures already in place.

[34] This table is based on the recovery laws of April 7 and June 25, 2009. Some measures have since been expanded or extended.

Table 15 gives an overview of the social stimulus undertaken by the Belgian Federal government. The measures were categorised in accordance with the typology developed earlier. When possible, the duration and the cost of each measure are displayed. It immediately becomes apparent that the stimulus adopted existed primarily of the temporary alteration of existing automatic stabilisers, temporarily slashing social contributions, expanding benefits and applying existing systems on broader groups.

Most measures were taken in the first package implemented on April 7, 2009, but in June the temporary unemployment formerly only available to workers also became available for clerks[35]; methods to reduce work time and workers premium for dismissal were added. These new measures were directly introduced as legislation. None of the cost estimates have been found; and hence, the number and the relative cost of full discretionary measures is very limited in comparison. In general, the Belgian government clearly aimed at the stabilisation of consumption by guaranteeing sufficient income and cutting labour costs to avoid full unemployment and loss of skills.

It is not clear, however, if all of the measures indicated to be temporary will prove to be so. Apart from the explicit mention of outplacement regulation becoming permanent and the absence of duration in the lowering of social charges for researchers, each measure was mentioned in function of its cost per year applied. Several measures had already been extended, each time for several months, but since the effects of the crisis can still be felt, it is not yet possible to conclude if some measures - apart from the two mentioned above - will remain in effect indefinitely.

The Dutch social stimulus

The initial Dutch social stimulus package consisted for about 80 per cent out of social measures (European Commission, 2009a). Since later on many investment projects were added, this percentage has significantly lowered in the meantime. Most measures fall into the category of fully discretionary measures. As such they are completely additional to automatic stabilisers. The Dutch government has clearly focused its efforts on specific project concerning education, employability and innovation added with a reduction in labour costs by using part-time unemployment. The duration seems clearly to be spread over 2009 and 2010, making the measures temporary in nature, but it is not clear when measures will end precisely, since some projects do not seem able to experience sudden cut-offs.

[35] Social security systems in Belgium still differentiate between workers and clerks.

Table 16: Social stimulus measures taken by the Dutch government[36]

Typology	Measures	Duration	Budget in mio €
Discretionary measures related to automatic stabilisers	Part-time unemployment Flexible working time	2009-2010	*430*[37]
Full discretionary measures	Focus on youth unemployment Centres for Tendering and outplacement	2009-2010	220 *430*[37]
	Aid for debt relief	2009-2010	80
	Stimulating profession education (internships, education)	2009-2010	250
	High-tech top projects and researchers	2009-2010	280
	Extension of ending programmes on innovation (FES)	2009-2010	96 218

Source: Dutch policy agreement 'Samen Werken, Samen Leven', own data.

Comparison of the Belgian and Dutch stimulus packages

When the two social stimulus packages are compared clear differences emerge. While the Belgian package puts its emphasis on the use of *discretionary measures related to automatic stabilisers*, the Dutch package uses far more *fully discretionary solutions*. There are no clear explanations for this significant difference. Once again the complexity of governments may account for the difference as the Belgian government tends to use existing systems perhaps to avoid more difficult discussion on creating completely new measures. The Belgian social stimulus also exceeds the Dutch one not only relative to the total stimulus but also in absolute costs.

Concerning the policy cycle, the typology of the social stimulus might explain part of the difference in *timeliness* between the two countries. Automatic stabilisers are anchored in legislation, making changes more time consuming. The Dutch government on the other hand could pass its fully discretionary measures far more quickly, either because it did not require passing legislation or because its measures did not have to be studied and remodelled to fit in with existing legislation.

It would be interesting to see whether the *temporary* nature of the stimulus undertaken is easier to uphold in Belgium or in the Netherlands. Stimulus related to automatic stabilisers is easy to maintain, but also easy to phase out. Projects of a continued nature such as education and ensuring employability, initiated by stimulus measures may prove more difficult to end as policy-makers may fear the loss of systems considered valuable for society.

[36] Based on measures taken in November 2008 and the plan presented in March 2009 in which those measures were incorporated.
[37] Part-time unemployment and the system of tendering was conceived under the same budget.

Part-time unemployment as special case

Part-time unemployment or short-time work is a standard case of reducing labour costs for firms in times of crisis (see also section 2.1.1.). In the Netherlands, the system was designed especially for the crisis. The work time of employees could be reduced by 20 to 50 per cent for a period of 13 weeks. This arrangement can be extended three times, each time for a period of 13 weeks, unless the end date exceeds a fixed end-date for all users. The Belgian system is called crisis 'time credit' and a similar system was already in place enabling workers to work part-time or invest time in family or study without immediate loss of income. A new form was invented to act as a stabilising measure during the crisis. Work time could either be reduced by 20 or by 50 per cent. There is not fixed time restriction as it depends on the conditions firms are facing such as a continued loss of revenue.

The systems are comparable in nature but not in size. At its peak in the Netherlands, around 40,000 workers received part-time unemployment benefits. In contrast, only about 2,010 workers in Belgium used this crisis time credit in 2009. However, the numbers cannot be compared directly, as Dutch workers received those benefits for at least 13 weeks, whilst the duration of Belgian workers shortened work time varies. However, Belgium also used temporary unemployment and regular time credit, accounting for 279,000 and 118,000 employees, respectively, in the course of 2009.

Table 17: Use of part-time unemployment in Belgium and the Netherlands

	Belgium		Netherlands	
	Timing	Unemployment rate	Timing	Unemployment rate
Agenda setting	Sept, 2008	6.8	Sept, 2008	2.8
Policy formulation	May 20, 2009	8.3	Mar 25, 2009	4.3
Implementation	Jun 25, 2009	8.0	Apr 1, 2009	4.5
Proposed exit	Dec 31, 2009	8.2	End Budget Jun 23, 2009	4.7
Extension	June 30, 2010	8.8	Apr 1, 2010	4.3
	Sept 30, 2010	8.7	Oct, 2010	4.4
	Dec 31, 2010	NA	Jul 1, 2011[38]	NA

Source: own data, Eurostat.

Table 17 shows the policy cycle of the measures concerning part-time unemployment in both Belgium and the Netherlands, matched with the transition dates and unemployment rates at the time. In Belgium, this was an additional measure added to measures already taken in April 2009. A significant lag failed to occur in either country, as measures were quickly implemented.

Most interesting are the proposed exit dates. Part-time unemployment in both countries was supposed to have already ended. In the Netherlands, it was in effect ended for a short period, as the allocated budgets had run out in June. The unemployment rates give a good indication of the state of the economy and the eventual need for further extension. It is clear that the unemployment rate in Belgium has not yet stabilised and is still growing. In the Netherlands, the unemployment rate has decreased for the moment.

[38] Extension has been approved, but with several important changes for the applicants of the program.

The measure actually ended for most companies in April 2010. Only for those industries which face a long wait between orders and where the effects on the availability of work have only just come into play are still eligible to use the system.

2.4. Fiscal constraints

KEY FINDINGS

- In a sample of 19 European countries and the US, we find that both high budget deficits and debt levels before the start of the crisis had significantly negative effects on the size of discretionary measures taken during the crisis. At least some governments were constrained in their decision-making because of weak financial positions. Empirical research has shown that the relationship between government debt and real GDP growth is weak for debt/GDP ratios below a threshold of 90 per cent of GDP, but that growth rates fall substantially if government debt is above this threshold.
- Taking into account that fiscal balances and debt levels have dramatically worsened in almost all advanced economies due to the economic crisis, an exertion taken in the last crisis is not repeatable in the near future. Debt levels are projected to remain on a high level and it will take a long time until pre-crisis levels are reached. Recent projections manifest that the aim of achieving sustainable public finances will be a long-term task, which will require fiscal discipline in the upcoming years.
- A challenge for governments in Europe is to find the optimal consolidation path, i.e. to reach consensus about fiscal austerity. As each country starts from a different initial position in terms of debt and deficit levels and the state of the economy in general, each country should implement the policy which best fits its own conditions. Fiscal consolidation will be necessary when economic conditions start to improve. Projections indicate that lowering the gross general government debt-to-GDP ratio back to 60 per cent by 2030 in advanced economies would require improving the cyclically adjusted primary balance by 8.7 percentage points of GDP from 2010 to 2020. Less ambitious targets could have negative implications for economic performance.
- Steady but gradual consolidation may be the strategy that has the lowest cost in terms of lost output. Recent policy measures indicate that this is indeed the strategy which European governments are going to follow.

In this chapter, we first discuss to what extent governments have been constrained by high deficits and debt levels and large costs of automatic stabilisers during the economic crisis to enact fiscal stimulus packages. Second, we take an outlook to consider the medium and long-term sustainability of public finances and social protection systems.

2.4.1. Explanations for differences in size of discretionary measures

In this section, potential explanations for differences in size of fiscal stimulus packages are discussed to figure out whether financial constraints had an impact on the discretionary policy measures taken by governments during the economic crisis. For this analysis, it is crucial to account for different factors which might affect the size of the programmes in order to isolate the impact of budget deficits and debt levels. In the following, we highlight four potential factors which might had an impact on discretionary measures: (i) budget deficits and (ii) debt levels before the start of the economic crisis (2007), (iii) the size of automatic stabilisers and (iv) the openness of the economy and show how these factors affected real policy measures.

In the debate on fiscal policy responses to the crisis, some countries have been criticised for being reluctant to enact fiscal stimulus programmes in order to stabilise demand, in particular Germany. One reaction to this criticism was to point to the fact that automatic stabilisers in Germany are more important than in other countries (see section 2.2), so that less discretionary action is required. This raises the general question of whether countries with weaker automatic stabilisers have taken more discretionary fiscal policy action to compensate for this.

A further concern in the policy debate put forward by supporters of large and coordinated discretionary measures was that countries could limit the size of their programmes at the expense of countries with more generous fiscal policy responses. The central factor behind this hypothesis is the degree of openness of an economy. The more open an economy is, i.e. the stronger the economic ties with other countries are, the more likely it is that a country gains from other countries' fiscal stimulus packages or, conversely, the more likely it is that own fiscal stimulus measures spill over to other countries. Hence, the idea behind this argument is that some countries might show a free-rider behaviour and profit from spill-over effects of discretionary measures (see also section 2.2.2.).[39]

Finally, it could simply be the case that governments have been financially constrained to enact large fiscal stimulus packages because of high budget deficits or debt levels before the start of the crisis. To shed some light on these issues, we run a multivariate regression of the four explanatory variables 'budget deficit in 2007', 'debt level in 2007', 'size of automatic stabilisers measured by income stabilisation coefficient' (see section 2.2.) and 'openness of the economy measured by the share of exports and imports to GDP' on the size of discretionary measures taken during the economic crisis. In a sample of 19 European countries and the US, we find that both high budget deficits and debt levels before the start of the crisis (2007) had significantly negative effects on the size of discretionary measures taken during the crisis. This is an interesting finding which indicates that at least some governments were constrained in their decision-making because of weak financial positions. Taking into account that fiscal balances and debt levels have dramatically worsened in almost all advanced economies due to the economic crisis (see Tables A11 and A12 in the appendix), one can conclude that such an exertion taken in the last crisis is not repeatable in the near future.

Further, our analysis shows that more open economies have, on average, enacted smaller stimulus packages giving some support to the hypothesis that free-rider behaviour indeed played a role, at least to some extent (see Figure 15). Finally, there is no significant relationship between the size of automatic stabilisers and discretionary measures (see Figure 16).

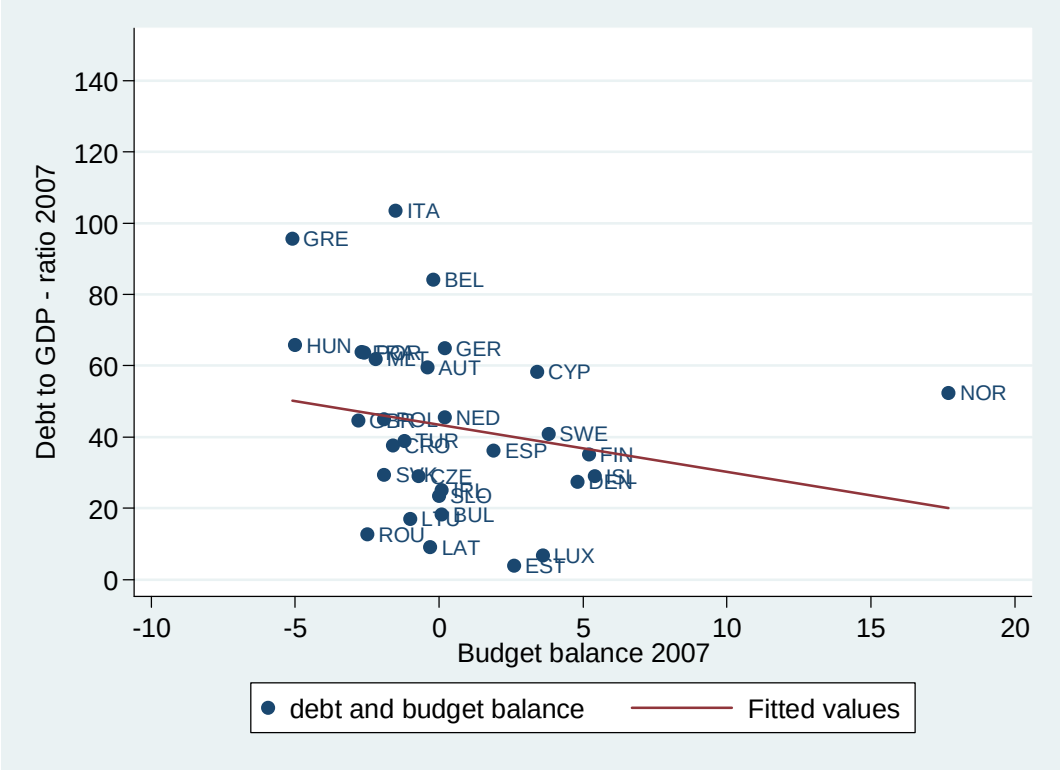
[39] In that sense, a fiscal stimulus programme can be seen as a positive externality since potential positive effects are not limited to the country of origin.

Our finding of a small correlation between automatic stabilisers and discretionary measures qualifies the view that countries with lower automatic stabilisers have engaged in more discretionary fiscal policy action.

Figure 12 shows debt and budget positions of European countries before the start of the economic crisis in 2007. Several countries already had a debt level above 60 per cent, among them France and Germany with levels slightly above 60 per cent, and Greece and Italy near (Greece) or above (Italy) 100 per cent. Empirical research (Reinhart, C.M. and Rogoff, K., 2010) has shown that the relationship between government debt and real GDP growth is weak for debt/GDP ratios below a threshold of 90 per cent of GDP, but that growth rates fall substantially if government debt is above this threshold.[40] These findings indicate that debt levels observed in Greece and Italy were rather unsustainable even before the start of the economic crisis.

In the Greece case, a further aspect which should have caused serious worries is the large budget deficit which was as high as 5.1 per cent in 2007. A similar value (5.0 per cent) was observed in Hungary. At the other end of the spectrum, there were several countries with debt levels substantially below 60 per cent and balanced budgets or even budget surpluses. All Nordic countries belong to this group and also Continental European (e.g. Luxembourg or the Netherlands) and Southern/Eastern European countries (Spain or Estonia).

Figure 12: Debt to GDP ratio and budget balance in 2007



Source: Own calculations based on Eurostat.

[40] According to Reinhart, C.M. and Rogoff, K., 2010, emerging markets face lower thresholds for external debt.

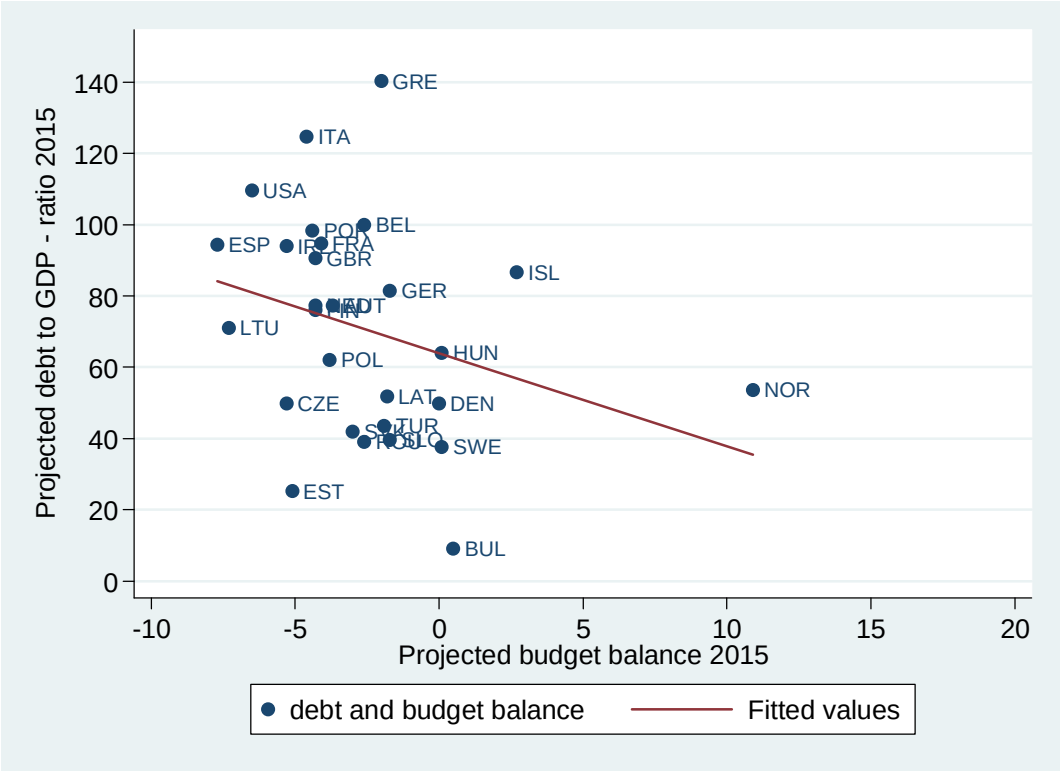
2.4.2. Medium to long-term sustainability of public finances and social protection systems

Tables A11 and A12 in the appendix show that the economic crisis and consequential policy responses – i.e. both automatic stabilisers and discretionary fiscal measures – yielded a structural break in budget deficits and debt levels in 2009/2010.[41] For example, Germany, which had reached a balanced budget in 2007 and 2008, failed to meet the Maastricht criterion of a 3 per cent upper deficit limit in 2009. Other countries, such as Spain, Greece, Ireland or the United Kingdom, were confronted with budget deficits of even above 10 per cent. Parallel to rising deficits, governments also faced increasing debt levels and the majority of euro area countries failed to meet the second Maastricht criterion, a maximum debt to GDP ratio of 60 per cent, as well.

Projections of the IMF (Tables A13 and A14 in the appendix) indicate that deficits and debt levels are likely to reach a peak in 2010 (in some countries in 2011) before economic recovery and fiscal austerity will lead to declining deficits.

However, debt levels are projected to remain on a high level, and it will take a long time until pre-crisis levels are reached. This is illustrated in Figure 13, which shows projected debt to GDP ratios and deficit levels for 2015. While only a few countries were confronted with debt levels above 70 per cent and deficits above 3 per cent in 2007, projections for 2015 show that there is a large group of countries with debt and deficits levels close to 100 per cent and 5 per cent, respectively. These projections manifest that the aim of achieving sustainable public finances will be a long-term task which will require fiscal discipline in the coming years.

Figure 13: Projected debt to GDP ratio and budget balance in 2015



Source: Own calculations based on IMF, 2010b.

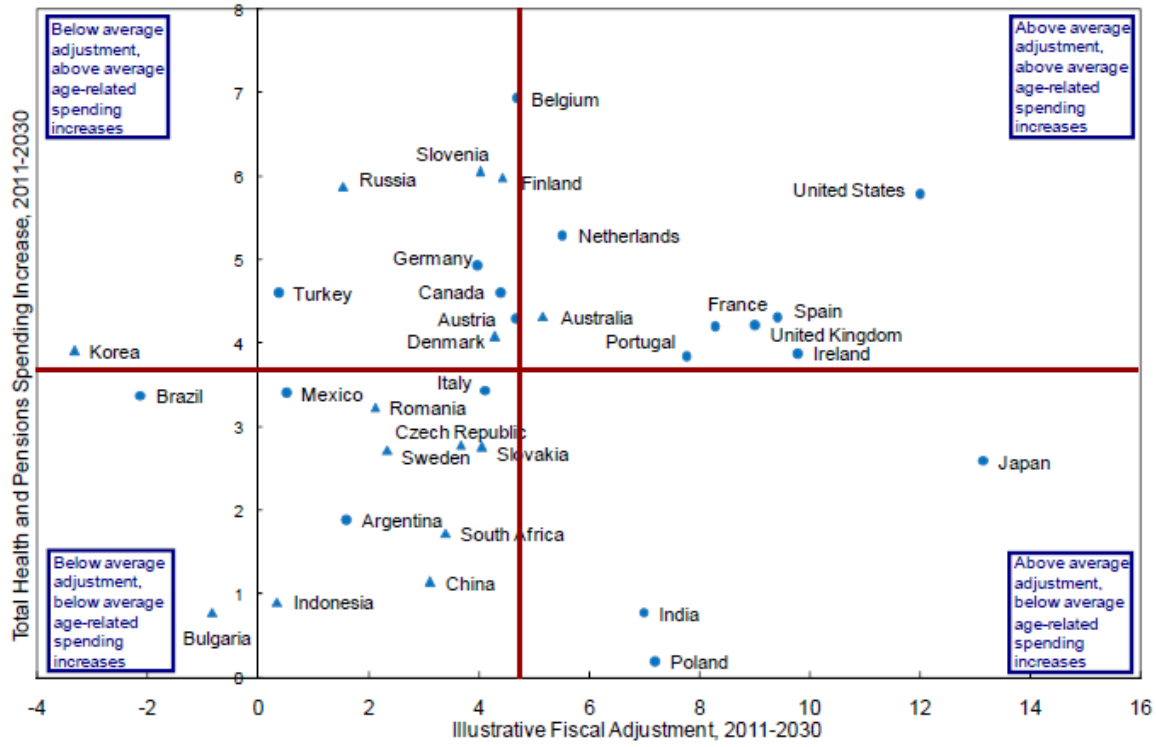
[41] Although active fiscal policy measures related to the economic crisis can be easily quantified, it is hard to disentangle how much of rising deficits can be attributed to automatic stabilisers because behavioural effects of economic agents, such as labour supply responses, have to be controlled for.

A challenge for governments in Europe will be to find the optimal consolidation path, i.e. to reach consensus about fiscal austerity. As each country starts from a different initial position in terms of debt and deficit levels and the state of the economy in general, one could argue that each country should implement the policy which best fits its own conditions. Nevertheless, in its latest 'Fiscal Monitor', the IMF, 2010b, tries to portray how austerity should look like both in advanced and emerging economies. A key message from this report is that fiscal consolidation will be necessary in the advanced economies once economic conditions start to improve. Projections indicate that lowering the gross general government debt-to-GDP ratio back to 60 per cent for advanced economies by 2030 (pre-crisis median) would require improving the cyclically adjusted primary balance by 8.7 percentage points of GDP over the period 2010-2020, from a projected deficit of 4.9 per cent in 2010 to a surplus of 3.8 per cent of GDP in 2020. For emerging economies, fiscal policy challenges are more modest. Further, it is pointed out that less ambitious targets could have negative implications for economic performance which is in line with the research finding of Reinhart, C.M. and Rogoff, K., 2010.

How does the current situation look like in 2010? In the first half of 2010, government bond ratings deteriorated and sovereign debt premia substantially increased in certain European countries, exerting pressure on national governments to implement fiscal consolidation packages. Among these countries are Denmark (announced fiscal consolidation of EUR 3.2 billion), Germany (EUR 80 billion), Greece (EUR 30 billion), Ireland (EUR 12 billion), Italy (EUR 24.9 billion), Portugal (EUR 2 billion), Spain (EUR 65 billion) and the United Kingdom (GBP 6 billion) (national sources). As fiscal consolidation can be achieved through tax increases and cuts in spending; which of these policies is more successful is a crucial question for policy-makers. It can be argued that in the current situation the size of public debt is too high to place the whole burden of the correction on higher taxes (Corsetti, G.). Moreover, recent research has shown that a gradual implementation of spending cuts has several desirable effects (Corsetti, G. et al.). Corsetti, G. et al. suggest that steady but gradual consolidation may be the strategy that has the lowest cost in terms of lost output. Recent policy measures indicate that this is indeed the strategy which European governments are going to follow. Detailed information on medium-term consolidation plans can be found in Table A15 in the appendix.

Given beginning fiscal austerity in some countries and ambitious consolidation paths recommended by the IMF, what are the implications for social protection systems and their sustainability? First, changing demographic structures, particularly in advanced economies and hence in the majority of European countries, will cause spending pressures in the future. According to the IMF, 2010c, spending increases in health and pensions are projected, on average, at 4 to 5 percentage points of GDP in advanced economies over the next 20 years. Countries differ markedly in the necessary change of the primary balance to lower public debt below 60 per cent of GDP and in the increase in spending pressures for pensions and health. This relationship is shown in Figure 14. The majority of large economies of Western Europe have total health and pension spending increases above 3 per cent of GDP from 2011 to 2030 which strengthen the fiscal adjustment pressure.

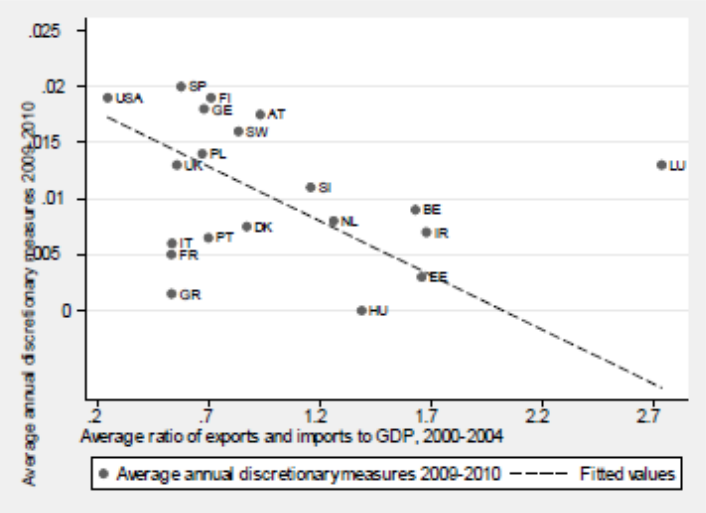
Figure 14: Illustrative fiscal adjustment and projected age-related spending increases in 2011-2030 (in per cent of GDP)



Source: IMF, 2010c.

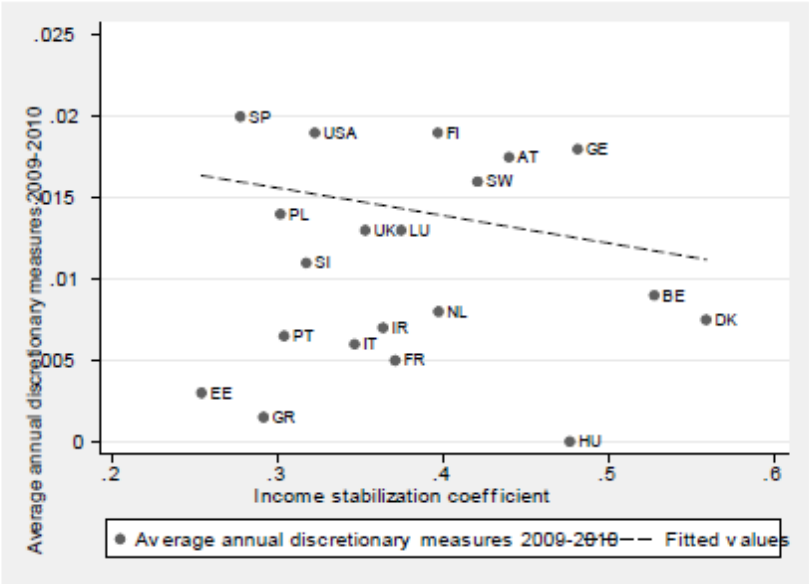
Second, the IMF, 2010b, points out that health care constitutes the key challenge in stabilising age-related spending pressures since health care spending is projected to rise, on average, by 3.5 percentage points of GDP in 2010-30 in advanced economies. The IMF recommends that reforms should contain both supply and demand-side measures. For a comparison, pension expenditure is projected to rise by 1 percentage point of GDP in the same time period. The IMF recommends that pension reforms should focus on increases in statutory retirement ages, and, if needed, benefit reductions and increases in contributions.

Figure 15: Discretionary measures and openness of the economy



Source: Heston et al. (2006), European Commission (2009c), International Labour Office and International Institute for Labour Studies (2009) and IMF (2009).

Figure 16: Discretionary measures and automatic stabilisers (measure by the income stabilisation coefficient)



Source: Own calculations based on EUROMOD and TAXSIM, European Commission (2009c), IMF (2009) and International Labour Office and International Institute for Labour Studies (2009).

2.5. Socio-economic development

KEY FINDINGS

- There has been a dual-track or two-tier reform strategy during the last 30 years in Europe. These reforms in most cases did not change - and may have even tightened - rules for regular or open-ended contracts. Instead, reforms were carried out primarily by changing rules only for new hires, introducing a wide array of flexible, fixed-term types of contracts or expanding the scope of existing temporary contracts. These asymmetric reforms caused a dramatic increase of the use of fixed-term workers, which did not exist in most countries only two decades ago.

- The share of temporary contracts steadily increased before the recession in countries with stricter employment protection. As it is clear from the picture, temporary contracts are overrepresented among young (those aged less than 35) and less educated workers (primary level).
- However, temporary workers, in particular the young, experienced the majority of recession-related job losses, and hence this share has been falling in the recession. Four countries (Portugal, Spain, Italy and France) experienced an increase in the share of temporary workers who declare that the temporary contract was the only kind of contract at their disposal, regardless the nature of the job.
- Figures suggest that younger people are much less covered than older workers both in non-dual and dual countries, but in the latter group the difference between the share of young and middle-aged covered is very high. This suggests that younger benefit recipients, who are also the more involved in temporary jobs, are the most exposed to unemployment-related poverty.
- At the national level, some measures have been adopted during the last year, but looking at the data it really seems that further improvements urge on the unemployment benefits side because those most affected are the least protected.
- What matters the most is the strong need of universal and unique unemployment benefit systems, in all European countries. Preliminary evidence suggests that social protection acts differently for different type of contracts, but there is no economic reason to have such discrimination.

The spread of dual-track reforms

The new version of the Social Reforms database, assembled by the Fondazione Rodolfo Debenedetti in cooperation with the Institute for the Study of Labor (IZA), documents the reforms that have occurred in Europe in the last 30 years in the fields of Employment Protection Legislation (EPL) and Non-Employment Benefits (NEB). The inventory indicates that 92 per cent of EPL regulatory changes involving a discrete change in the level of the overall index did not apply to workers with permanent contracts. In other words, there has been a dual-track (or two-tier) reform strategy during the last 30 years in Europe.

These reforms in most cases did not change — and may have even tightened — rules for regular or open-ended contracts. Instead, reforms were carried out primarily by changing rules only for new hires, introducing a wide array of flexible, fixed-term types of contracts or expanding the scope of existing temporary contracts.

For instance, in Italy the 'Treu Package' in 1997 removed restrictions on the use of fixed-term contracts and introduced temporary agency work without modifying the rules for open-ended contracts.

Measures of labour market dualism

As already documented in the last World Economic Outlook (IMF, 2010a), these asymmetric reforms caused a dramatic increase of the use of fixed-term workers, which did not exist in most countries only two decades ago. Countries with the strictest provisions for regular contracts experienced a boom in the share of fixed-term (temporary) contracts in total dependent employment. Indeed, the increasing use of temporary workers has not only resulted in dual-track, two-tier labour arrangements but has also blurred the boundary between dependent employment and self-employment.[42]

As we can appreciate from the OECD EPL index, the widely used measure of severity of employment protection legislation based on an assessment of national regulations, the reforms since 1990 (see table) have been broadly aimed at reducing dismissal costs, notably in countries that already had the strictest standards. The table below lists all European countries whose EPL reforms involved a change in the overall index exceeding two thirds of the cross-country standard deviation in the index in 1990. We observe also a converging path: the contemporaneous decline in the average of the overall index for European OECD countries and of the cross-country standard deviation of this indicator.

Table 18: Severity of employment protection legislation in Europe, 1990 – 2008

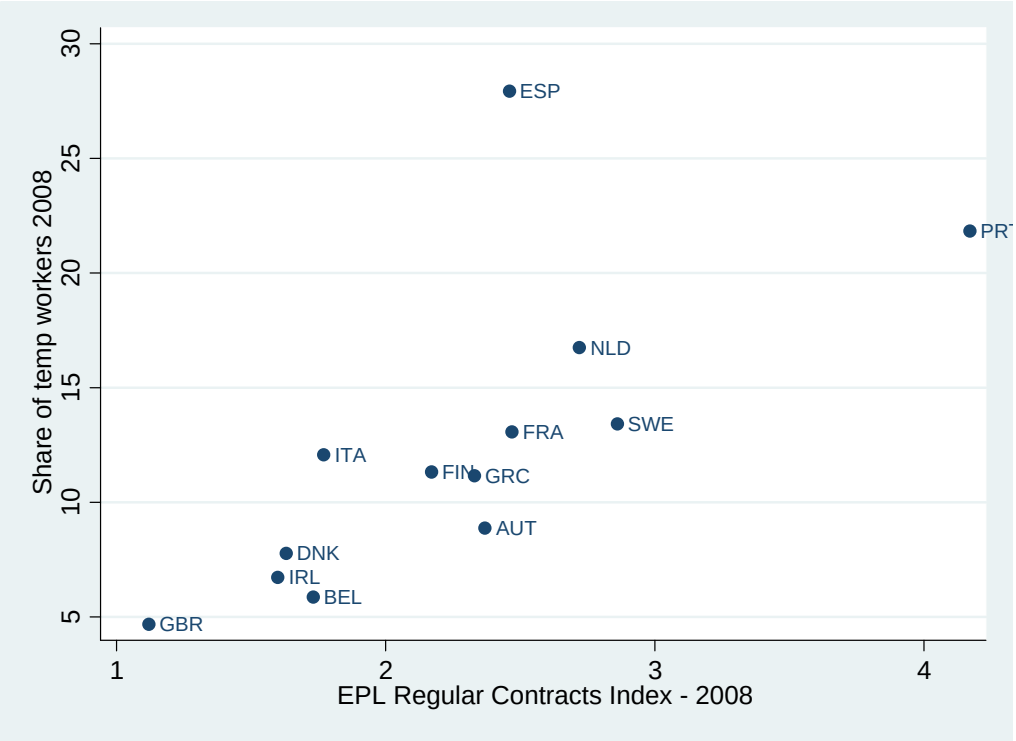
	EPL, Overall Contracts		EPL, Regular Contracts	
	1990	2008	1990	2008
Belgium	3.15	2.18	1.68	1.73
Denmark	2.40	1.50	1.68	1.63
Germany	3.17	2.12	2.58	3.00
Greece	3.50	2.73	2.25	2.33
Italy	3.57	1.89	1.77	1.77
Portugal	4.10	3.15	4.83	4.17
Spain	3.82	2.98	3.88	2.46
Sweden	3.49	1.87	2.90	2.86
Mean (all European OECD countries)	**2.49**	**2.04**	**2.33**	**2.32**
St. Dev. (all European OECD countries)	**1.16**	**0.78**	**0.94**	**0.67**

Source: OECD; IMF, 2010a.

[42] For a theoretical contribution to the literature on labour market reforms please see Boeri, T.

Moreover, Figure 17 suggests that the level in the EPL regular index is highly correlated with the share of temporary workers. In particular, in 2008 the correlation coefficient between the two variables is 0.81.[43] However, the measurement of dualism is a non-trivial exercise because the two-tier nature of these labour markets affects many dimensions, from the probability of transition between labour market status to wage differentials. As can be seen from the Figure 18, there is strong evidence that transition probability from temporary to permanent positions is once again correlated (negatively) with the severity of employment protection legislation (ρ=-0.72).

Figure 17: Employment protection legislation and temporary workers in Europe



Source: OECD and Eurostat labour force statistics.

[43] In Europe, labour market suffered the first decrease in unemployment around the second quarter of 2008. In most of the European countries, unemployment rates are still rising at the moment of writing this report.

Figure 18: EPL and transition probability from temporary to permanent positions

Source: OECD; European Union Survey of Income and Living Conditions 2004-2007 (longitudinal component).

The wage premium also reflects the stronger bargaining power of regular workers and the fact that workers with flexible contracts are not covered by EPL and have little or no access to unemployment benefits in case of job loss. The premium can be estimated as the coefficient of a dummy variable on permanent contracts, in a (monthly) wage regression of male dependent employment, controlling for education and tenure:

$$log(w_i) = \alpha + \beta_1 EDU_i + \beta_2 EDU_i^2 + \delta_1 TEN_i + \delta_2 TEN_i^2 + \gamma PERM_i + u_i ,$$

where *i* indexes individuals. The results, reported in the first column of Table 19, suggest that in dual countries, permanent contracts workers are paid from 44.7 (Sweden) to 10 per cent (Greece) more than workers on temporary contracts. Thereafter, we consider as dual countries France, Greece, Italy, Portugal, Spain and Sweden; non-dual countries are Austria, Belgium, Denmark, Germany, Finland, Ireland and United Kingdom.

Finally, using the fRDB – IZA Social Reforms database, we can identify the percentage of EPL reforms which covered only part of the labour force (two-tier reforms) in the last 30 years in European countries. The share of these reforms among the total of employment protection reforms varies consistently. However, half of the countries covered in the database have a share of two-tier reforms which is higher than 50 per cent (notably, Italy, Austria and Spain exceed 70 per cent).

We can summarise in the following table, similar to that published by IMF, 2010a, the four main variables mentioned above through which we can measure labour market dualism. The wage premium (first column) can be compared with the share of fixed-term employees in total dependent employment in the second column, also reported in Figure 19.

The rankings between the two columns differ (the Spearman correlation coefficient between the two measures of dualism is 0.32), but the United Kingdom stands out as having the least disparity according to both measures.

Table 19: Summary of dualism measures in European countries

	Percentage wage premium for permanent contracts	Share of temporary contracts in dependent employment	Probability of transition from a temporary to a permanent contract*	Percentage of two-tier EPL reforms among institutional reforms
Austria	20.1	8.9	47.4	84.6
Belgium	13.9	8.8	40.4	75.0
Denmark	17.7	7.8		55.6
Finland	19.0	12.4	22.7	42.9
France	28.9	13.7	13.6	41.2
Germany	26.6	14.2		69.2
Greece	10.3	12.9	31.3	53.8
Ireland	17.8	9.0	46.3	38.5
Italy	24.1	13.4	31.2	86.7
Luxembourg	27.6	6.9	41.0	
Netherlands	35.4	16.6		43.7
Portugal	15.8	22.2	12.1	35.7
Spain	16.9	31.9	28.3	70.6
Sweden	44.7	17.5		40.0
United Kingdom	6.5	5.8	45.7	16.0

Sources: European Community Household Panel, European Union Survey of Income and Living Conditions and Eurostat labour force statistics, IMF, 2010a, and fRDB – IZA Social Reforms Database. *Estimated from matched records of the European Union Survey of Income and Living Conditions for 2004–07 (last data available).

Dual workers in times of recession

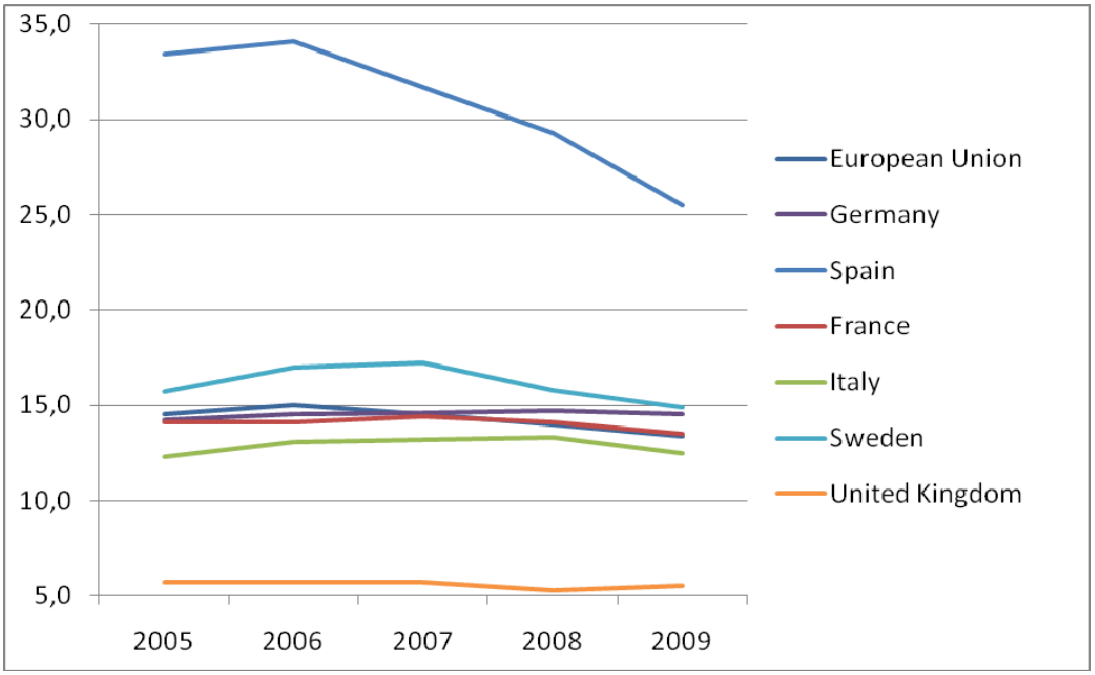
The share of temporary contracts steadily increased before the 2008-2009 recession in countries with stricter EPL. However, temporary workers experienced the majority of recession-related job losses, and hence this share has been falling in the recession. The most representative country is Spain, in which the share of temporary workers declined by 17 per cent during the period 2008 quarter 2 to 2010 quarter 1 (compared with 10 per cent for total employment); the same happened by almost 10 per cent in Italy (compared with 3.5 per cent), by 7 per cent in France (compared with 2.2 per cent) and by 3.4 per cent in Germany (compared with an increase of 0.7 per cent in total employment).[44]

The following figures show the rise and fall of temporary contracts in some European countries from 2005 and 2009. Most of the countries experienced a drop in the mean share as a consequence of both the recession and of the severity of EPL for permanent contracts.

[44] The source of these data is Eurostat Labour Force Survey database. Italian data on 2010 quarter 1 were not available at the time of writing the report; for this reason, we take into account the period 2008q2-2009q4.

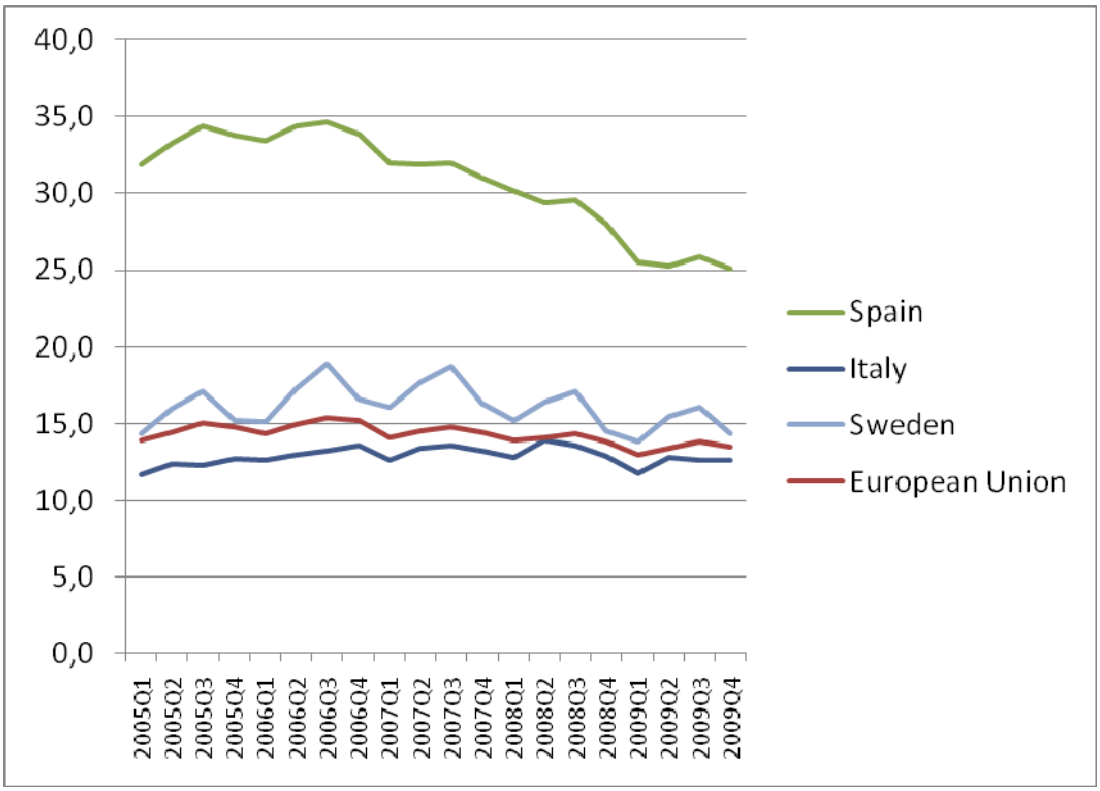
However, if we look at Figure 20, which is based on quarterly data, it is clear that some countries still use temporary contracts to face seasonal variation in the demand (e.g., Sweden), while others do not.

Figure 19: Share of temporary workers as a percentage of total dependent employment



Source: Eurostat labour force statistics, 2005-2009.

Figure 20: Temporary workers as a percentage of dependent employment, quarterly data

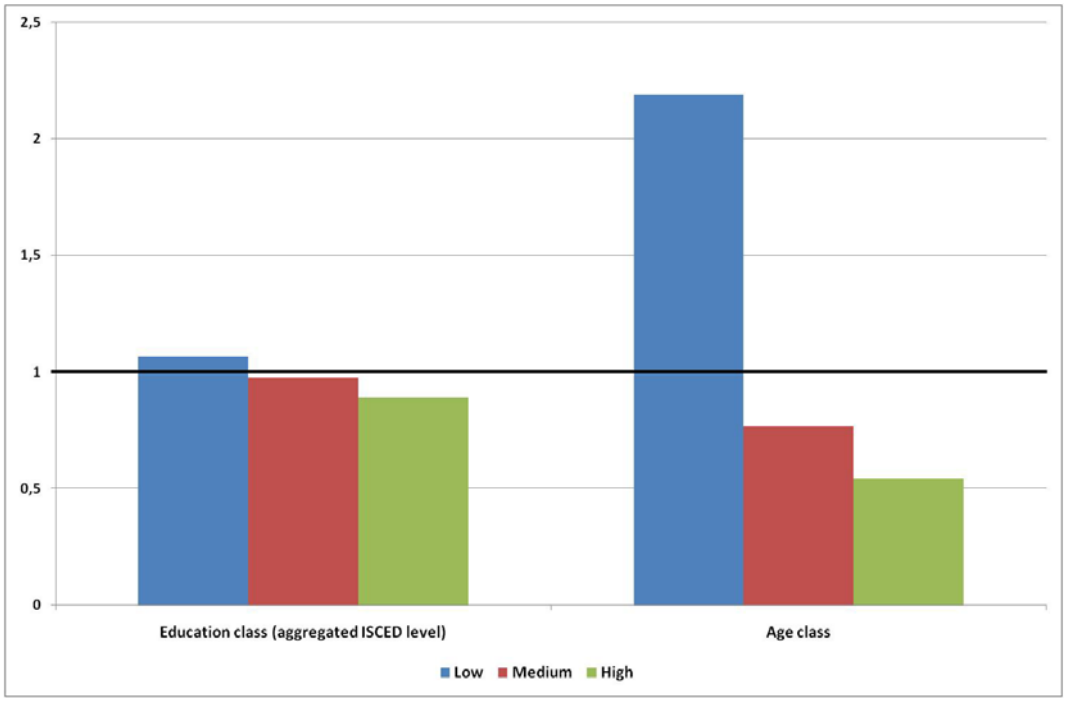


Source: Eurostat labour force statistics, 2005-2009.

We have so far seen that some countries suffer an internal division of the labour market more than others: this phenomenon is relatively recent. As a consequence, there is a lack of empirical and theoretical studies on this subject, and due to scarce availability of data, there is still room to develop this argument. One of the main dimensions to be investigated deals with the characteristics of individuals holding a temporary contract. In this section, we try to shed some light on this issue using the information contained in the European Union Survey on Income and Living Conditions and on the last release of European Labour Force Survey micro database.

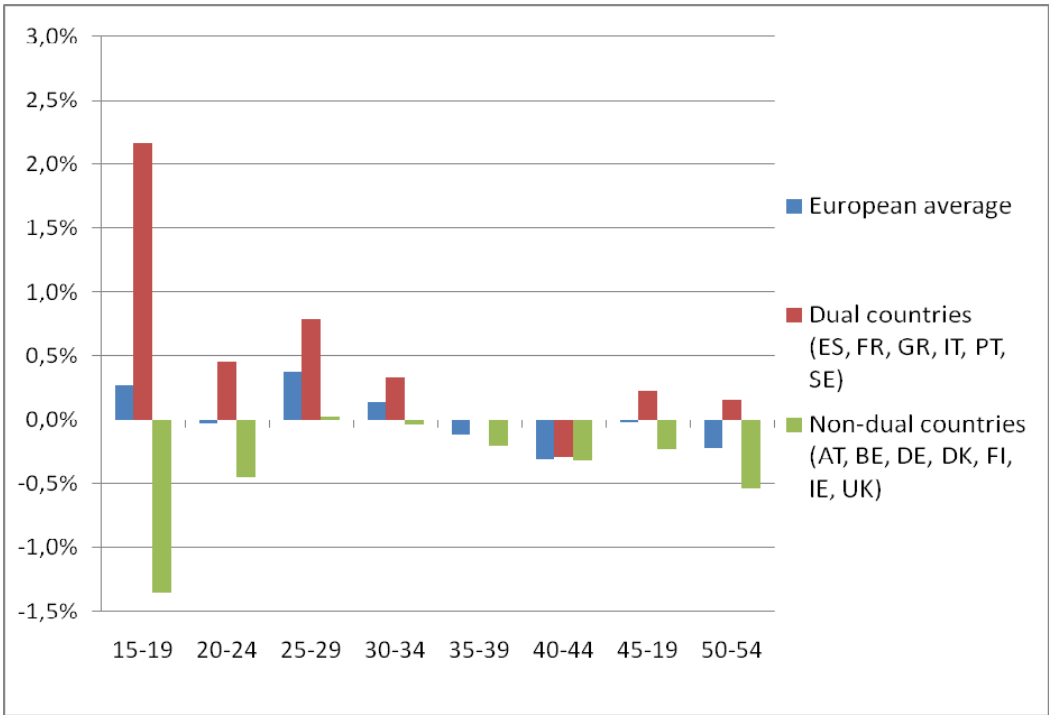
The following figure illustrates the age and education level of workers. The reported measures are the odds ratio of temporary workers to permanent workers with respect to educational attainment (on the left) and age class (on the right). By construction, if the distribution of educational attainments and age classes were equal across the two worker groups, the ratios would add to 1. On the contrary, if the ratio is higher than 1, then temporary workers would be over represented. As it is clear from the picture, temporary contracts are overrepresented among young (those aged less than 35) and less educated workers (primary level).

Figure 21: Temporary workers: odds ratios by age and educational attainment



Source: European Survey on Income and Living Conditions, 2008.

Figure 22: Age distribution of temporary workers: variations before and during the crisis



Source: Eurostat Labour Force Survey, 2005-2008.

The age distribution of temporary workers changed slightly, on average, both before (average 2005-2007) and during the crisis (2008). What is really interesting is that the figure differs in dual and non-dual countries, as defined.[45] In the first group, the share of youngest workers having temporary contracts increased by 0.45 percentage points for those aged 20-24 and by 2.16 percentage points for those aged 15-19 in 2008, with respect to the 2005-2007 average. On the other hand, in non-dual countries the same share decreased respectively by 0.45 and 1.35 per cent.

Focusing more on educational attainment, we built a measure of concentration of workers, based again on odds ratios, which consider both temporary contracts and unemployment incidence. The measure is the following:

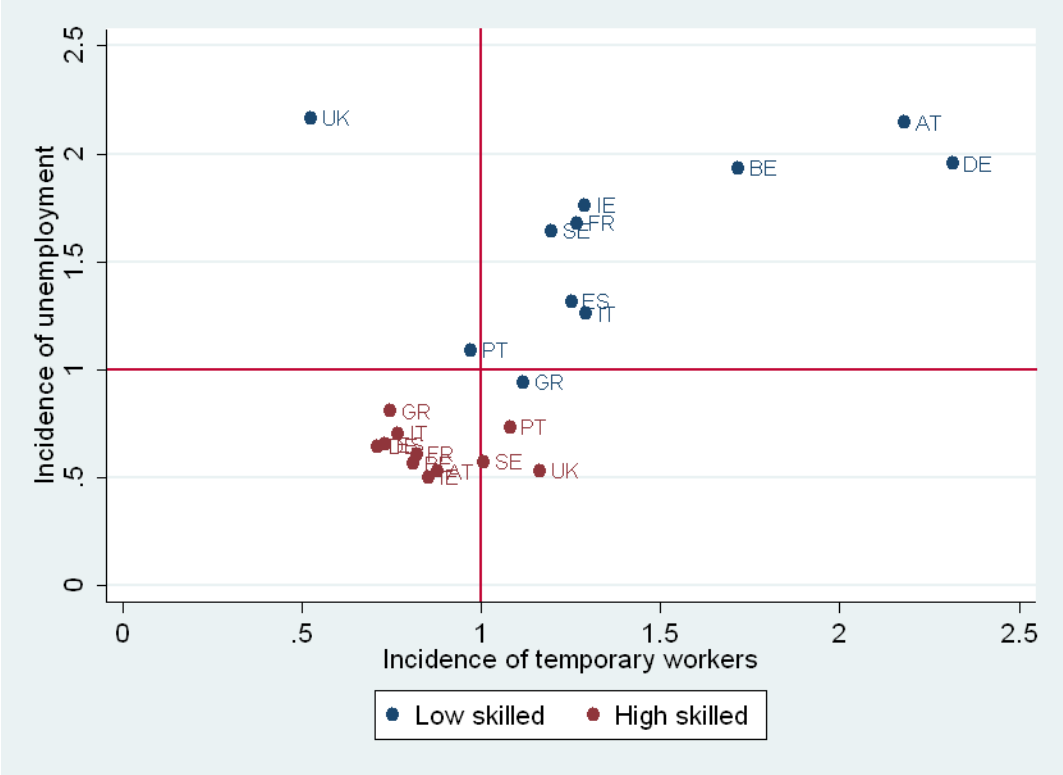
- Incidence of temporary workers: $\frac{temp_{skill}/empl_{skill}}{temp/empl}$ (1)
- Incidence of unemployment: $\frac{u_{skill}/lf_{skill}}{u/lf}$ (2)

  where *skill* stands for *primary*, *secondary* or *tertiary* according to aggregated ISCED levels of education.

In the following figure, we plot (2) (on the y axis) versus (1) (on the right axis). The result is hardly surprising: low skilled workers are highly concentrated in the top right quadrant, meaning that they are over represented among both unemployed and temporary workers. On the contrary, high skilled workers are mostly on the bottom left quadrant.

[45] We consider as dual countries France, Greece, Italy, Portugal, Spain, Sweden. Non-dual countries are Austria, Belgium, Denmark, Germany, Finland, Ireland and United Kingdom. The European Labour Force Surveys released do not contain information on Netherlands.

Figure 23: Incidence of temporary workers and unemployed by educational attainment



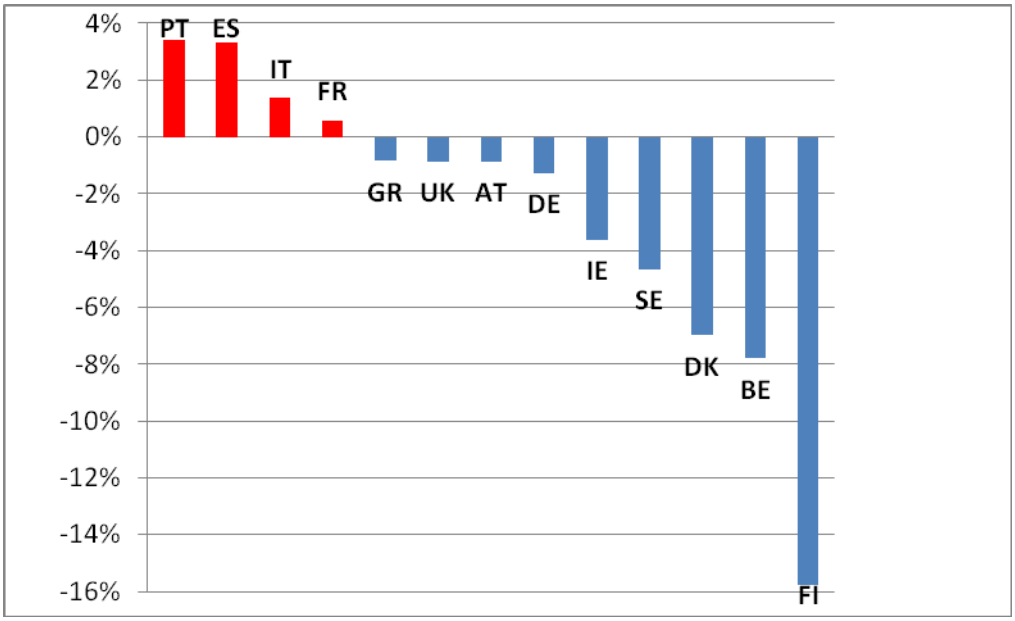
Source: European Survey on Income and Living Conditions, 2008.

As will be further discussed, the lower human capital level which characterises temporary and unemployed workers raises serious concerns about the future growth of European countries and the consequent composition of their labour force. Workers with a low stock of human capital, low levels of training and long periods of inactivity would face major difficulties in re-entering the job market once the demand will rise again.

Despite other major limits, the European Labour Force Survey also allows us to investigate an important aspect of dualism in Europe. In fact, it contains data on self-reported reasons for having a temporary contract. The following figures confirm prior evidence on labour market dualism. In particular, four countries (Portugal, Spain, Italy and France) experienced an increase in the share of temporary workers who declare that the temporary contract was the only kind of contract at their disposal, regardless the nature of the job.[46] This figure is quite notable, and it clearly shows that in the last year temporary contracts are not used for the aim they have been created for. In general, this motivation explains more than 66 per cent of the motivations for having a temporary contract in these four countries plus Greece (82.9 per cent in Portugal, the maximum level, versus 15.9 per cent in Ireland, the minimum level).

[46] The exact coding of the question is the following: 'Person has temporary job/work contract of limited duration because: 1. It is a contract covering a period of training; 2. Person could not find a permanent job; 3. Person did not want a permanent job; 4. It is a contract for a probationary period; not applicable; no answer.

Figure 24: Temporary as only contract available, variations before and after the crisis



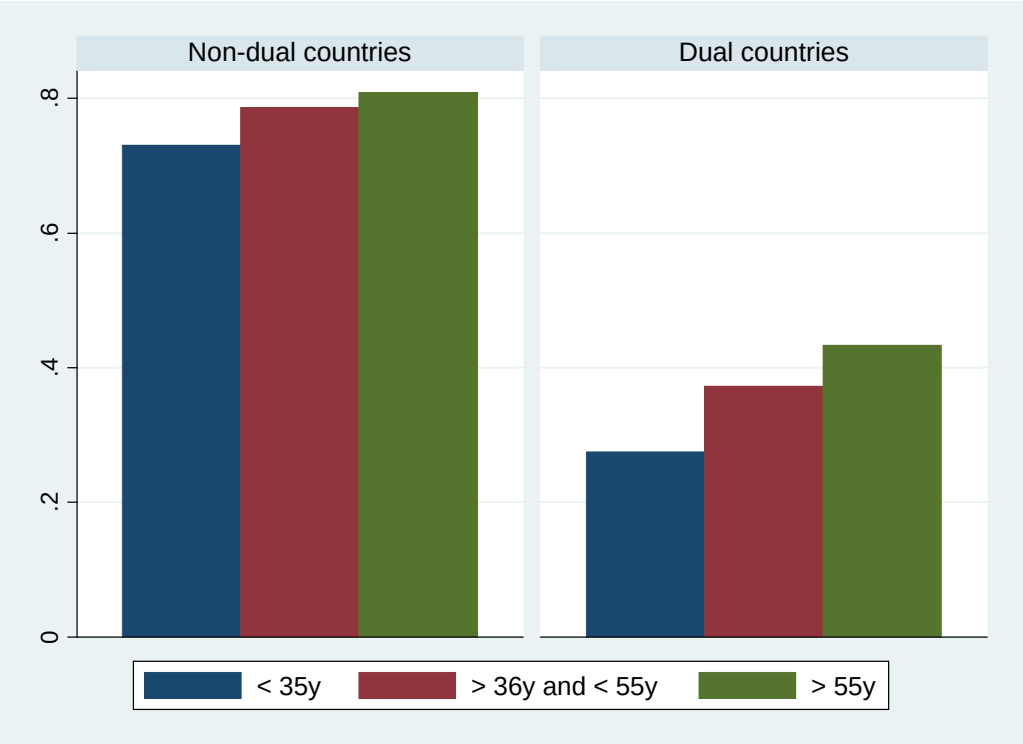
Source: Eurostat Labour Force Survey, 2005-2008.

Dual workers and economic stabilisers

A main concern regarding the use of temporary jobs, is the extent and the coverage of unemployment benefits, especially during recession periods. Some preliminary evidence suggests that the extent of unemployment risks and social protection do not coincide: national benefit schemes hardly cover former temporary workers with unemployment insurance. However, there is little empirical literature so far that covers this topic. Figari, F. et al. has recently analysed the extent of social protection using EUROMOD simulations in five European countries, while D'Amuri, F. has carried out an interesting analysis of the effects of the current crisis on the Italian labour market.

The main reason why there is so little literature is a lack of data. In fact, Eurostat has yet to provide, at the time of writing this report, any longitudinal data on labour market variables. For this reason it is almost impossible to carry out any type of analysis based on micro data on flows from employment to unemployment status during the crisis and benefits recipients by type of contract. However, we know from above that some countries are more dual than others. So, we can analyse the coverage and extent of unemployment benefits both on age and on educational attainment dimensions, considering separately dual and non-dual countries.

Figure 25: Coverage of unemployment benefits by age: non-dual and dual countries

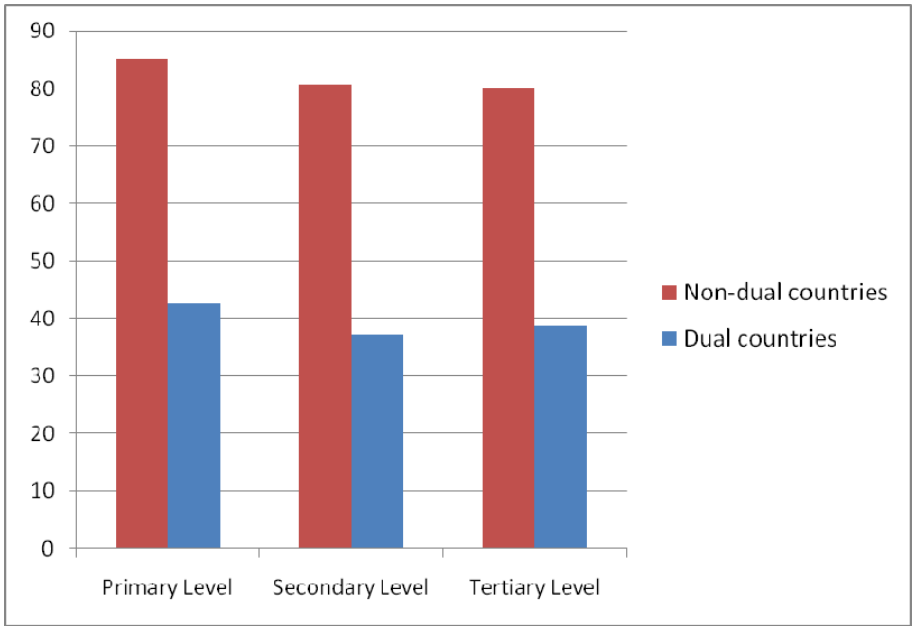


Source: European Survey on Income and Living Condition, 2008.

The figure above suggests that younger people have much less cover than older workers both in non-dual and dual countries, but in the latter group the difference between the share of young and middle-aged covered is very high (around 10 percentage points, from 27.5 to 37.2 per cent). This suggests that younger benefit recipients, who are also the more involved in temporary jobs, are the most exposed to unemployment related poverty. It is very likely that this problem has worsened during the current crisis, since the age distribution plotted in Figure 25 suggests that dual countries increased the use of temporary contracts for younger workers (Figari, F. et al.).

A similar result can be obtained considering educational attainment. The histogram suggests once again that the mean coverage of unemployment benefits in dual countries is almost half than that of non-dual countries. However, it seems that workers are not discriminated among educational attainment, since the level of coverage does not differ too much between primary, secondary and tertiary level.

Figure 26: Coverage of unemployment benefits by education: non-dual and dual countries



Source: European Survey on Income and Living Condition, 2008.

OECD, 2009c, provides some interesting data on the level and generosity of unemployment benefits (net replacement rates) in OECD countries, already cited in section 2.1. On average, those countries considered as dualistic have a level of replacement rates which is above the OECD median, apart from Italy (which has the third lowest level on a five-year average unemployment spell basis). Unfortunately we are unable to match these data with any measure provided by Eurostat statistics. However, this suggests that for some countries there are problems not only with the coverage but also with the generosity of the programmes. At the national level, some measures have been adopted during the last year, but looking at the data it really seems that further improvements urge on the unemployment benefits side because those most affected are the least protected.[47]

A brief insight on Italian unemployment benefits system and dualism

Using Italian Labour Force Survey, we are able to provide some further insights on social protection looking at the type of contract one year before the survey. This exercise gives some more accurate measure of how Italian social protection systems acts in case of unemployment. As a dual country, Italy is a very interesting case, and other national systems, such those of Spain, Greece or Portugal, are very similar, at least looking at the qualitative descriptions and the aggregate measures like those of OECD (see section 2.1.).

In the following table, we report the coverage of unemployment benefits by contract type one year before the survey in the last three years (quarterly basis). On the contract side, we distinguish between three types of contract: permanent, temporary (or fixed-term) and other, meaning all the other types previous job (self employed, entrepreneurs and cooperative workers) and long-term unemployed. On the unemployment benefits side we considered together both 'sussidio di disoccupazione' and 'indennità di mobilità'.

[47] In Italy, the short-time work programme 'Cassa Integrazione Guadagni', which often acts as the main source for social protection even if its main purpose is that of helping firms when restructuring the production process, was extended in 2009 to some industries and categories of workers, including some groups of temporary workers, which were previously excluded (Italian law no 2/2009).

Table 20: Unemployment benefits coverage in Italy by type of contract one year before (%)

	2007				2008				2009			
	q1	q2	q3	q4	q1	q2	q3	q4	q1	q2	q3	q4
Permanent contract	20.4	19.1	20.1	16.8	13.5	9.8	22.5	20.7	18.9	24.0	22.9	21.5
Temporary contract	0	0	2.9	0	4.1	2.1	2.7	5.8	0	3.8	4.8	1.9
Other*	3.7	2.9	3.6	2.4	2.6	1.9	3.4	2.8	4.2	3.4	2.7	3.3

Source: ISTAT Labour Force Survey, 2007-2009. Unemployed people without previous work experiences have been excluded from the calculations. * *Other* includes self employed (with and without employees), cooperatives workers and residual categories (including long-term unemployed).

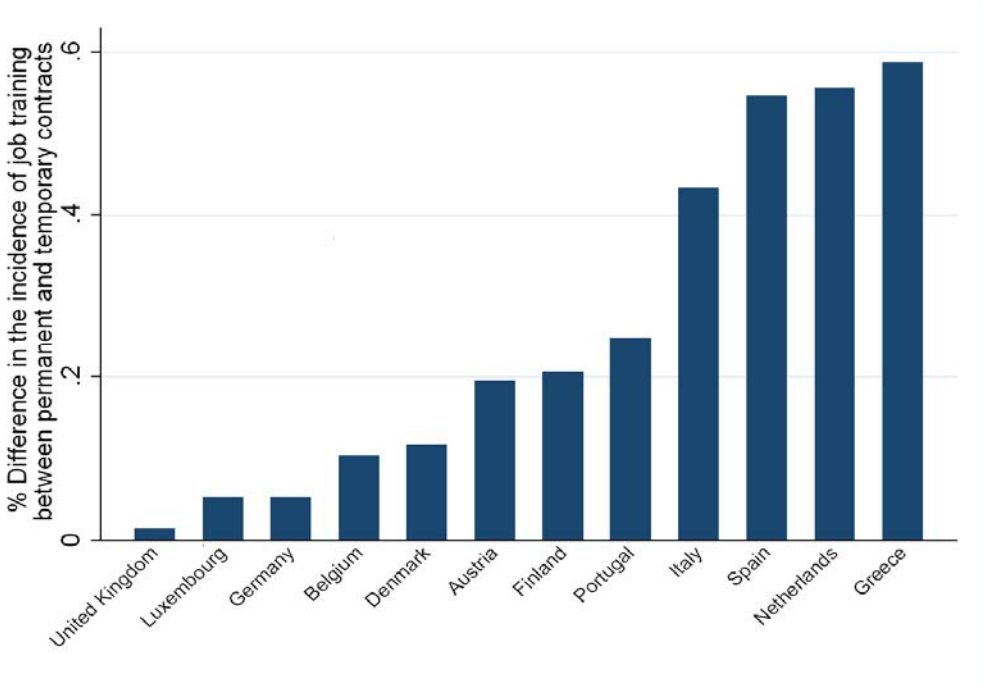
The table suggests that some improvement has been achieved in the last two years: the coverage of unemployment benefit programmes seems to be more constant overtime regardless the type of contract that the unemployed had one before the survey. In particular, former temporary workers are now partly covered while this rarely happened in 2007. However, (large) problems still remain: the degree of social protection in Italy is small and limited to one type of unemployed, i.e. former permanent workers. Young workers, who are those more likely to have a fixed-term contract, do not usually have the possibility to accrue enough work experience, and therefore contributions to the social protection system, to be covered from unemployment risk. These data are worrisome and they suggest that much improvement is still needed to avoid that a large share of the population are exposed to poverty risk.

Conclusions and policy implications

The asymmetric structure of European labour market, and in particular in countries such as France, Italy, Portugal, Spain and Sweden, has increased the responsiveness of employment and unemployment to production variations by allowing employers to hire temporary workers during the boom periods and to not confirm their contracts during recessions. IMF, 2010a, has already suggested that 'a long expansionary period can result in a large "buffer stock" of temporary workers, whereas a long recession could significantly reduce their share in total employment' (even though we have seen that this type of contract is still used to hire new young workers in dual countries). 'This means that countries with more temporary workers could experience larger employment losses during a recession.' We have seen that this is likely to be associated with low coverage of unemployment protection for these workers, and this is definitely the case of Italy and Spain. And moreover, '… temporary contracts can significantly increase employment during upturns. However, the heavy job losses associated with such contracts during the Great Recession have created strong pressure to phase out such arrangements.'

One way to make flexibility credible, and hence encourage more hiring during the recovery, is to reduce the dualism of labour markets by allowing for graded employment security, that is, dismissal costs in permanent contracts gradually increasing with tenure length. In particular, governments could promote entrance into the permanent labour market in stages, making job security provisions, in the form of mandated severance payments, increase steadily as workers acquire tenure without large discontinuities.

Figure 27: On–the-job training: differences between temporary and permanent contracts



Source: European Community Household Panel.

An important policy issue related to these topics is the negative impact of temporary employment on human capital formation. Evidence from past recessions in European countries, as reported in Arpaia, A. and Curci, N., suggest that young workers were hit harder than any other group, and the descriptive evidence on young temporary workers herein raises some concern on how the youngest generation is going to be affected by the crisis. Moreover, past experiences suggest that fixed-term workers receive much less on-the-job-training than permanent workers (Figure 27). Uncertainty and liquidity constraints that typically characterise recoveries from financial crises (IMF, 2010a) favour a larger use of temporary contracts because firms are discouraged from making long-term investments. The most similar experiences to the current situation occurred during the last decade in Japan and Sweden. These countries had a strong rise in the share of temporary contracts in the 1990s, contemporaneously to a financial boom. In particular, Japanese firms increased the relative share of dual labour force with negative effects on on-the job training, while in Sweden during the recovery from the crisis temporary work increased to become greater than before the crisis (from 10 per cent in 1990 to 16 per cent at the end of the 1990s). This means a new generation of workers could face a lack of adequate training in the wake of the Great Recession.

What matters the most is the strong need of universal and unique unemployment benefit systems, in all European countries. Some preliminary evidence suggests that social protection acts differently for different type of contracts, but there is no economic reason to have such discrimination. The Italian case, which represents the typical case of a dualistic country, is essential in understanding how former temporary workers are more exposed to poverty risk, since they are not covered by social protection programmes.

Overall, dualism has increased the unemployment response during the crisis, since we have experienced more job losses than without dualism as in recent similar crisis. Furthermore, it has reduced the coverage of unemployment benefits, since the extent of unemployment risks and that of social protection mismatch. As a consequence, the European labour market and the European social protection system could be named 'flexi-insecurity' instead of flexicurity. Reforms in this field should be smart in reducing dualism without reducing employment growth during the recovery, i.e. extending the coverage of unemployment benefits keeping flexibility which is important mainly in the entry phase.

3. CASE STUDIES

The following section highlights a number of selected national cases exemplifying the interaction of automatic and discretionary stabilisation efforts in a given national institutional setting.

3.1. Germany

Germany was heavily affected by the steep decline in international trade due to the global crisis. This external shock led to a significant fall in orders and exports, particularly in core areas of the German production model, such as machinery and automobile manufacturing. However, despite its vulnerability due to the dependency on exports and the associated GDP decline of 5 per cent in 2009, unemployment has basically remained stable, as has the total employment rate.

How can we explain this surprisingly resilient labour market performance (see Table 21)?

Table 21: The different components of labour market reaction in Germany

	2008	2009	2010 (medium projection)
Real GDP (change in %)	+1.0	-4.7	+3.0
Total hours worked (change in %)	+1.2	-2.5	+2.1
Hourly productivity (change in %)	-0.2	-2.2	+0.9
Hours worked in full-time (change in %)	+1.1	-4.1	-0.6
Short-time workers (1,000s)	101	1,143	600
Total employment (1,000s)	40,276	40,271	40,400
Total employment (change in %)	+1.4	0.0	+0.3
Unemployment rate (1,000s)	3,268	3,423	3,239
Unemployment rate in %	7.8	8.2	7.8

Source: Fuchs, J. et al., 2010b.

On the one hand, it is a consequence of persistent growth in major parts of the private and public service sector, which could offset limited losses in export-oriented sectors such as manufacturing and logistics. On the other hand, the relative success of the German story is explained by the fact that the core labour market of skilled workers in manufacturing is covered by strong legal dismissal protection. Hence, layoffs are a rather expensive form of short-term adjustment and many firms developed an elaborate arrangement of internal flexibility (Möller, J.; Fuchs, J. et al. 2010a, 2010b; OECD, 2010a). Three elements are crucial for this strategy:

1. Internal flexibility: flexibility on the enterprise level (comprising in particular working-time arrangements and to a lesser extent also remuneration) is comparatively well developed in Germany (see Eichhorst, W. and Marx, P.). It has increased considerably over the past two decades, also as a lesson from previous crises in which layoffs led to the loss of skilled labour.

Thus, internal flexibility is particularly attractive for employers in manufacturing industries with high and specific skills that are difficult to replace.

Internal flexibility was enhanced by developments in the framework of collective bargaining, but also by initiatives at the enterprise level. Most importantly, working time can be adjusted flexibly via working-time accounts. In these accounts, working hours can be accumulated over a relatively long time period. As this allows companies to react to changes in demand without hiring and firing, it favours a stability-oriented personnel policy and compensates for the effects of limited external flexibility (i.e. strict dismissal protection). In fact, the economic crisis was preceded by a boom period in German manufacturing, so that many working-time accounts showed large surpluses which could be balanced after demand collapsed. Surpluses in working-time accounts and overtime declined significantly in the crises and therefore made an important contribution to employment stability: whilst employment was virtually unchanged from late 2008 to late 2009, the total volume of hours worked declined by about 3 per cent. At the same time, the social partners made a contribution to managing the crisis. In previous years, German collective bargaining was increasingly decentralised via 'opening clauses'. Such clauses allow for plant-level deviations from collective agreements, also in terms of remuneration. This was used in the current crisis by works councils to trade wage concessions against employment stability. Thus, many companies were allowed to adjust agreed wages or postpone wage increases. Moreover, the unions took a very pragmatic stance in sectoral wage bargaining and accepted real wage cuts in manufacturing.

2. The concentration of redundancies in the marginal workforce: over the past five years, manufacturing employers have increasingly relied on temporary agency staff to establish a flexible segment of the workforce, which can be swiftly adjusted under uncertain economic prospects. This is a consequence of various steps of de-regulation that made agency work a particularly cheap and flexible type of employment in Germany. By now, there exist no limits for the length of assignments in user companies and agency workers can receive wages significantly below the rate agreed in collective agreements. So while tasks that require high firm-specific skills are still mainly performed by permanent workers with long tenure, agency workers are extensively used for routine tasks. This 'dual' model – even if highly questionable in normative terms - turned out to be very efficient for many employers. When the crisis began, employers started to reduce the use of agency workers drastically by about 300,000. Thus, employment decline could basically be limited to this category of workers. On a smaller scale, the same is true for fixed-term contracts of which many have not been renewed in the crisis (Hohendanner, C.).

3. Heavy reliance on a public short-time work allowance: subsidisation of reduced working hours has been embodied in the institutional repertoire of the German unemployment insurance and active labour market policy system for a long time. For example, it played a major role in attempts to manage structural change in Eastern Germany after reunification. Afterwards it did not play a major role, except for specific sectors such as construction. However, in the current crisis it was of paramount importance. In 2009, 1.1 million workers (about 350,000 full-time equivalents) worked short-time, and thereby the short-time work or partial unemployment scheme made a major contribution to keep open unemployment low (see Figure 28). The OECD estimate of about 220,000 jobs saved suggests deadweight losses of about one third (OECD, 2010b). The major reason for this was that the scheme was substantially modified to cope with the crisis. As most changes are temporary, the effects should be partly seen as consequences of discretionary interventions rather than of automatic stabilisation.

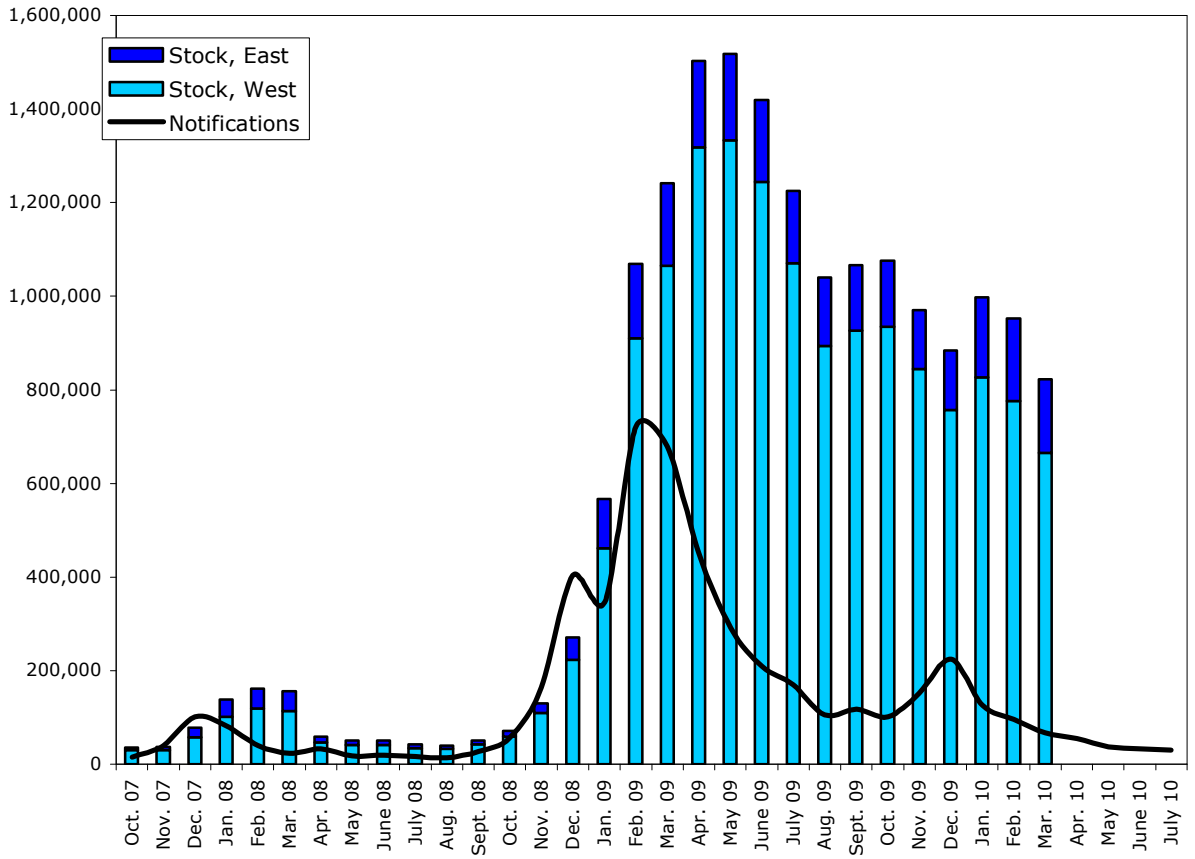
The scheme was modified in three aspects: (i) the maximum duration for which hours not worked are reimbursed by the unemployment fund (at the regular replacement rate applicable in case of unemployment) was increased from 6 to 24 months for 2009 (18 months in 2010); (ii) for cases of short-time work arising in 2009 and 2010, employers are exempt from social security contributions for hours not worked: regarding employee contributions from the first day of short-time work, regarding employer contributions from the seventh month of reduced working time (or earlier in case of employer-provided training); and (iii) administrative requirements for firms entering this scheme were simplified considerably.

In the German case, automatic stabilisation was mainly achieved through short-time work and working time adjustment – with short-time work as one, but not the only, component. A recent estimate for the years 2008 and 2009 suggests that about 25 per cent of all work time reduction was achieved by short-time work, while working time based on collective agreements contributed 40 per cent and less paid overtime as well as hours averaging in working time accounts 20 per cent each (Bach, H.-U. et al.). There was no heavy inflow into the relatively generous and universal benefit system which would have had an additional stabilising effect on the economy. Given the robustness of the German labour market, it comes as no surprise that discretionary action in terms of labour market and social policy was rather limited. Apart from the increased generosity of the short-time work scheme and eased access of agency workers to short-time work, discretionary policies put only some emphasis on strengthening the activation strategy directed towards the unemployed by announcing to hire additional staff for job placement agencies. Otherwise, activation policies were continued as before.

Given the abrupt character of the crisis and the uncertainty of its duration, employers have been reluctant to dismiss skilled staff as long as partial unemployment is feasible and a recovery is expected. The German fiscal stimulus package has so far seemed to have had only a limited impact on the labour market (except for the expansion of the partial unemployment scheme). Further measures tried to stabilise consumer confidence, such as a marginal cut in income taxes and social security contributions, and a 'cash for clunkers' scheme implemented in 2009. Most recent figures on the development of GDP and exports show strong signs of recovery associated with further employment stability and new hirings occurring both in the temporary agency sector and in skills-intensive core manufacturing activities. Hence, German labour market performance in 2009 and 2010 was better than in earlier forecasts. Furthermore, working-time flexibility and complementary short-time work allowances have helped bridge the slump in manufacturing without endangering the skilled core labour force.

Most recent policy action is addressing the issue of an increased need for budget consolidation. The government adopted a package implying some marginal cuts in social benefits. Furthermore, it was decided in spring 2010 to prolong the expanded short-time work scheme until early 2012, but again the exceptional and time-limited character of the current provisions was restated.

Figure 28: Short-time work in Germany, 2008-2010



Source: Bundesagentur für Arbeit.

3.2. Austria

Overview – the situation before the crisis

When compared to the EU average, Austria is characterised by a high share of social expenditures on GDP (28 per cent against an average of 26.2 in 2007)[48]. This difference is driven mainly by comparatively high spending on old age as well as on families. Also expenditure on unemployment relief – when set in relation to unemployment figures – is higher than in most other EU Member States. Expenditure consists mainly of monetary transfers and less of in-kind benefits. The major part of these transfers is based on an insurance principle, with some elements of universal provision (such as child benefits) and means testing (such as unemployment assistance and social assistance). As can be seen from Table A4 in the appendix, in the short period, net replacement rates of unemployment payments are rather low, especially for households without children. For prolonged unemployment spells, the Austrian replacement rates can, however, be found in the upper tier of the EU ranking (Table A5). This is mainly due to the possibility of claiming unemployment assistance, a transfer which is almost as high as the unemployment benefit and with no predefined maximal duration. Those who are not covered by unemployment insurance can claim a social assistance benefit.

[48] EUROSTAT, preliminary data.

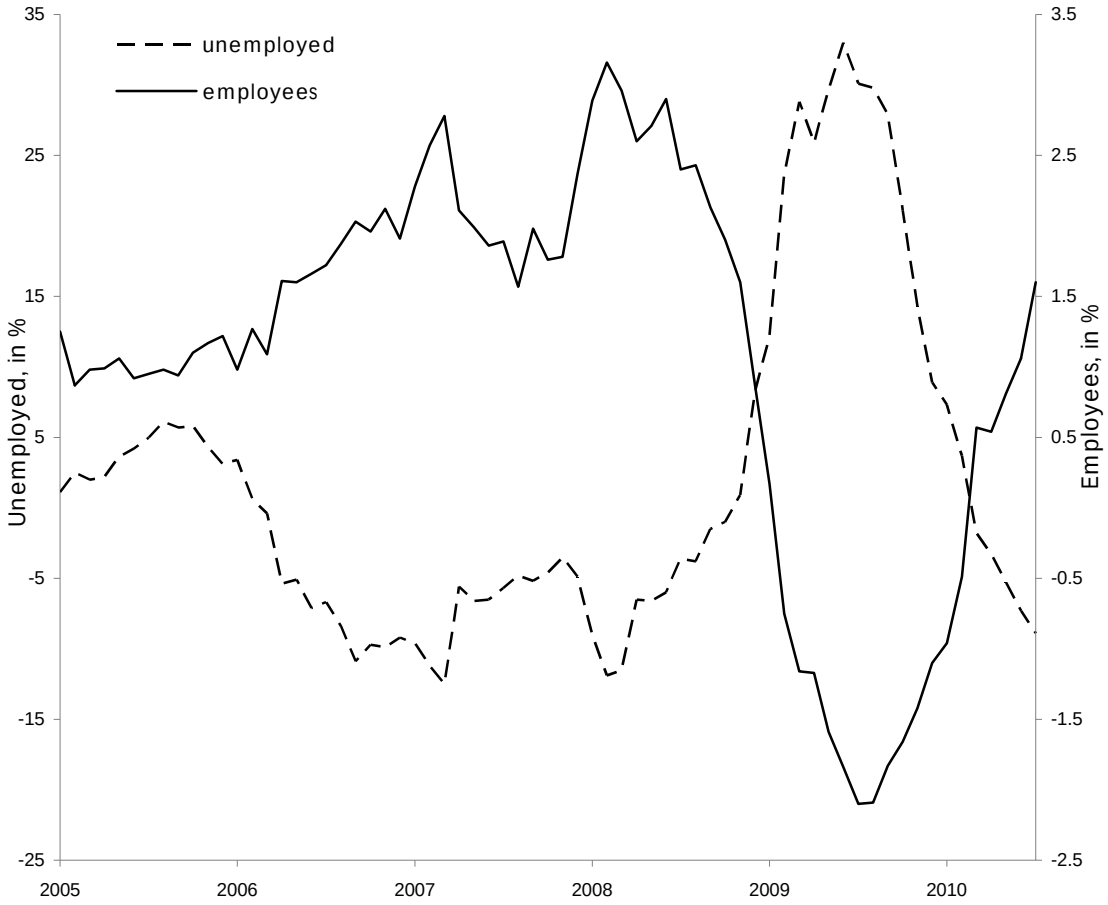
In the years prior to the 2009 crisis, the Austrian economy experienced a favourable development. Over the period 2005 to 2008, GDP growth rates averaged 3.2 per cent p.a. and unemployment fell from 5.2 to 3.8 per cent. Exports acted as a major growth driver, as Austria has a comparatively large, export-oriented manufacturing sector. Although over the last decade employment was created mainly in the service sector of the economy, manufacturing employment remained fairly stable between 2000 and 2008. Labour market flexibility is fairly high, especially with respect to work arrangements and working time. In spite of this generally favourable labour market environment, there is a stark contrast between a large, well-performing core of prime-age workers with at least upper secondary education and vulnerable groups of the workforce (OECD, 2009e). Employment rates of those aged above 50 are among the lowest in the EU, low-skilled workers face an above-average risk of unemployment and large segments of the young population find it difficult to enter stable and continuous employment. The strong increase in female participation rates has been driven mainly by part-time work. Gender gaps in the labour market (hourly wages, number of hours worked, sector and occupation of employment) are very pronounced. Atypical forms of unemployment have been on the rise since the 1990s, with strong increases during the business cycle upswing which preceded the crisis. Over the years 2005 to 2008, marginal employment increased by 20 per cent (+47,150) and temporary agency work by 40 per cent (+20,450).

Developments and automatic stabilization during the crisis

In 2009, Austria experienced its severest economic crisis in 60 years, with a drop in GDP by 3.9 per cent. Due to its strong reliance on export demand, the Austrian manufacturing sector was hit particularly hard by the steep decline in worldwide trade. Industrial production fell by over 14 per cent and employment in manufacturing by 6 per cent. Total (dependent) employment declined by 1.4 per cent in the course of 2009. Due to their strong presence in manufacturing, male employees were affected more than proportionally by the crisis. Male employment fell by 2.5 per cent, against 0.2 per cent for women. On a similar line, temporary agency workers suffered heavily from the consequences of the crisis. Temporary agency employment fell by 18 per cent in 2009 (11 per cent for women, 20 per cent for men). Young workers were also affected severely, with employment of those aged 15 to 24 declining by -3.7 per cent.

The economic crisis also impacted on the market for apprenticeships, with a steep decline in training slots at company level (Mahringer, H.). The decline in manufacturing employment continued throughout 2009; in 2010, its pace slowed down but employment is still expected to decrease on an annual basis. As can be seen from Figure 29, the employment dynamic in the total economy reached its lowest point in the middle of 2009. Change rates continued to be negative until the beginning of 2010 and then turned positive, so that we expect to see a partial recovery to pre-crisis levels (2010: +0.8 per cent).

Figure 29: Unemployment and active dependent employment, percentage changes from the previous year



Source: WIFO.

Similar empirical results can be observed with respect to unemployment (Mahringer, H.). Until mid-2008, unemployment had been declining, but then the trend was reversed and an increase was recorded in the fourth quarter. The unfavourable dynamic reached its peak in June 2009 (+33 per cent with respect to the previous year). On an annual basis, unemployment increased from 3.8 per cent in 2008 to 4.8 per cent in 2009 using the EUROSTAT definition and from 5.8 per cent to 7.2 per cent according to the national definition (+61,600 register unemployed including ALMP training measures). The unemployment rate for men increased by 1.8 percentage points (national definition), thus markedly more than for the workforce as a whole. Since March 2010, unemployment has been decreasing, and it is expected to reach 4.4 per cent (6.9 per cent by national definition) in 2010 (WIFO forecast).

The crisis triggered automatic stabilisation mechanisms, primarily on the revenue side through a fall in tax revenues and social security contributions, and on the expenditure side through an increase in monetary social transfers. As shown in the tables, the reaction of different revenue and expenditure items is in line with the theoretical and empirical findings discussed in chapter 1 and section 2.2.1. of this report. Income and payroll taxes display a considerably higher elasticity with regard to changes in output than social insurance contributions. The gap in social insurance contributions with respect to the long-term trend (1988-2008) amounted to -2.8 per cent, against -15.6 per cent for tax revenues.

These figures have to be interpreted with caution, as it is difficult to disentangle the effects of automatic stabilisation from those resulting from active fiscal and monetary policy. Tax revenue was affected strongly by the tax reform of 2009, which had a volume of about EUR 3 billion. This tax reform was a one-off discretionary measure and its volume can be subtracted from the 2009 revenue gap displayed in the table. By doing so, we can estimate the impact of automatic stabilisation on the revenue side (social security contributions plus taxes) of approximately EUR 4.8 billion, corresponding to 1.8 per cent of GDP.

Table 22: Stabilisation during the crisis in Austria, selected items

	Compound average growth rate 1988/2008	Change 2008/2009	Gap with respect to long-term trend	
	in %	in %	in %	in € bn
Social insurance contributions	4.6	1.7	-2.8	-1.3
Income and payroll taxes	5.4	-11.0	-15.6	-6.5
Monetary social transfers	4.4	6.2	1.7	0.9

Source: WIFO.

In the crisis year 2009, total social monetary transfers increased by 6.2 per cent in nominal terms compared to 2008 and thus were 1.7 per cent above the long-term trend. This corresponded to an increase by EUR 3.1 billion from 2008 to 2009 and a gap of EUR 0.9 billion compared to the long-term trend. Here too, it is difficult to distinguish between purely automatic stabilisation and behavioural responses like changes in benefit take-up. As can be seen from Table 23, the increase in transfers related to unemployment insurance (mainly unemployment benefits and unemployment assistance) contributed over EUR 0.7 billion to the increase in monetary transfers (+21.6 with respect to 2008). This component can be interpreted as a purely automatic stabilisation of income in response to the labour market deterioration that took place in the crisis.

Policy responses to the crisis and their effects

Austria's response to the economic crisis consisted of two stimulus packages and two labour market packages (Scheiblecker, M. et al.). The labour market packages targeted different groups of the workforce, with a special focus on employment stabilisation and qualification measures. Measures included an adapted short-time working scheme, easing of educational leaves, a community employment programme providing for the creation of jobs in community, church and welfare organisations, a subsidy for one-person companies for their first employee, an income supplementation programme, labour foundations (*Arbeitsstiftungen*) for intense upskilling and state-run training slots for the young. In 2009, funds used for active labour market policies were 26.9 per cent higher than in 2008 (Table 23).

The adapted short-time working scheme was the most prominent labour market measure. It was already in place before the crisis but had been used scarcely. During the crisis its flexibility was enhanced and its duration prolonged first up to 18 and then to 24 months. At that stage employers were relieved of social security contributions after the sixth month of short-time work in order to enhance the attractiveness of the scheme (cf. BMASK, 2009b: 3) The demand for short-time work was high: On an annual average, 42,900 workers were registered in the scheme, with a peak of 56,700 in April 2009. The two labour market packages further created explicit incentives for further education (educational leave, short-time work combined with skills training).

Educational leave can presently be claimed after six months of employment, for two months up to one year. In 2009, around 4,900 workers claimed educational leave, on average, which is a remarkable increase of 3,300 in 2008 (cf. Mahringer, H.: 119). Both the short-time working scheme and the educational leave regulation were targeted at the crisis and – at least in their present form – are meant to be phased out between 2010 and 2011.

Table 23: Expenditure on active and passive labour market policy

	2008	2009	Change	
	in mio. €		in %	in mio. €
Unemployment insurance	3,411.2	4,147.3	21.6	736.1
Activating measures	882.2	1,119.5	26.9	237.3
of which for short-time work	1.0	113.5	--	112.5

Source: Austrian Labour Market Service.

Young people represented a specific focus of the labour market packages. The new labour market foundation for youths was designed to help young job seekers who need to change their occupation. The foundation provided the necessary vocational training for up to 2,000 unemployed youths to acquire new skills during the crisis (cf. BMASK, 2009b: 6). Within the 'training guarantee', additional state-run training slots were provided for youth apprenticeship seekers. The guarantee intends to offer publicly provided apprentice training outside the company level for young people unable to find a regular apprenticeship position. These measures were timely and helped to mitigate the impact of the crisis on the youngest segments of the workforce, highlighted by a striking increase in the number of those looking for an apprenticeship slot up to the summer of 2009. The policy response to the crisis included also a marked increase in training measures directed at skilled workers.

In 2009, 64,100 people were participating in labour-market training schemes on average (+27 per cent with respect to 2008). The overall share of high-quality training was increased substantially (Mahringer, H.).

The Austrian government also implemented policy measures on the revenue side in order to counteract detrimental effects of the crisis. The tax reform 2009 resulted in higher disposable incomes and included a family package, which specifically lowered the tax burden of families. The basic tax allowance was raised and the marginal tax rate reduced (cf. OECD, 2009e: 11). The tax allowance was elevated from EUR 10,000 to 11,000 of annual income. The entry tax rate was cut from 38.33 to 36.5 per cent (cf. Schratzenstaller, M.). The family package consisted of the following measures: a higher child tax credit, the introduction of a tax-free child allowance and of the deductibility of childcare costs. The tax-free child allowance amounts to EUR 220 annually per child. Childcare costs up to EUR 2,300 annually per child are henceforth deductible (cf. BMF, 10). These measures raised disposable income and thus had a positive effect on private consumption. Consumption was stabilised further by the labour market measures discussed in the previous section as well as by some measures that were implemented independently of the crisis at the end of 2008.[49] In 2009, private consumption was the only component of aggregate demand which did not decline. It grew by 1.3 per cent relative to 2008.

[49] These measures included a thirteenth monthly payment of child benefits, an increase in the care allowance and preponement of the yearly pension rise. They were originally devised to strengthen the purchasing power and to counteract the spike in inflation in 2008.

According to Scheiblecker, M. et al. expansionary revenue measures raised consumption by 0.8 per cent in 2009, which in turn increased GDP by 0.4 per cent and resulted in additional employment for roughly 5,400 people (cf. ibid). These calculations compare well with those carried out using an international macroeconomic model and presented in section 2.2.2.

Conclusions

- In Austria, the dramatic effects of the economic crisis on employment and income were mitigated considerably by automatic mechanisms built into the social protection system and by the timely implementation of ad-hoc (discretionary) measures. The quick adaptation of short-time work and educational leave schemes helped to stabilise employment. Arguably, the beneficial effects of these measures went primarily to more qualified segments of the workforce. Adjustments in working time (over and above short-time work) represented another crucial factor in the stabilisation of employment during the crisis. A comprehensive evaluation of labour market policy measures implemented in course of the crisis has yet to be carried out. Many measures have only been used scarcely or in another form before the downturn and therefore an evaluation of the recent experience could help expand the repertory of active labour market policies to be used in the future (cf. Mahringer, H.: 120).
- At present, the outlook on the labour market is brightening up and forecasts of employment and unemployment dynamics are undergoing positive revisions. Nevertheless, the situation remains characterised by uncertainty, and it is still too early to assess properly whether (or to what extent) the crisis has had not only a cyclical but also a structural, and therefore long-lasting, impact on the Austrian labour market. The current employment dynamic is characterised by a strong upshot in agency work and part-time jobs. This highlights the key-role played by flexible work arrangements for the Austrian labour market. The wage development is moderate, suggesting that after 2009, 2010 will also be characterised by a negative wage drift (with respect to collective wage bargaining outcomes).
- The lack of current data makes it difficult to assess the extent to which social inclusion was affected negatively by the crisis. Arguably, unemployment benefits and discretionary measures implemented during the crisis prevented a strong increase in the share of the population which was at risk of poverty in 2009. This might change in 2010 and in future years, as long-term effects of the crisis such as long-term unemployment and an increasing structural mismatch in the labour market might impact vulnerable groups heavily. Particularly older and unskilled workers who lost their job in the crisis, as well as young people, might face prolonged periods of unemployment, precarious employment and underemployment.
- Most of the fiscal stimuli in Austria, especially in the area of social expenditures and income tax cuts, have permanent character, and therefore they will not automatically phase out as soon as the economic crisis is overcome. Discretionary changes in labour market policy were on the contrary primarily conceived as one-off measures that do not require a specific exit strategy. Even more than discretionary stabilisation expenditure, it is the loss of revenue due to automatic stabilisation which poses a challenge to budgetary balance.

The crucial question concerns the impact of the crisis on medium and long-term economic growth rates. If growth rates remain modest, the heavy burden placed by the strong reaction of automatic stabilisation mechanisms on the budget will have long-lasting effects.

- The Austrian government has resolved to start budget consolidation in 2011. In accordance with their medium-term stability plan, the authorities plan to reduce the budget deficit step by step from 4.7 per cent of GDP (2010) to less than 3 per cent of GDP in 2013. The coalition government has been reached a consensus in cutting public expenditures and increasing revenues in the relation of 60:40. On the expenditure side, the growth rates of social expenditures will be reduced considerably in the coming years. So far, only the upper limits of spending on unemployment, public pensions and family transfers have been reduced in the government's medium-term financial framework, hence precise measures have not been agreed on; nor have measures on the revenue side been settled either. The 2011 budget proposal will be presented to the parliament in early December, 2010.

3.3. Denmark

The Danish economy is not only facing the impact of the global financial crisis and the decline in global trade, but also the unwinding of a boom in the domestic property market from 2004-2006. The Danish government has taken measures to steer the financial system through the crisis. Denmark has had a liberal-conservative government since 2001 and this has, accordingly, created a long period of consistency in the choice of political measures. An overall objective in economic policy has been to generate growth and create jobs, thereby improving the economic situation for all members of society. The government has also implemented many measures to ease pressures in the financial sector, along with a significant fiscal stimulus (see Table 7 above). There have been suggestions of labour market reforms to improve the efficiency of the labour market and to boost labour supply in the long-term. Denmark is well-known for its 'flexicurity' labour market model, with employment protection legislation implying a relatively high degree of job turnover combined with a generous unemployment program covering many workers. It is, however, difficult to identify policies directly aiming at improving the measures securing social protection for the weakest members of society. Denmark, however, has a fine mesh social security system, based on the Nordic welfare model.

Risk of poverty measures have proved to be fine for a long time compared to many other countries. In this overview, we describe measures that have direct implications for the citizens in Denmark.

Financial stability measures

In October 2008, the government announced the Bank Rescue Package I Act. As a result of this political agreement it is possible to cover ordinary deposits by an increased deposit guarantee of DKK 750,000 with effect from 1 October 2010. On 3 February 2009, the Bank Rescue Package II Act was passed by the Danish parliament, under which all credit institutions in Denmark complying with the statutory solvency requirements were able to apply for state-funded capital injections. Bank Rescue Package II Act reduced the likelihood of a bank's capital falling below statutory capital requirements and thus, the likelihood of using Bank Rescue Package I Act.

In February 2009, it was decided that private firms could postpone payment of VAT and income taxes in order to improve non-financial corporations' access to liquidity. The allowance to defer tax payments should help avoid the need for businesses to lay off staff.

In September 2009, DKK 4.2 billion was set aside (The Business Act) aimed at small and medium-sized enterprises, the goal of improving the export credit facilities, existing loan guarantee schemes and the access to venture capital, as well as promoting public-private partnerships to develop new market-based solutions for the welfare sector.

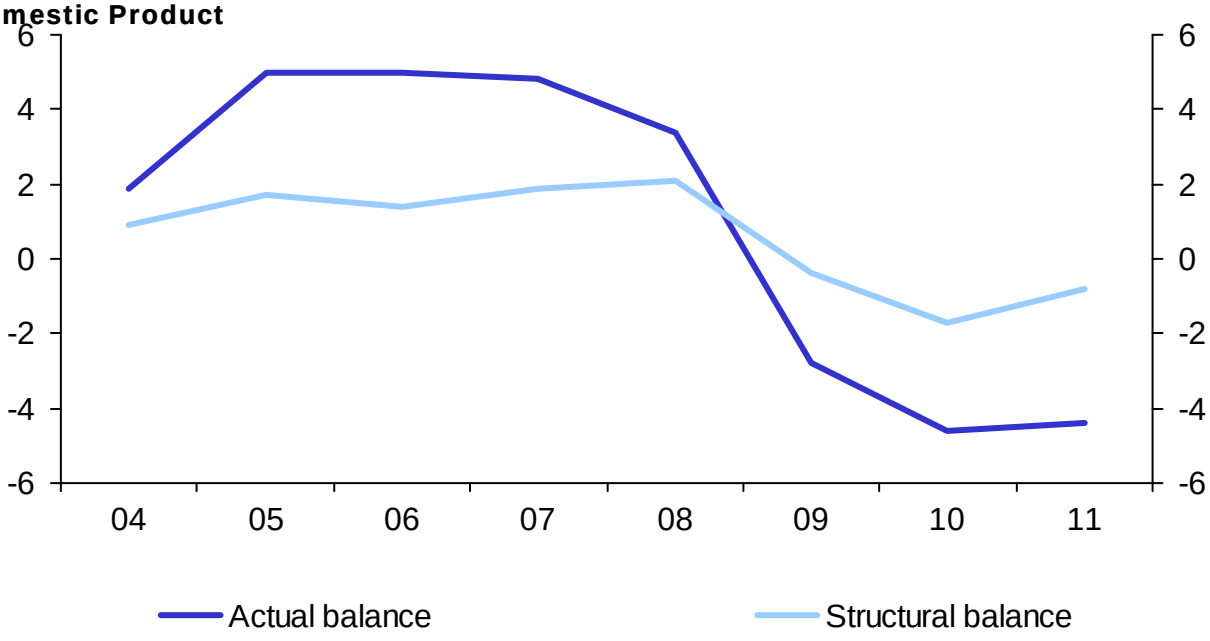
In March 2009, households were granted the possibility to withdraw money from the compulsory private Special Pension savings scheme to alleviate their liquidity constraints. This allowance has the possibility to stimulate demand if the households spend the funds. It is very likely that especially credit-constrained households have spent their money on consumption. This is an attempt by the government to stabilise consumption through a cyclical downturn by encouraging the private sector to adjust their savings and dissavings on an intertemporal basis. Clearly, this may have a stimulating effect to the economy without putting a strain on the government balance.

Fiscal stimulus

As the financial crisis set in, Denmark had a relative advantageous fiscal starting point, which made it possible to conduct an expansionary fiscal policy.

Denmark has the largest automatic stabilisers among the countries investigated in this study in the case of an income shock and in the case of an unemployment shock (cf. Table A6 and A7, respectively). The automatic stabilisers are high due to a generous unemployment insurance system and a high level of taxes and social contributions. To a certain extent, the automatic stabilisers are protecting the reaction on the economy when a shock such as the financial crisis started. The automatic stabilisers also work in the direction to dampen the impact of the discretionary policy measures that are taken. Figure 30 graphs the actual government budget and a structural budget. The structural budget is derived by cleaning the actual budget of the impact of the business cycle, in terms of the gap of output and the gap of employment in relation to a situation where production takes place at full capacity. In a downturn, the government balance worsens due to both decreasing taxes and increasing government expenses. Figure 30 gives an impression of the effect of the automatic stabilisers in Denmark where the actual government balance is exhibiting greater fluctuations than if it had not been for the automatic stabilisers.

Figure 30: Actual and structural government balance in per cent of the Gross Domestic Product



Source: Ministry of Finance, Økonomisk redegørelse, August 2010.

In response to the crisis, the government introduced a tax reform as a part of the Spring Package 2.0 Act, with effect from January 2010. When the Spring Package 2.0 Act was launched, the government presented calculations for the types of families presented in Table.

Table 24: The impact on the disposable income of the government's tax reform in 2010

		DKK	%
A.	Lone parent with 1 child in a rented apartment. Wage income DKK 250,000	4,580	2.4
B.	Lone parent with 1 child in a rented apartment. Wage income: DKK 350,000	4,970	2.0
C.	Couple with 2 children in a rented apartment. Wage income: DKK 500,000	3,280	1.0
D.	Couple with 2 children in a rented apartment. Wage income: DKK 600,000	3,950	1.0
E.	Couple with 2 children in an owned apartment. Wage income: DKK 600,000	3,950	1.1
F.	Couple with 2 children in a newly owned apartment. Wage income: DKK 623,890	3,630	1.0
G.	Couple with 2 children in an owned apartment. Wage income: DKK 700,000	3,590	0.8
H.	Couple with 2 children in an owned apartment. Wage income: DKK 800,000	9,970	2.1
I.	Couple with 2 children in an owned apartment. Wage income: DKK 1,100,000	31,540	5.3
J.	Lone pensioner without supplementary income in a rented apartment	400	0.3
K.	Couple of pensioners where one has supplementary pension (ATP) in a rented apartment	1,400	0.8
L.	Couple of pensioners where one has supplementary pension (ATP) in an owned apartment	1,270	0.6
M.	Single who receives unemployment insurance benefits in a rented apartment	480	0.4

Remark: The owners of houses have mortgages left from DKK 1,5 billion to 2,1 billion from family E to family I. Children are in a day care institution.

All types of families gain from the tax reform in the short-run (i.e. the year 2010), but the financing measures to completely offset the budget impact of the tax cuts will be phased in so that the package will become budget-neutral. Among the financing measures are various green taxes such as electricity and heating that are affecting the poor families relatively harder. This is also the case for the child benefits that will be reduced. Furthermore, a political agreement has been made to fulfil the recommendation by the EU Council of ministers for finance and economy (ECOFIN). Denmark received a recommendation from the council in July 2010 as Denmark was among the group of countries within the EU with excessive budget deficits. The political agreement on restoration of the Danish economy is to consolidate the public finances during the years 2011 to 2013. The restoration agreement will take effect in 2011 increasing taxes, decreasing public expenses and reducing the period of receiving unemployment subsidies.

The Economic Council of the Labour Movement (Arbejderbevægelsens Erhvervsråd) has presented calculations for three types of families organised within the Danish Confederation of Trade Unions (LO). They apply the model for a few types of families from the Ministry of Finance and define families consisting of two adults and two children of 5 and 8 years old.

The three types of families are all worker families and have the following income earnings:

Type A: DKK 600,000 (DKK 300,000 per adult)

Type B: DKK 520,000 (DKK 300,000 one adult; DKK 220,000 for the other adult)

Type C: DKK 440,000 (DKK 220,000 per adult)

All families will have positive effects in the short-term, as in the example calculations by the government in Table. Table shows the effects in the long-term until 2019 where the final financing measures will be fully implemented.

Table 25: Effects in 2019 of Spring Package 2.0 and the restoration agreement for working family types

	Spring package 2.0		Spring package 2.0 and restoration agreement	
LO family Type	Before indirect taxes	After indirect taxes	Before indirect taxes	After indirect taxes
A	2,618	951	-1,181	-2,848
B	1,518	-122	-2,292	-3,922
C	397	-1,196	-3,402	-4,995

Source: The economic council of the labour movement and the Danish Confederation of Trade Unions 'LO families are loosing from the Spring Package 2.0 Act and the government's plans for cut-downs'.

All families gain from the tax reform in the short-term as shown in Table, but the working families will lose in the long-term once all the financing measures have been implemented, which is shown in Table. The working families are represented by different family types: A, B and C. Taking account of the financial measures to finance the government expenses within Spring Package 2.0 Act, it is only the wealthiest families (i.e. family type A) who will gain a positive effect. Calculations that also take account of the financing measures in the restoration agreement show that all family types will loose in the long-run.

The tax reliefs imply that the median income will increase. The risk of poverty as a relative measure in proportion to the median income will imply that more people will be classified as being poor.

Frontloading of investment has been another focus area for the government. Investment in infrastructure is an opportunity to foster green growth. In response to the crisis, the government has announced fiscal policies such as a 'Green Transport' initiative and a 'Green Growth' initiative with measures focused on improving the environmental performance of the agricultural sector.

The government also introduced a fiscal policy that provides up to DKK 1.5 billion to finance individual household investments in home renovation with a focus on energy-saving modifications. This is a little increase in the government expenses that brings an incentive to private households to spend money now instead of later on (i.e. to adjust their consumption on an intertemporal basis).

Employment

Denmark does not have a statutory minimum wage that covers the whole economy, but Denmark is characterised by having a high level of collective bargaining coverage. Thus, many workers are covered by a form of minimum wage which is negotiated by the partners (i.e. the Danish organisation for employees LO and the Danish employer organisation DA) at the sector level. Under LO, there is a cartel of unions, called CO-industry, that has a role in collective bargaining where they negotiate minimum wage levels with the employers.

Approximately 58 per cent have wage contracts based on minimal wages within the area of LO/DA that cover almost a quarter of all the people who have a job. The minimum wage that CO-industry negotiates with the employer organisation is influential in the labour market, but still the actual wage for people is typically higher than the minimal wages as the actual wage is negotiated at the workplaces. As the minimum wages are not prevalent for all employees, one has to be careful to interpret how close all employees within the minimum wage area are to achieve the at-risk-of-poverty threshold.

The politicians have aimed at having no working poor to secure a difference between the minimum wages and the social contributions.

The discretionary policies and accompanied monetary policies have had effects on the level of employment, which is presented in

Table 26: Impact on employment of the economic policy since 2009

1,000 people	2009	2010	2011	2012	2013	2014	2015
Fiscal policy and effect of pensions	27	55	62	55	34	16	4
Changes in interest since 2008	6	31	60	68	57	35	12
Total effect	33	86	122	123	91	54	16

Source: The Ministry of Finance, Økonomisk Redegørelse, August 2010.

The total impact of the policies for employment is calculated to be in the order of an increased employment of approximately 85,000 people in 2010 and 120,000 people in 2011. Concurrently, with the implementation of the political agreement for restoration this impact will decrease, with the impact in 2015 estimated to be around 20,000 people more who are employed.

The level of productivity in Denmark has been decreasing up to and especially during the financial crisis. The level of productivity is, however, improving due to the improvement in the production in the industry sector concurrently with a fall in the number of employed people. The Ministry of Finance estimates that the decrease in the employment due to the decline in production during the crisis may have come to an end.

A labour market commission has provided recommendations to meet the government's plans by improving the government budget by DKK 14 billion per year, requiring further measures to enhance labour supply once the economy begins to recover. There is a risk that the labour supply may be permanently reduced if newly-unemployed people from the crisis move into voluntary early retirement or disability pension. People over 60 who become unemployed face a small income reduction if they move into voluntary early retirement pension. The risk of this happening is more serious given the current demographic perspective, where the proportion of people who are active at the labour market is decreasing, something which is already pressuring the need for consolidation. The position in the population is gradually changing in more favour of abolishing voluntary early retirement pension.

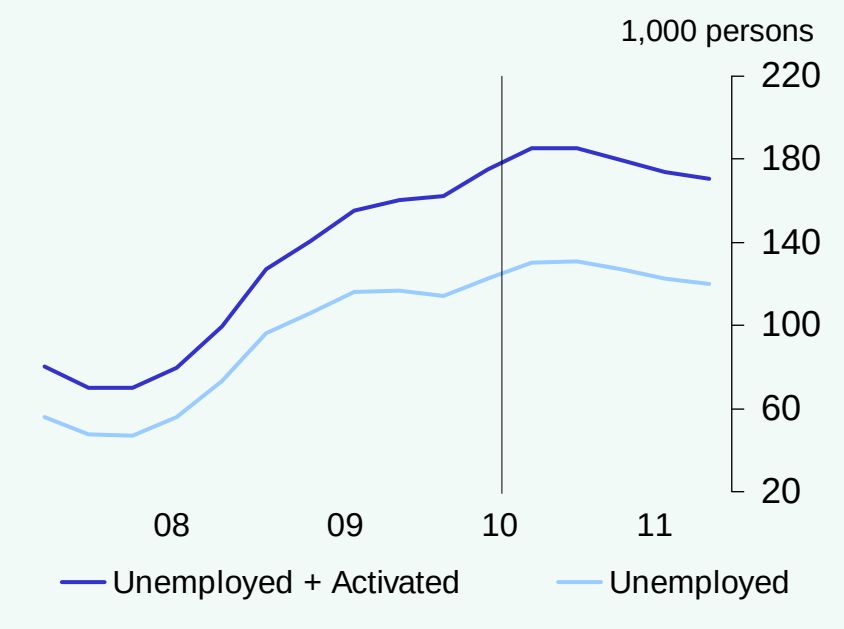
Unemployment

According to EU statements, Denmark is among the countries that have the lowest proportion of people who are long-term unemployed in relation to the total labour force. The political agreement on restoration of the economy, introduced a reduction of the period where an unemployed person is eligible for unemployment benefits from 4 years to 2 years, which has the purpose to reduce the risk of a higher rate of long-term unemployment.

Besides a reduced period of entitlement to unemployment benefits, there are also corrections to the laws regarding sickness benefits and unemployment benefits. For all groups of transfers, the amounts have been reduced in real values since 1990, when it was politically decided to update the rates of the transfers by 0.3 per cent less than the average wage increases at the labour market to establish a pool for specific purposes to improve conditions for vulnerable people.

Figure presents the gross level of unemployment (the dark blue line) and the registered level of unemployment (the light blue line). The difference between the two lines amounts to the number of people who are activated.

Figure 31: Gross level of unemployment and registered unemployment



Remark: The registered level of unemployment consist of people who receive unemployment benefits and people who receive welfare benefits and who are prepared to take on a job. The number of people is measured in full-time person equivalents. The number of registered unemployed does not include students who apply for a study-related job, unemployed who are not insured and who do not receive unemployment benefits, job-seekers who receive pensions and finally people who are in a period of notice.
Source: Ministry of Finance, Økonomisk redegørelse, August 2010.

In Denmark there is an automatic increase in funding for Active Labour Market Programmes (ALMP) as unemployment rises, which is an example of an automatic fiscal policy. Thus, the ALMP are activated when an increase in unemployment as an indicator of a downturn is registered. There is a right-and-duty to participate in ALMP after 3 months of unemployment for all unemployed under 30 years. Youth unemployment has not been a problem in recent years where unemployment spells did virtually not last more than a year which was also the result of activation programmes (OECD, 2009g: 99).

Researchers have been discussing the threat effect of the ALMP given the evidence from the actual figures of unemployment. It is thought that some individuals may favour the status of being unemployed instead of wanting to take on a job. There is evidence that the prospect of ALMP in itself induces unemployed people to seek more intensely for a job or to be more inclined to accept a job faster (Graversen, B.K. and van Ours, J.C., 2008a, 2008b, 2009; Svarer, M. and Rosholm, M.).

3.4. Italy

During the crisis, the Italian labour market performed worse than labour markets of other European countries. The heavy fall in GDP (-5 per cent in 2009) was not dissimilar to those of the UK and Germany (-4.9 per cent) and even worse than those of Spain and France (-3.6 per cent and -2.5 per cent, respectively). All of these countries, apart from Spain, where the unemployment rate jumped in the second quarter of 2010 to the highest level in the last twelve years up to 20 per cent, outperformed Italy with regards to unemployment rate.

The Italian unemployment rate rose by 2.5 percentage points from 6.8 per cent in the second quarter of 2008 up to 8.5 per cent in the second quarter of 2010, and the total number of jobs lost amounted to 574,000. This figure is almost similar for the UK, smaller for France (+2.2 percentage points in the same period), while it has the opposite sign for Germany (-0.4 percentage points).

What is of most concern are the prospects about future development in Italy. Firstly, the main scenario for the recovery forecasts a low GDP growth (0.9 per cent in 2010, IMF, 2010d) with uncertain effects on the labour market. Once again, temporary jobs would increase in the short-term, and they will be the main channel through which new hires would occur (and actually this has already been observed in the last quarter). Most importantly, the short-time working programme to fight unemployment (Cassa Integrazione Guadagni) has been partially misused. As we will see later in this section, CIG has also been implemented in 2009-2010 in a discretionary form (Cassa Integrazione Guadagni in Deroga), which extends the programme to those firms and workers who are not covered under the standard CIG programmes. CIGD goes far beyond the original aim of the programme, and it poses severe risks for those workers (atypical and fixed-term contract and apprentices) who can hardly be reinserted in the normal firm activity once the crisis is over, despite the relevance in terms of protection it provides for these workers. Table 27 illustrates the main labour market outcomes in the last two years.

Table 27: Labour market outcomes during the crisis: 2008q2 - 2010q2

	2008q2	2010q2	Variation	Variation, %
Employed	23,434,345	22,914,791	-519,554	-2.22
Fixed-term workers	2,443,000	2,200,380	-242,620	-9.93
Atypical workers	471,000	423,618	-47,382	-10.06
Self-employed	5,614,000	5,499,709	-114,291	-2.04
Permanent workers	15,053,000	14,882,957	-170,043	-1.13
Average hours worked	38.3	37.7	-0.6	-1.57

Source: Istat, quarterly labour force statistics, 2008-2010.

The huge job loss can be analysed under two main dimensions. On the contract side, consistently with the theory on dual labour market (Boeri, T. and Garibaldi, P.), the largest share of jobs destroyed is that of fixed-term contracts (around 40 per cent), followed by permanent contracts and self-employed workers (both at around 30 per cent). On the age side, the most hit category is that of young workers (people aged 15-24). The youth unemployment rate reached its 10 year maximum at 27.9 per cent in the second quarter of 2010. Young workers are usually those most represented in the dual fraction of the labour market, which is the weakest and less protected. Dualism consequences in terms of poverty risk, less on-the-job training, wage differentials and pension prospects are clear in the literature (Boeri, T.; Bell, D.N.F. and Blanchflower, D.G., 2009; Mroz, T.A. and Savage, T.H.), and the strength with which the crisis hits young workers raises many doubts on both its short and long-term consequences.

Italian social protection is composed of three main schemes, unemployment benefits ('Indennità di mobilità'), medium-term unemployment assistance ('Indennità di disoccupazione') and short-time workers wage supplementation ('Cassa Integrazioni Guadagni'), as described in Anastasia, B. et al. and D'Amuri, F.

The main programme of support for laid off workers is standard unemployment benefits ('Indennità di disoccupazione'). As for all the other programmes, eligibility criteria are quite strict and as a consequence it is not universal. Workers need to have paid social security contributions for at least 53 weeks in the previous two years (a reduced requirements version of the programme is available for individuals who do not meet this eligibility criteria but who have paid at social contributions for at least 78 days in the last two years).[50]

Replacement rates amount to 60 per cent of the previous three-month wage (up to EUR 1,073.25) for the first six months of unemployment and are decreasing in the length of the treatment (the scheme lasts for a maximum of 8 months, 12 for workers older than 50).

Medium-term unemployment assistance ('Indennità di mobilità') is an income support scheme for permanent contract employees of medium-big firms, having at least one year of experience that is undergoing closure or a major restructuring. The programme lasts up to 3 years if workers are older than 50 years (one year if younger than 40), and it can be extended for further 12 months when the firm is located in the south of the country. An extension of the programme has been approved in 2008 by the Italian government, and it covers those workers who are not eligible for standard unemployment benefits and who meet minimum eligibility criteria (having paid social security contributions for at least 52 weeks in the previous three years, also coming from enterprises with fewer than 15 workers).

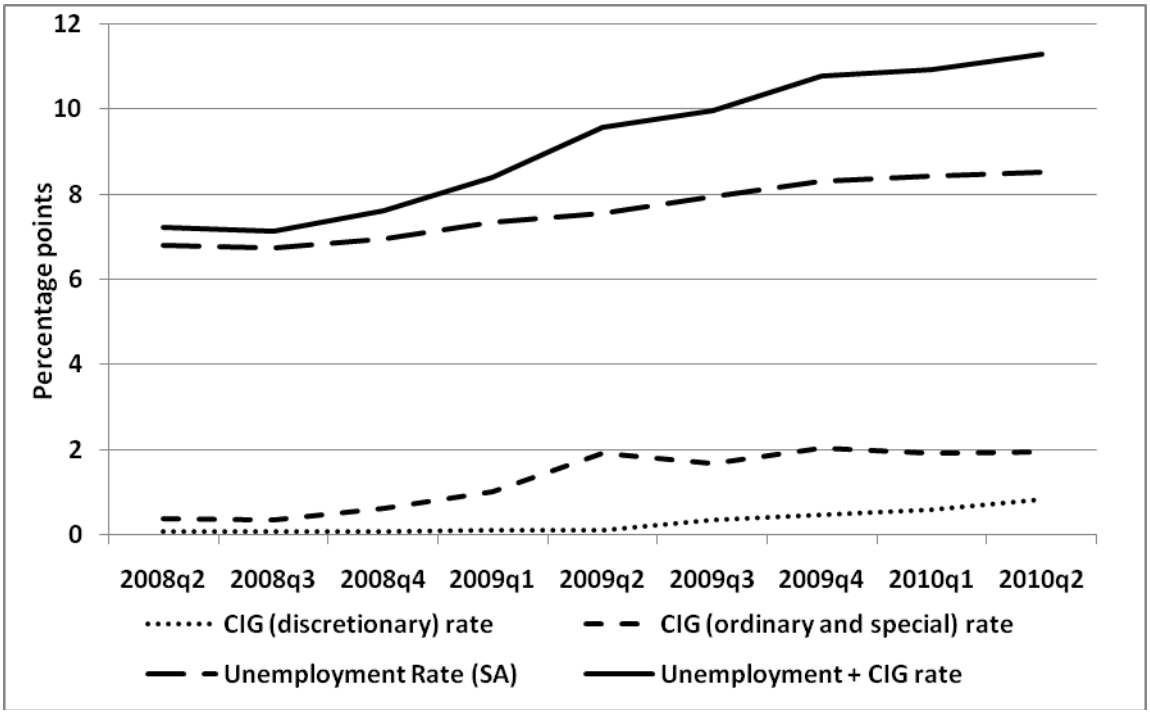
Both these main programmes are clearly non-universalistic, and in their standard version, do not cover micro-firm workers and part of small-firms workers as well, which in Italy amount to 57 per cent of total work force.[51] Moreover, younger workers are often excluded from these schemes because they do not meet eligibility criteria in terms of tenure.

Finally, short-time workers wage supplementation schemes are wage subsidies for workers in construction and manufacturing sectors employed in firms with more than 15 workers, and more than 50 in the services sector (Cassa Integrazione Guadagni Ordinaria). Special wage supplementation (CIG Straordinaria) covers other sectors (including agriculture) and cases in which firms are undergoing closure or restructuring processes. However, eligibility for both programmes is rather strict, at least in non-crisis periods. A file must be submitted by the employer to the labour minister and the request must be formally approved. The subsidy scheme is not formally an unemployment benefit, but rather it is a wage subsidy for employees, providing 80 per cent of the wage for a maximum of 13 weeks, when the workers are partially or totally excluded from the production because of lower demand. Actual replacement rates tend to be lower since the maximum payable amount is EUR 1,073.25 when gross monthly wage is above EUR 1,931.86, and EUR 892.86 for wages below this threshold.

In 2008, the Italian government approved another wage subsidy programme (first created in 2003) on a completely discretionary basis (Cassa Integrazione in Deroga) that extends benefits for those workers employed in firms not eligible for standard treatments and also workers employed in non-standard contracts, and whose administration has been delegated to the Regions. Figure 32 describes the trend of CIG (ordinary, special and discretionary) and of unemployment rates during the crisis period.

[50] Other standard unemployment benefits schemes are available for worker in agricultural and construction sectors.
[51] Agricultural workers are not taken into account. Source ASIA-Istat, 2008.

Figure 32: Unemployment rate and CIG (as a % of the labour force) trends



Source: Own calculations on hours allowances from CIG database, National Institute for Social Protection and Pensions – INPS 2008-2010, and labour statistics, ISTAT 2008-2010.

Being one of the most dual countries, Italy suffers severe limitations on the unemployment benefits side. All programmes and means that Italian Social Protection system has at its disposal demonstrated to be adequate and sufficient in non-recession periods. However, they lack a simple and fundamental characteristic, universality, whose effects have turned out to be severe during the current crisis.

On one hand, it is important to underline the positive effects that short-time programmes (i.e., CIG in its three different specifications) have had in limiting unemployment rate rise, similarly to what happened in Germany regarding public short-time work allowances (described in section 3.1.). In fact, as it is clear from Figure 32, the unemployment rate would have jumped as high as 11.3 per cent if we consider Full Time Equivalent workers.[52] CIG, de facto, acted as the main automatic stabilizer for the Italian labour market during the crisis, although it is not. Its discretionary and non-universal nature limits both the effects and relevance of the schemes, and it does not allow for fighting unemployment through standard contemporary provision of benefits, on the one hand, and activation programmes and public employment services, on the other.

The extensive use of these programmes in 2009 and 2010 could imply some difficulties in the next months when firms should restructure and with the risk that short-time workers will become unemployed.

[52] These figures come from own calculations based on hours allowances from CIG database, National Institute for Social Protection and Pensions – INPS, and labour statistics from the Italian Labour Force Survey, ISTAT.

The negative effects of dualism and, generally speaking, the need of structural reforms in labour market (among the other sectors) have been addressed also in a recent IMF Country report of Italy (IMF, 2010d: 30):

[...]Nevertheless, Italy's employment rate still remains among the lowest in Europe, productivity is lagging, and the labor market is split between highly protected workers with permanent contracts and ill-protected temporary workers. This gap needs to be bridged by making permanent contracts more flexible and temporary workers more protected while simplifying the labor market legislation. A second generation of labor market reforms is also needed to strengthen the link between wages and productivity, allow wages to better respond to regional differences, and foster adequate spatial mobility.

4. CONCLUSIONS AND RECOMMENDATIONS

KEY FINDINGS

- This study can show that GDP, employment and unemployment were affected positively by stabilisation. At the same time, the study has found large variation between EU Member States in their use of automatic stabilisers and discretionary fiscal stimuli with respect to social policy purposes.
- Some social groups, such as young workers and those holding non-standard contracts, were particularly affected by a deterioration of labour market conditions. At the same time, however, they only have limited access to social benefits. Hence, they experience a double disadvantage stemming from less stable jobs and less protection.
- While automatic and discretionary measures can effectively stabilise the economy and the society, the fiscal constraints generated by stabilisation efforts have negative repercussions for economic and labour market dynamics in the future. Hence, one important issue is to find a plausible and timely exit strategy from anti-cyclical stabilisation policies.
- Establishing a proper system of automatic stabilisers reduces the need for further discretionary action and avoids time lags inevitable in case of discretionary fiscal stimuli. They limit the need for discretionary adjustment and help prepare for future volatilities.
- Furthermore, policy-makers should now prepare social protection schemes for the future and overcome unequal access to social security. It is particularly important to ensure that non-standard workers, those with fixed-term contracts or only a short employment record, in particular young people and other labour market entrants, have access to sufficient social protection so that social exclusion is prevented.
- Unemployment benefits as well as short-time work schemes should also help prepare workers for accelerated economic restructuring by raising employability. Hence, phases of unemployment or short-time work should effectively be devoted to further labour-market related training.
- Discretionary action should be well-targeted and timely, but also temporary. A more rule-driven, quasi-'automatic' approach to discretionary action could be helpful in this respect, i.e. by referring to objective indicators when deciding on the introduction or maintenance of fiscal stimuli, in particular temporary social measures.
- Most of the responsibilities for the design and the implementation of automatic and discretionary stabilisation still lie with the EU Member States. However, there is a role for the European level, in particular for the European Parliament, to (i) call Member States to make sure proper benefit systems are in place which do not exclude vulnerable groups, (ii) call Member States to emphasise the creation of viable automatic stabilisers, e.g. via some minimum requirements, and more 'automatic' discretionary measures, and (iii) achieve a better coordination of discretionary anti-crisis measures.

The contribution of automatic and discretionary measures

Both automatic and discretionary measures can stabilise the economy and thereby contribute to mitigating the societal consequences of a recession. Empirical evidence gathered in this study can show that this was and still is the case, also with respect to the current global economic crisis. 'Firm policy interventions and automatic stabilisers embedded in European welfare states have limited the economic and social impact of the worst recession in decades', as the 2010 Joint Report on Social Protection and Social Inclusion rightly states. This study can show that GDP, employment and unemployment were affected positively by stabilisation measures. At the same time, however, the study has found large variation between EU Member States in their actual use of automatic stabilisers and discretionary fiscal stimuli with respect to social policy purposes.

Unequal access to social protection

Furthermore, it is important to note that some social groups, such as young workers and those holding non-standard contracts, were particularly affected by a deterioration of labour market conditions. At the same time, however, they only have limited access to social benefits. In particular, unemployment benefits are sometimes found to be insufficient. This is particularly problematic if there is no effective minimum income support scheme. In fact, non-standard workers and younger labour market entrants experience a double disadvantage stemming from less stable jobs and less protection.

Taking fiscal constraints seriously

While automatic and discretionary measures can effectively stabilise the economy and the society, one has also to be aware of the fiscal constraints generated by stabilisation efforts which may have negative repercussions for economic and labour market dynamics in the future. Hence, one important issue is to find a plausible and timely exit strategy from anti-cyclical stabilisation policies. This is not only of relevance for discretionary action, but also for the further development of automatic stabilisers. Public spending has to be contained, and at the same time, policies should be focused on measures which deliver medium and long-term benefits to the economy and the society.

The need for structural adjustments of welfare state expenditure can be seen as a consequence of the crisis. If the crisis brings about a lower long-term growth path, this in itself is a cause for fiscal adjustment. These long-term effects as well as the budgetary strain caused by automatic stabilisation, which had a quantitatively higher impact than discretionary stabilisation, represent the crucial factors with respect to fiscal constraints.

The future role of automatic stabilisers

The study argues that automatic stabilisers inherent in unemployment and minimum income support schemes, but also short-time work allowances and progressive income taxation, can work without a significant time lag and also lead to timely phase out when the economy and the labour market recover. Unemployment benefits work as automatic stabilisers and can therefore act as major elements of stabilisation in the future as well. The same holds in particular for public short-time work subsidies which help stabilise employment and a trained workforce and thereby facilitate a dynamic economic development after crises.

Hence, automatic stabilisers are of particular importance and should be developed in EU Member States, not in a uniform way, but taking into account the specific national economic and institutional context. Establishing a proper system of automatic stabilisers reduces the need for further discretionary action and avoids time lags inevitable in case of discretionary fiscal stimuli. They reduce the need for discretionary adjustment and help prepare for future volatilities.

Strengthening social protection

Furthermore, policy-makers should now prepare social protection schemes for the future and overcome present inequality in social security. It is particularly important to ensure that non-standard workers, those with fixed-term contracts or only a short employment record, in particular young people and other labour market entrants, have access to sufficient social protection so that social exclusion is prevented.

One element is the creation of general minimum income schemes for all working-age people. This should, of course, be based on a careful assessment regarding the appropriate benefit level and not lead to work disincentives. In order to avoid long-term benefit dependency through exclusion from work, proper activation measures have to be put in place including job search assistance and training. Minimum wages can have an important indirect effect by making paid work more attractive relative to out-of-work benefits and thus help avoid poverty traps. In addition, statutory minimum wages can be seen as a complement to in-work benefits and as an integral part of social protection systems comprising minimum income schemes.

Furthermore, EU Member States should check whether and how access to unemployment insurance benefits can be made more general, in particular by assessing the role minimum employment or contribution conditions play in the case of young people, other labour market entrants and, in general, people on non-standard contracts. Some EU Member States have already moved in this direction. They should refrain from making unemployment benefits more exclusive again in the imminent phase of fiscal austerity but try to develop a sustainable and fair system of social protection.

Implication for incentives and costs

All social benefits, including short-time work schemes, have cost implications in term of taxes and social insurance contributions. They also raise incentive issues which have to be discussed carefully. Automatic stabilisation is a positive feature of the welfare state, but there is a risk of prolonged passive support if not combined with activation and effective active labour market policies. Unemployment benefits, as well as a reliance on short-time work schemes, should also help prepare workers for accelerated economic restructuring by raising employability. Hence, phases of unemployment or short-time work should effectively be devoted to further labour-market related training.

The role of discretionary action

Discretionary action has its role to play, too, although there is always some delay in decision making and implementation. Discretionary action should be well-targeted and timely, but also temporary. Hence, there is a need for a clear exit strategy in order to avoid the risk of ineffective spending of public resources through prolonged subsidisation and eventually pro-cyclical impacts. Growing fiscal constraints will otherwise hamper the capacity of governments to counter future economic uncertainties.

A more rule-based approach

As temporary measures quite often tend to be prolonged, it is important that policy-makers assess the need for discretionary measures carefully and check regularly the justification for their existence. A more rule-driven, quasi-'automatic' approach to discretionary action could be helpful in this respect, i.e. by referring to objective indicators when deciding on the introduction or maintenance of fiscal stimuli, in particular temporary social measures. A rule-based approach to discretionary spending could refer to the development of (non-subsidised) employment, unemployment rates or to GDP – both current and forecast data.

Furthermore, based on findings from this study, a coordinated approach to fiscal stimuli, also in the social policy realm, has proven to be more effective than isolated national steps. Hence, there is the need for better coordination and collaboration for the future.

National responsibilities and the role of the EU

Most of the responsibilities for the design and the implementation of automatic and discretionary stabilisation still lie with the EU Member States. However, there is a role for the European level, in particular for the European Parliament, to

1. call Member States to make sure proper benefit systems are in place which do not exclude vulnerable groups,
2. call Member States to emphasise the creation of viable automatic stabilisers, e.g. via some minimum requirements, and more 'automatic' discretionary measures,
3. achieve a better coordination of discretionary anti-crisis measures, probably based on joint assessment of core economic indicators from which proper discretionary action is derived.

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ANNEX

Table A1: Unemployment insurance benefits, 2008

	Employ-ment (E) and contribution (C) conditions	Insuran-ce for workers is volun-tary (V) or compul-sory (C)	Coverage of non-standard work		Waiting period (days)	Maximum duration (months)	Payment rate (% of earnings base)		Earnings base(1)	Minimum benefit		Maximum benefit	
			part-time workers	self-employed			initial	at end of legal entitlement period		national currency	% of AW	national currency	% of AW
Austria	E+C: 1 year in 2.	C (if earnings above threshold)	part-time workers above EUR 366 p.m.	voluntary	0	9	55		net			15,246	39
Belgium	E+C: 468 days in 27 months.	C	yes	no	0	unlimited	60	50 (after one year)	gross	9,201	24	12,935	33
Bulgaria	E: 9 months in 15 months	C	yes	no	0	12				1,200	19	2,400	39
Cyprus			yes	no									

	Employ-ment (E) and contribution (C) conditions	Insuran-ce for workers is volun-tary (V) or compul-sory (C)	Coverage of non-standard work		Waiting period (days)	Maximum duration (months)	Payment rate (% of earnings base)		Earnings base(1)	Minimum benefit		Maximum benefit	
			part-time workers	self-employed			initial	at end of legal entitlement period		national currency	% of AW	national currency	% of AW
Czech Republic	E+C: 12 months in 3 years.	C	yes	yes	-	6	50	45 (after 3 months)	net	--	--	146,076	58
Denmark	E: 52 weeks in 3 years, C: membership fee.	V	yes	voluntary	0	48	90		gross less 8 % SSC.	149,760	42	182,784	51
Estonia	C: at least 12 months in the last 36 months.	V	yes	no		12				--	--	--	--
Finland	E: 43 weeks in 28 months, C: 10 months.	V	yes	voluntary	7	23	basic benefit (17 % of AW) plus up to 45 % of earnings exceeding basic benefit.		gross (excluding additional holiday pay) less SSC.	--	--	none	

	Employ-ment (E) and contribution (C) conditions	Insuran-ce for workers is volun-tary (V) or compul-sory (C)	Coverage of non-standard work		Waiting period (days)	Maximum duration (months)	Payment rate (% of earnings base)		Earnings base(1)	Minimum benefit		Maximum benefit	
			part-time workers	self-employed			initial	at end of legal entitlement period		national currency	% of AW	national currency	% of AW
France	C: 6 months in 22.	C	yes	no	8	23	57-75		gross	9,494	30	76,402	240
Germany	E: 12 months, C: 12 months in 2 years.	C	part-time work above EUR 400 p.m.	voluntary continuation of unemployment insurance after start-up	0	15	60		net	--	--	37,800	94
Greece	E+C: 125 days in 14 months or 200 days in 2 years.	C	yes	no	6	12	basic benefit (19 % of AW).		gross	2,584	11	5,016	21
Hungary	E+C: 365 days in 4 years.	C	yes	yes	0	9	60		average gross average earnings of last 4 quarters	496,800	21	993,600	42

	Employ-ment (E) and contribution (C) conditions	Insuran-ce for workers is volun-tary (V) or compul-sory (C)	Coverage of non-standard work		Waiting period (days)	Maximum duration (months)	Payment rate (% of earnings base)		Earnings base(1)	Minimum benefit		Maximum benefit	
			part-time workers	self-employed			initial	at end of legal entitlement period		national currency	% of AW	national currency	% of AW
Ireland(2)	C: 39 weeks in 1 year (or 26 'reckonable' contributions in 2 years). 52 weeks contributions paid.	C	yes	no	3	15	Fixed amount (24 % of AW).		--	--	--	--	--
Italy(3)	C: 52 weeks in 2 years.	C	yes	no	7	7	50	40 (after 6 months)	average gross earnings of last 3 months.	--	--	12,384	47
Latvia	C: at least 12 months in the last 18 months.	C	yes	yes	0	9				1,692	30	2,172	38

	Employ-ment (E) and contribution (C) conditions	Insuran-ce for workers is volun-tary (V) or compul-sory (C)	Coverage of non-standard work		Waiting period (days)	Maximum duration (months)	Payment rate (% of earnings base)		Earnings base(1)	Minimum benefit		Maximum benefit	
			part-time workers	self-employed			initial	at end of legal entitlement period		national currency	% of AW	national currency	% of AW
Lithua-nia	C: at least 18 months in the last 36 months.	C	yes	no		9						8314	33
Luxem-bourg	E+C: 26 weeks in 1 year.	C	yes	yes	0	12	80		gross	--	--	43,456	90
Malta	C: at least 50 weekly social security contributions of which 20 contributed in the benefit year.	C	yes	no		5.2				2,148	13	5,520	33
Netherl-ands	E: 26 weeks in 36.	C	yes	no	0	38	75	70 (after 2 months)	gross	16,272	37	46,774	107

	Employ-ment (E) and contribution (C) conditions	Insuran-ce for workers is volun-tary (V) or compul-sory (C)	Coverage of non-standard work		Waiting period (days)	Maximum duration (months)	Payment rate (% of earnings base)		Earnings base(1)	Minimum benefit		Maximum benefit	
			part-time workers	self-employed			initial	at end of legal entitlement period		national currency	% of AW	national currency	% of AW
Poland	E+C: 365 days in 18 months and earnings > 1/2 minimum wage.	C	yes	yes	7	12	fixed amount (24 % of AW).(4)	--		5,299	16	7,949	24
Portugal	E+C: 450 days in 24 months.	C	yes	no	0	30	65	gross		4,889	30	14,667	91
Romania	E: at least 12 months of the last 24 month, C: 6/9/12 months for those, that contributed at least 1/5/10 years	C	yes	voluntary		12				12,433	62	26,323	131

	Employ-ment (E) and contribution (C) conditions	Insuran-ce for workers is volun-tary (V) or compul-sory (C)	Coverage of non-standard work		Waiting period (days)	Maximum duration (months)	Payment rate (% of earnings base)		Earnings base(1)	Minimum benefit		Maximum benefit	
			part-time workers	self-employed			initial	at end of legal entitlement period		national currency	% of AW	national currency	% of AW
Slovak Republic	E+C: 3 years in 4 years.	C	yes	voluntary	0	6	50		gross	86,124	33	86,124	33
Slovenia	E: at least 12 of the last 18 months.	C	yes	voluntary		24				7,068	45	21,204	135
Spain	E: None, C: at least 360 days in the last 6 years.	C	yes	no	0	24	70	60 (after 6 months)	gross	7,236	31		
Sweden	C: 360 days in 6 years.	C	yes	voluntary	5	14	80	70 (after 200 days)	gross	83,200	24	176,800	50
United Kingdom	E: less than 16 hours a week C: 12 months in 2 years.	C	yes	no	3	6	Fixed amount (9 % of AW).		--	2,493	7	3,146	9

	Employ-ment (E) and contribution (C) conditions	Insuran-ce for workers is volun-tary (V) or compul-sory (C)	Coverage of non-standard work		Waiting period (days)	Maximum duration (months)	Payment rate (% of earnings base)		Earnings base(1)	Minimum benefit		Maximum benefit	
			part-time workers	self-employed			initial	at end of legal entitlement period		national currency	% of AW	national currency	% of AW

(1) Gross = gross employment income; SSC = (employee) social security contributions; Net = Gross minus income taxes minus SSC.

(2) Where weekly earnings while in employment were below certain amounts, reduced rates of payment are made. If dependent adult is employed, supplement is reduced or suppressed depending on income level.

(3) For employees with a temporary reduction of working hours there is also the CIG scheme which pays benefits of 80 % of average gross earnings for non-worked hours.

(4) The basic benefit amount is adjusted with the length of the employment record: 80 % for under 5 years, 100 % for 5-20 years and 120 % for over 20 years.

Table A2: Unemployment assistance, 2008

	Unemployment assistance	Tests on (2007)		Employment record in months	Duration (months)	Social assistance	Minimum age
		Assets	Income				
Austria	yes	yes	family	UI	no limit	yes	No age limit
Belgium	yes					yes	
Bulgaria	no	--	--	--	--	yes	--
Cyprus (no 2008)							
Czech Republic	no	--	--	--	--	yes	--
Denmark	no	--	--	--	--	yes	18
Estonia	yes	yes		UI	270 days	yes	18
Finland	yes	--	family	--	no limit	yes	17
France	yes	--	family	UI and 60 in last 120	6 months (renewable)	yes	25
Germany	yes	yes	family	x	no limit	yes	15
Greece	yes	--	family	UI or 2	every 3 months in 3 instalments	no	--
Hungary	yes	--	individual	UI	3 months	yes	18
Ireland	yes	yes	family	--	no limit	yes	18
Italy	no	--	--	--	--	no	--
Latvia	no	--	--	--	--	yes	--
Lithuania	no	--	--	--	--	yes	18
Luxembourg						yes	25

	Unemployment assistance	Tests on (2007)		Employment record in months	Duration (months)	Social assistance	Minimum age
		Assets	Income				
Malta	yes	yes			indeterminate period	yes	--
Netherlands	no	--	--	--	--	yes	21
Poland	no	--	--	--	--	yes	permanent benefit
Portugal	yes	--	family	UI or 6 in last 12	12 (after UI) or 24	yes	18
Romania	no	--	--	--	--	yes	18
Slovak Republic	no	--	--	--	--	yes	--
Spain	yes	--	family	--	18	yes	18
Sweden	yes	--	individual	6 or recent graduate	14		--
United Kingdom	yes	yes	family	--	no limit	yes	18

Source: OECD.

Table A3: Social assistance, 2007

	Maximum amounts (in % of AW)					
	Head of household	Spouse / partner	Per child		Other	
Austria	15	8		4	Rent	--
Belgium	20	7	Depends on age and number of children.	4-9		--
Czech Republic	15	11	Depends on age of children.	8-11		--
Denmark	31	31	1st child.	10	Rent	--
	20					
Finland	13	9	Depends on age and number of children.	7-10	Rent, health care, work related expenses.	--
France	17	8	Of a lone parent.	8		--
			1st child of a couple.	5		
			2nd child of a couple.	5		
			Additional child	7		
Germany	10	9	Depends on age of the children.	6-8	Extra allowances for additional needs, rent, heating costs.	--
Greece	--	--		--		--
Hungary	14	12	Depends on number of children.	10-11		--
Ireland	24	16		3	Adult dependant.	16
					Rent/mortgage interest payments.	--
Italy	--	--		--		--
Luxembourg	30	15		3	Supplementary adult. Rent allowance	8

	Maximum amounts (in % of AW)					
	Head of household	Spouse / partner	Per child		Other	
Netherlands	25	11		--	Supplement for lone parent.	7
Poland	18	--		--	Periodic assistance; temporary benefit depending on family situation.	--
Portugal	14	14		7	Adult	10
Slovak Republic	8	6	1st child only, plus addition if more than 4 children	5-12	Health care, housing, protective and activation allowances	--
Spain (Madrid)	19	6		4	4th dependent person in household	4
Sweden	12	8	Depends on age and number of children.	7-10	Medical costs, transport, child care, etc.	--
					Housing costs.	
United Kingdom	9	5			Family premium.	3
	7					

Source: OECD.

Table A4: Net replacement rates for six family types: initial phase of unemployment, 2008, at three different earnings levels

	67 % of AW						100 % of AW						150 % of AW					
	No children			2 children			No children			2 children			No children			2 children		
	Single person	One-earner married couple	Two-earner married couple	Lone parent	One-earner married couple	Two-earner married couple	Single person	One-earner married couple	Two-earner married couple	Lone parent	One-earner married couple	Two-earner married couple	Single person	One-earner married couple	Two-earner married couple	Lone parent	One-earner married couple	Two-earner married couple
Luxembourg	83	82	90	90	89	93	85	82	89	91	89	92	73	72	81	78	75	82
Portugal	78	75	91	79	77	91	84	78	92	82	78	92	84	78	90	84	78	90
Latvia	80	76	93	75	73	94	83	80	92	78	75	93	84	82	91	81	79	92
Netherlands	73	84	84	80	87	83	73	74	82	72	77	81	56	57	69	57	60	69
Switzerland	82	83	89	84	84	89	72	73	82	87	88	88	72	71	80	82	81	87
France	70	71	84	82	81	85	66	67	80	71	71	81	69	67	77	68	67	78
Slovak Rep.	62	58	85	64	60	86	65	59	82	66	61	84	67	63	80	67	64	81
Iceland	78	75	88	85	79	90	65	68	79	73	74	82	46	50	64	56	57	68
Slovenia	76	83	88	82	86	92	64	73	79	86	86	81	45	52	63	66	65	67
Norway	67	69	84	95	81	86	64	65	79	79	69	81	46	47	64	59	51	66
Spain	77	74	89	76	75	89	61	61	77	76	75	87	42	42	62	54	53	70
Lithuania	77	77	88	77	78	89	61	61	77	62	63	78	41	41	60	43	43	61
Denmark	83	85	91	89	88	93	61	63	74	76	73	77	47	48	62	64	59	65
Italy	73	73	85	76	73	89	60	62	78	71	69	79	44	45	64	55	54	66
Germany	59	61	88	77	78	92	60	59	85	70	72	89	57	57	79	64	66	84
Hungary	73	75	86	83	79	88	59	61	77	70	70	80	44	45	64	55	54	68
Belgium	78	67	82	78	71	84	59	51	70	62	56	73	43	38	58	48	44	61
Cyprus[3]	59	70	79	71	82	85	58	66	75	67	74	80	61	67	74	67	73	78
Austria	55	57	81	69	71	85	55	56	77	66	67	81	42	43	64	51	51	68

	67 % of AW						100 % of AW						150 % of AW					
	No children			2 children			No children			2 children			No children			2 children		
	Single person	One-earner married couple	Two-earner married couple	Lone parent	One-earner married couple	Two-earner married couple	Single person	One-earner married couple	Two-earner married couple	Lone parent	One-earner married couple	Two-earner married couple	Single person	One-earner married couple	Two-earner married couple	Lone parent	One-earner married couple	Two-earner married couple
Estonia	55	57	77	60	55	80	54	56	72	61	57	75	53	54	68	59	58	70
Czech Republic	60	66	79	76	72	84	53	58	74	67	61	78	50	51	69	55	52	72
Finland	65	77	79	86	83	83	51	61	72	75	73	76	44	48	63	60	57	67
Sweden	72	72	86	85	82	87	50	50	71	68	60	72	38	38	59	53	46	61
Bulgaria	74	74	87	78	78	88	50	50	70	55	55	72	33	33	54	38	38	56
Poland	66	67	71	84	59	75	45	46	58	64	46	62	31	32	45	44	33	49
Romania	56	55	79	57	56	80	42	42	66	44	44	68	32	32	54	35	35	56
Greece	54	58	69	67	71	81	40	42	58	50	52	68	27	29	46	35	36	54
United Kingdom	54	65	59	73	79	66	38	45	48	63	69	56	26	31	39	45	50	45
Malta	48	64	73	70	70	77	36	49	60	58	58	65	25	34	49	42	42	52
Ireland	42	66	71	65	74	76	31	48	59	56	59	64	23	36	49	44	46	54

Note: Initial phase of unemployment but following any waiting period. No social assistance 'top-ups' are assumed to be available in either the in-work or out-of-work situation. Any income taxes payable on unemployment benefits are determined in relation to annualised benefit values (i.e. monthly values multiplied by 12) even if the maximum benefit duration is shorter than 12 months. See Annex A for details. For married couples the percentage of AW relates to one spouse only; the second spouse is assumed to be 'inactive' with no earnings in a one-earner couple and to have full-time earnings equal to 67 per cent of AW in a two-earner couple. Children are aged 4 and 6 and neither childcare benefits nor childcare costs are considered. Data for Cyprus and the Netherlands refer to 2007.
Source: OECD tax-benefit models, www.oecd.org/els/social/workincentives .

Table A5: The institutional features of short-time work schemes in place during the recession in EU countries

		Work-sharing requirements			Eligibility			Conditionality				Generosity			
	Name of scheme	Minimum number / proportion of workforce participating	Minimum hours reduction	Maximum hours reduction	Firm must provide justification of economic need	Social partner agreement	Participating workers must be eligible for UB	Compulsory training	Recovery plan	No dismissal	Job search requirement for employee	Maximum duration	Subsidised training	Cost to employer for hours not worked	Employee receives for hours not worked
Austria	Kurzarbeitsbeihilfe (Short-time working allowance)	No	10 %	90 %	Yes	Yes	No	No	No	Yes	No	Six months with extension up to 24 months (18 months from 2011)	Yes	Employer's share of SSC for first 6 months	Flat rate per hour not worked equal to to 1/8th of daily UB plus health and pension insurance
Belgium	Chomage temporaire pour causes économiques (partial unemployment, for blue collar workers only); *Regime*	No	0 %	100 %	Yes	Blue collar: no White collar: yes (or business plan)	No	No	Blue collar: no. White collar: Yes	No	No	Blue collar: four weeks (full layoff); 12 months (3+ days work/wk	Yes	None	UB 'majorées' (70-75 % of normal wage)

	Name of scheme	Work-sharing requirements			Eligibility			Conditionality				Generosity			
		Minimum number / proportion of workforce participating	Minimum hours reduction	Maximum hours reduction	Firm must provide justification of economic need	Social partner agreement	Participating workers must be eligible for UB	Compulsory training	Recovery plan	No dismissal	Job search requirement for employee	Maximum duration	Subsidised training	Cost to employer for hours not worked	Employee receives for hours not worked
	temporaire et collectif de suspension totale ou partielle de l'exécution du contrat de travail (for white collar workers in private sector)											); 3 months (<3 days work/wk). White collar: 16 weeks (full layoff); 26 weeks (2+ days of work/wk)			
Czech Republic	Subsidised training for workers on partial unemployment (Educate	No	0 %	100 %	Yes	Yes	No	Yes	No	No	No	6 months	Yes	SSC	60 % of normal wage

	Name of scheme	Work-sharing requirements			Eligibility			Conditionality				Generosity			
		Minimum number / proportion of workforce participating	Minimum hours reduction	Maximum hours reduction	Firm must provide justification of economic need	Social partner agreement	Participating workers must be eligible for UB	Compulsory training	Recovery plan	No dismissal	Job search requirement for employee	Maximum duration	Subsidised training	Cost to employer for hours not worked	Employee receives for hours not worked
	yourself 'Vzdělávejte se')														
Denmark	Arbejdsfordeli ngsordning (Work Sharing)	Must cover either a firm, division or producti on unit	Minimum two days per week receiving benefits or one week work and one week receiving benefits		No	Yes	No	No	No	No	Yes (when receivi ng UB)	26 weeks (more than 13 weeks must be authoris ed by regional employ ment council)	No	None	UB
Finland	Adjusted unemployme nt allowance for partial unemployme nt	No	25 %	100 %	Yes	Consult ation	Yes	No	No	No	Yes	No maximu m	Yes	None	Adjusted UB (=full daily UB – 50 % of daily part-time wage)

	Name of scheme	Work-sharing requirements			Eligibility			Conditionality				Generosity			
		Minimum number / proportion of workforce participating	Minimum hours reduction	Maximum hours reduction	Firm must provide justification of economic need	Social partner agreement	Participating workers must be eligible for UB	Compulsory training	Recovery plan	No dismissal	Job search requirement for employee	Maximum duration	Subsidised training	Cost to employer for hours not worked	Employee receives for hours not worked
France	Chomage partiel (partial unemployment)	No	0 %	100 %	Yes	Yes	No	No	No	Yes	No	1 000 hrs per employee per year	Yes (by social partners)	Partial wages	60 % of gross wage without SSC (75 % of net wage), not lower than min wage
Germany	Kurzarbeit *§ 170 SBG III* (Structural short-time working)	No (see note)	10 %	100 %	Yes	Yes	Yes	No	No	No	Yes	18 months (2010) 24 months (2009)	Yes	50 % of SSC for first 6 months; none after 6 months or if employees are in training (see note)	60-67 % of foregone net wage
Hungary	ESF-financed short-time working scheme	At least two employees	20 %	100 %	Yes	No	No	Yes	No	Yes	No	12 months (min. duration three	Yes	Wages and SSC over 500 % of min. wage	Normal wage

	Name of scheme	Work-sharing requirements			Eligibility			Conditionality				Generosity			
		Minimum number / proportion of workforce participating	Minimum hours reduction	Maximum hours reduction	Firm must provide justification of economic need	Social partner agreement	Participating workers must be eligible for UB	Compulsory training	Recovery plan	No dismissal	Job search requirement for employee	Maximum duration	Subsidised training	Cost to employer for hours not worked	Employee receives for hours not worked
												months or 96 hours in total spent in training)		plus partial training costs	
Ireland	Systematic short time working	No	2 days per week	100 %	No	No	Yes	No	No	No	Yes	Varies depending on contribution history	Yes	None	UB
Italy	Cassa Integrazione Guadagni Ordinaria & Straordinaria (Wage Compensation Fund)	No	0 %	100 %	Yes	CIGO: no; CIGS: consultation	No	No	Yes	No	No	3-24 months	Yes	Partial SSC	80 % of previous earnings (with monthly ceiling)

	Name of scheme	Work-sharing requirements			Eligibility			Conditionality				Generosity			
		Minimum number / proportion of workforce participating	Minimum hours reduction	Maximum hours reduction	Firm must provide justification of economic need	Social partner agreement	Participating workers must be eligible for UB	Compulsory training	Recovery plan	No dismissal	Job search requirement for employee	Maximum duration	Subsidised training	Cost to employer for hours not worked	Employee receives for hours not worked
Luxembourg	Indemnisation de chômage partiel (Partial unemployment)	No	0 %	50 %	Yes	Yes	. .	No	Yes	No	. .	6 months within 12 month period	No, but higher wage subsidy	SSC (at 80 % of normal wage)	80% (90% if undergoing training) of normal earnings capped at 250 % of minimum wage
Netherlands	Deeltijd WW (partial unemployment benefits)	No	20 %	50 %	No	Yes	Yes	Yes (or secondment)	No	Yes	No	See note	No	Training costs. Employers often pay difference between UB and normal wage to employees.	UB

	Name of scheme	Work-sharing requirements			Eligibility			Conditionality				Generosity			
		Minimum number / proportion of workforce participating	Minimum hours reduction	Maximum hours reduction	Firm must provide justification of economic need	Social partner agreement	Participating workers must be eligible for UB	Compulsory training	Recovery plan	No dismissal	Job search requirement for employee	Maximum duration	Subsidised training	Cost to employer for hours not worked	Employee receives for hours not worked
Norway	Unemployment benefit for temporary layoffs	No	40 %	100 %	Yes	No	Yes	No	No	No	Yes	52 weeks in 18 month period	Yes (ALMP possible but not obligatory)	Full wage for first five days	UB

	Name of scheme	Work-sharing requirements			Eligibility			Conditionality				Generosity			
		Minimum number / proportion of workforce participating	Minimum hours reduction	Maximum hours reduction	Firm must provide justification of economic need	Social partner agreement	Participating workers must be eligible for UB	Compulsory training	Recovery plan	No dismissal	Job search requirement for employee	Maximum duration	Subsidised training	Cost to employer for hours not worked	Employee receives for hours not worked
Poland	Guaranteed Employee Benefits Fund - for temporary work stoppage and reduced hours	No	0 %	100 %	Yes	Yes	No	No	Yes	Yes	No	6 months	Yes	Work stoppage: difference between minimum wage and UB; reduced hours: difference between minimum wage and 70 % of UB or 120 % of UB if employee participates in training	Work stoppage: minimum wage; reduced hours: minimum wage with respect to the normal working time shedule

	Name of scheme	Work-sharing requirements			Eligibility			Conditionality				Generosity			
		Minimum number / proportion of workforce participating	Minimum hours reduction	Maximum hours reduction	Firm must provide justification of economic need	Social partner agreement	Participating workers must be eligible for UB	Compulsory training	Recovery plan	No dismissal	Job search requirement for employee	Maximum duration	Subsidised training	Cost to employer for hours not worked	Employee receives for hours not worked
Portugal	Suspensão ou redução temporaria da prestação de trabalho (Temporary suspension or reduction of employment)	No	0 %	100 %	. .	. .	. .	Yes	No	No	. .	12 months with extension of 6 months	Yes	30 % of reduced wage	2/3 of normal wage (between 1-3 times minimum wage)
Romania	Temporary suspension of employment contract														
Slovak Republic	Support for maintenance of employment	No	4 % of established weekly working time	100 %	Yes	Yes	No	No	No	No	No	60 calendar days per year	No	At least 60 % of normal wage (SSC are reimbursed)	At least 60 % of normal wage plus employee SSC

	Name of scheme	Work-sharing requirements			Eligibility			Conditionality				Generosity			
		Minimum number / proportion of workforce participating	Minimum hours reduction	Maximum hours reduction	Firm must provide justification of economic need	Social partner agreement	Participating workers must be eligible for UB	Compulsory training	Recovery plan	No dismissal	Job search requirement for employee	Maximum duration	Subsidised training	Cost to employer for hours not worked	Employee receives for hours not worked
Spain	Prestaciones por desempleo parcial de nivel contributivo (Partial unemployment benefit)	No	33 %	100 %	Yes	No	No	No	Yes	No	Yes	24 months	No	None	UB
Switzerland	Chomage partiel (partial unemployment benefits)	Must apply to entire unit of firm	10 %	100 %	Yes	Individual agreement with employee	No	No	No	No	No	12-24 months	Yes	Full wage for one day per month + part of SSC	80 % of normal earnings
United Kingdom	Short-time working														

Source: OECD, 2010b; Arpaia et al.

Table A6: Net Replacement Rates for six family types, 60 months of unemployment, 2008, at different earnings levels

	67 % of AW						100 % of AW						150 % of AW					
	No children			2 children			No children			2 children			No children			2 children		
	Single person	One-earner married couple	Two-earner married couple	Lone parent	One-earner married couple	Two-earner married couple	Single person	One-earner married couple	Two-earner married couple	Lone parent	One-earner married couple	Two-earner married couple	Single person	One-earner married couple	Two-earner married couple	Lone parent	One-earner married couple	Two-earner married couple
Denmark	79	-	59	83	-	70	58	-	48	70	-	58	45	-	40	60	-	49
Ireland	74	95	54	72	97	62	54	68	45	62	77	52	40	51	37	49	60	44
Netherlands	73	89	53	72	87	56	53	64	44	57	67	47	37	46	35	42	49	38
Belgium	69	67	75	82	75	78	52	51	64	65	59	67	38	38	53	50	46	57
Austria	51	64	51	67	80	60	51	52	43	62	63	59	39	39	36	48	48	50
Switzerland	69	86	50	79	89	56	47	60	41	58	67	46	32	39	32	40	45	36
Finland	61	82	56	71	92	64	44	60	47	59	75	55	32	44	39	45	56	46
Sweden	63	78	50	62	88	54	44	54	41	49	65	45	33	41	34	39	50	38
Luxembourg	58	79	53	70	88	61	43	55	45	58	68	52	31	40	37	45	51	44
Iceland	58	75	62	69	79	68	42	57	52	55	64	59	30	42	42	42	50	49
Malta	55	58	57	68	71	64	41	45	47	56	59	54	29	31	38	41	43	44
Norway	54	76	52	88	105	56	38	55	43	65	78	47	27	40	35	49	58	38
United Kingdom	54	65	50	73	79	65	38	45	41	63	69	54	26	31	33	45	50	44
Germany	48	62	59	78	80	64	36	46	50	61	63	55	25	32	40	44	46	44
Cyprus	53	79	50	81	104	51	36	54	41	56	72	42	26	39	33	41	52	34
France	49	61	53	66	74	56	34	42	43	48	54	46	24	29	34	34	37	36
Slovenia	47	69	56	80	86	73	33	51	46	73	78	61	23	37	37	56	59	50
Czech Rep.	42	66	56	67	77	61	30	47	47	53	57	52	21	34	37	38	44	42
Poland	35	49	52	63	57	61	24	34	42	48	44	50	16	23	33	33	32	40
Hungary	30	55	50	62	70	58	23	43	44	51	59	52	17	31	37	40	46	44
Spain	32	39	53	48	53	53	23	28	44	34	38	44	16	20	35	25	27	36

	67 % of AW						100 % of AW						150 % of AW					
	No children			2 children			No children			2 children			No children			2 children		
	Single person	One-earner married couple	Two-earner married couple	Lone parent	One-earner married couple	Two-earner married couple	Single person	One-earner married couple	Two-earner married couple	Lone parent	One-earner married couple	Two-earner married couple	Single person	One-earner married couple	Two-earner married couple	Lone parent	One-earner married couple	Two-earner married couple
Latvia	34	38	53	40	38	57	23	26	43	29	28	47	16	18	34	20	20	38
Slovak Rep.	27	42	54	49	55	58	19	29	44	36	39	48	13	20	35	26	29	39
Estonia	27	36	53	38	48	57	18	25	43	28	35	47	12	17	34	20	25	38
Portugal	24	47	52	54	73	55	17	33	43	40	52	47	13	23	35	30	38	38
Bulgaria	24	36	50	56	61	54	16	24	40	39	43	44	11	16	31	27	30	35
Lithuania	23	46	50	62	84	53	16	31	41	44	59	43	11	21	32	31	41	34
Romania	12	21	51	27	33	53	8	15	41	19	24	44	6	10	32	14	17	35
Greece	0	0	50	12	4	51	0	0	42	9	3	43	0	0	33	6	2	34
Italy	0	0	53	0	0	63	0	0	45	0	0	54	0	0	36	0	0	45

Note: After tax and including unemployment benefits, social assistance, family and housing benefits in the 60th month of benefit receipt. For married couples the per cent of AW relates to one spouse only; the second spouse is assumed to be 'inactive' with no earnings in a one-earner couple and to have full-time earnings equal to 67 per cent of AW in a two-earner couple. The second spouse is assumed to be 'inactive' in the sense that she/he is not working and does not have a recent employment history. However, where receipt of unemployment benefit/social assistance is subject to activity tests (such as active job-search or being 'available' for work), these requirements are assumed to be met. Children are aged 4 and 6 and neither childcare benefits nor childcare costs are considered. Data for Cyprus and the Netherlands refer to 2007.
Source: OECD tax-benefit models, www.oecd.org/els/social/workincentives.

Theoretical framework for the measurement of automatic stabilisation

A common measure for estimating automatic stabilisation is the 'normalised tax change' used by Auerbach, A. and Feenberg, D. which can be interpreted as 'the tax system's built-in flexibility' (Pechman, J., 1973; 1987). It shows how changes in market income translate into changes in disposable income through changes in personal income tax payments. We extend the concept of normalised tax change to include other taxes as well as social insurance contributions and transfers like e.g. unemployment benefits. We take into account personal income taxes (at all government levels), social insurance contributions as well as payroll taxes and transfers to private households such as unemployment benefits.

Market income Y_i^M of individual i is defined as the sum of all incomes from market activities:

$$Y_i^M = E_i + Q_i + I_i + P_i + O_i \qquad (1)$$

where E_i is labour income, Q_i business income, I_i capital income, P_i property income, and O_i other income. Disposable income Y_i^D is defined as market income minus net government intervention $G_i = T_i + S_i - B_i$:

$$Y_i^D = Y_i^M - G_i = Y_i^M - (T_i + S_i - B_i) \qquad (2)$$

where T_i are direct taxes, S_i employee social insurance contributions, and B_i are social cash benefits (i.e. negative taxes).

As said before, we focus here on the stabilisation of disposable income and ignore the second step, the stabilisation of demand. Throughout the rest of this report, we refer to our measure of automatic stabilisation as the *income stabilisation coefficient* τ^I. We derive τ^I from a general functional relationship between disposable income and market income:

$$\tau^I = \tau^I(Y^M, T, S, B). \qquad (3)$$

The derivation can be either done at the macro or at the micro level. On the macro level, the aggregate change in market income (ΔY^M) is transmitted via τ^I into an aggregate change in disposable income (ΔY^D):

$$\Delta Y^D = (1-\tau)\Delta Y^M \qquad (4)$$

However, one issue when computing τ^I with macro data is that this data includes behavioural and general equilibrium effects as well as discretionary policy measures. Therefore, a measure of automatic stabilisation based on macro data captures all these effects. In order to single out the pure size of automatic stabilisation, we compute τ^I using arithmetic changes (Δ) in total disposable income ($\sum_i \Delta Y_i^D$) and market income ($\sum_i \Delta Y_i^M$) based on micro level information:

$$\sum_i \Delta Y_i^D = (1-\tau^I)\sum_i \Delta Y_i^M$$

$$\tau^I = 1-\frac{\sum_i \Delta Y_i^D}{\sum_i \Delta Y_i^M} = \frac{\sum_i \left(\Delta Y_i^M - \Delta Y_i^D\right)}{\sum_i \Delta Y_i^M} = \frac{\sum_i \Delta G_i}{\sum_i \Delta Y_i^M} \qquad (5)$$

where τ^I measures the sensitivity of disposable income, Y_i^D, with respect to market income, Y_i^M. The higher τ^I, the stronger the stabilisation effect. For example, $\tau^I = 0.4$ implies that 40 per cent of the income shock is absorbed by the tax benefit system. Note that the income stabilisation coefficient is not only determined by the size of government (e.g. measured as expenditure or revenue in per cent of GDP) but also depends on the structure of the tax benefit system and the design of the different components.

The definition of τ^I resembles that of an average effective marginal tax rate (EMTR), which is usually computed in this way using micro data (Immervoll, H.). In the case of the proportional income shock, τ^I can be interpreted as the EMTR along the intensive margin, whereas in the case of the unemployment shock, it resembles the EMTR along the extensive margin (participation tax rate, see, e.g., Saez, E., 2001; 2002, Kleven, H.J. and Kreiner, C.; and Immervoll, H. et al., 2007).

Another advantage of the micro data based approach is that it enables us to explore the extent to which different individual components of the tax transfer system contribute to automatic stabilisation. Comparing tax benefit systems in Europe and the US, we are interested in the weight of each component in the respective country. We therefore decompose the coefficient into its components which include taxes, social insurance contributions and benefits:

$$\tau^I = \sum_f \tau_f^I = \tau_T^I + \tau_S^I + \tau_B^I = \frac{\sum_i \Delta T_i}{\sum_i \Delta Y_i^M} + \frac{\sum_i \Delta S_i}{\sum_i \Delta Y_i^M} - \frac{\sum_i \Delta B_i}{\sum_i \Delta Y_i^M} = \frac{\sum_i \left(\Delta T_i + \Delta S_i - \Delta B_i\right)}{\sum_i \Delta Y_i^M} \qquad (6)$$

Further, it is possible to compute the coefficient for different income groups. For example, the income stabilisation coefficient for quantile q becomes:

$$\tau_q^I = 1-\frac{\sum_{q,i} \Delta Y_{q,i}^D}{\sum_i \Delta Y_i^M} = \frac{\sum_{q,i} \left(\Delta Y_{q,i}^M - \Delta Y_{q,i}^D\right)}{\sum_i \Delta Y_i^M} = \frac{\sum_{q,i} \Delta G_{q,i}}{\sum_i \Delta Y_i^M} \qquad (7)$$

Note that in the denominator, changes in market income for the total population are added up - as in equation (6). Hence, the sum of the five quantile coefficients yields the overall income stabilisation coefficient.

Table A7: Decomposition income scenario

	FEDTax	StateTax	SIC	BEN	TaxSicBen
Austria	0.294	0.000	0.139	0.006	0.439
Belgium	0.382	0.000	0.131	0.014	0.527
Denmark	0.455	0.000	0.086	0.018	0.558
Estonia	0.228	0.000	0.021	0.004	0.253
Finland	0.340	0.000	0.050	0.006	0.396
France	0.153	0.000	0.181	0.036	0.370
Germany	0.351	0.000	0.118	0.012	0.481
Greece	0.203	0.000	0.088	0.000	0.291
Hungary	0.307	0.000	0.160	0.009	0.476
Ireland	0.310	0.000	0.039	0.014	0.363
Italy	0.254	0.000	0.079	0.013	0.346
Luxembourg	0.265	0.000	0.097	0.012	0.374
Netherlands	0.270	0.000	0.116	0.011	0.397
Poland	0.168	0.000	0.118	0.015	0.301
Portugal	0.203	0.000	0.090	0.010	0.303
Slovenia	0.289	0.000	0.031	0.028	0.317
Spain	0.240	0.000	0.035	0.001	0.277
Sweden	0.368	0.000	0.040	0.012	0.420
United Kingdom	0.267	0.000	0.054	0.031	0.352
EU	0.260	0.000	0.100	0.017	0.378
EURO	0.263	0.000	0.108	0.015	0.385
USA	0.240	0.049	0.039	-0.006	0.322

Source: Own calculations based on EUROMOD and TAXSIM.

Table A8: Decomposition unemployment scenario

	FEDTax	StateTax	SIC	BEN	TaxSicBen
Austria	0.163	0.000	0.171	0.252	0.585
Belgium	0.240	0.000	0.123	0.249	0.612
Denmark	0.116	0.000	0.092	0.615	0.823
Estonia	0.173	0.000	0.023	0.036	0.233
Finland	0.221	0.000	0.049	0.248	0.519
France	0.075	0.000	0.190	0.303	0.568
Germany	0.209	0.000	0.145	0.269	0.624
Greece	0.093	0.000	0.150	0.079	0.322
Hungary	0.203	0.000	0.191	0.073	0.467
Ireland	0.178	0.000	0.036	0.173	0.387
Italy	0.164	0.000	0.105	0.042	0.311
Luxembourg	0.127	0.000	0.080	0.387	0.593
Netherlands	0.104	0.000	0.171	0.178	0.452
Poland	0.134	0.000	0.166	0.030	0.329
Portugal	0.146	0.000	0.097	0.143	0.386
Slovenia	0.152	0.000	0.221	0.073	0.431
Spain	0.124	0.000	0.068	0.184	0.376
Sweden	0.199	0.000	0.027	0.452	0.678
United Kingdom	0.191	0.000	0.061	0.163	0.415
EU	0.156	0.000	0.124	0.188	0.469
EURO	0.150	0.000	0.133	0.202	0.485
USA	0.174	0.041	0.051	0.071	0.337

Source: Own calculations based on EUROMOD and TAXSIM.

Table A9: Stabilisation of income groups - Proportional Income Shock

	TAU	Q1	Q2	Q3	Q4	Q5
Austria	0.439	0.023	0.045	0.072	0.107	0.192
Belgium	0.527	0.022	0.051	0.082	0.128	0.244
Denmark	0.558	0.017	0.046	0.088	0.135	0.273
Estonia	0.253	0.010	0.019	0.036	0.063	0.126
Finland	0.396	0.010	0.031	0.063	0.099	0.192
France	0.370	0.032	0.036	0.053	0.079	0.171
Germany	0.481	0.019	0.045	0.072	0.116	0.228
Greece	0.291	0.004	0.015	0.033	0.063	0.176
Hungary	0.476	0.029	0.041	0.056	0.097	0.254
Ireland	0.363	0.009	0.026	0.048	0.084	0.197
Italy	0.346	0.010	0.035	0.051	0.077	0.173
Luxembourg	0.374	0.019	0.022	0.042	0.082	0.208
Netherlands	0.397	0.020	0.040	0.062	0.093	0.182
Poland	0.301	0.017	0.032	0.047	0.060	0.145
Portugal	0.303	0.012	0.013	0.029	0.055	0.194
Slovenia	0.317	0.022	0.010	0.008	0.037	0.240
Spain	0.277	0.006	0.020	0.036	0.062	0.153
Sweden	0.420	0.022	0.041	0.066	0.096	0.196
United Kingdom	0.352	0.010	0.034	0.047	0.079	0.182

Source: Own calculations based on EUROMOD.

Table A10: Stabilisation of income groups - Unemployment Shock

	TAU	Q1	Q2	Q3	Q4	Q5
Austria	0.585	0.111	0.094	0.069	0.130	0.181
Belgium	0.612	0.143	0.087	0.067	0.101	0.215
Denmark	0.823	0.095	0.189	0.166	0.196	0.177
Estonia	0.233	0.062	0.019	0.019	0.041	0.091
Finland	0.519	0.118	0.057	0.074	0.093	0.176
France	0.568	0.102	0.102	0.088	0.092	0.185
Germany	0.624	0.144	0.078	0.090	0.118	0.193
Greece	0.322	0.016	0.031	0.040	0.071	0.164
Hungary	0.467	0.091	0.045	0.048	0.071	0.212
Ireland	0.387	0.101	0.049	0.044	0.061	0.132
Italy	0.311	0.011	0.021	0.047	0.081	0.151
Luxembourg	0.593	0.148	0.177	0.056	0.070	0.142
Netherlands	0.452	0.123	0.048	0.054	0.088	0.140
Poland	0.329	0.031	0.035	0.048	0.066	0.150
Portugal	0.386	0.014	0.005	0.040	0.075	0.252
Slovenia	0.431	0.045	0.038	0.056	0.083	0.210
Spain	0.376	0.038	0.049	0.065	0.076	0.148
Sweden	0.678	0.160	0.109	0.109	0.110	0.190
United Kingdom	0.415	0.142	0.034	0.030	0.060	0.150

Source: Own calculations based on EUROMOD.

Table A11: General government deficit (-) and surplus (+); Percentage of GDP

	2000	2005	2006	2007	2008	2009
Belgium	0	-2.7	0.3	-0.2	-1.2	-6
Bulgaria	-0.3	1.9	3	0.1	1.8	-3.9
Czech Republic	-3.7	-3.6	-2.6	-0.7	-2.7	-5.9
Denmark	2.3	5.2	5.2	4.8	3.4	-2.7
Germany	1.3	-3.3	-1.6	0.2	0	-3.3
Estonia	-0.2	1.6	2.5	2.6	-2.7	-1.7
Ireland	4.8	1.6	3	0.1	-7.3	-14.3
Greece	-3.7	-5.2	-3.6	-5.1	-7.7	-13.6
Spain	-1	1	2	1.9	-4.1	-11.2
France	-1.5	-2.9	-2.3	-2.7	-3.3	-7.5
Italy	-0.8	-4.3	-3.3	-1.5	-2.7	-5.3
Cyprus	-2.3	-2.4	-1.2	3.4	0.9	-6.1
Latvia	-2.8	-0.4	-0.5	-0.3	-4.1	-9
Lithuania	-3.2	-0.5	-0.4	-1	-3.3	-8.9
Luxembourg	6	0	1.4	3.6	2.9	-0.7
Hungary	-3	-7.9	-9.3	-5	-3.8	-4
Malta	-6.2	-2.9	-2.6	-2.2	-4.5	-3.8
Netherlands	2	-0.3	0.5	0.2	0.7	-5.3
Austria	-1.7	-1.7	-1.5	-0.4	-0.4	-3.4
Poland	-3	-4.1	-3.6	-1.9	-3.7	-7.1
Portugal	-2.9	-6.1	-3.9	-2.6	-2.8	-9.4
Romania	-4.7	-1.2	-2.2	-2.5	-5.4	-8.3
Slovenia	-3.7	-1.4	-1.3	0	-1.7	-5.5
Slovakia	-12.3	-2.8	-3.5	-1.9	-2.3	-6.8
Finland	6.8	2.7	4	5.2	4.2	-2.2
Sweden	3.7	2.3	2.5	3.8	2.5	-0.5
United Kingdom	3.6	-3.4	-2.7	-2.8	-4.9	-11.5
Croatia	:	-4	-2.4	-1.6	:	:
Iceland	:	4.9	6.3	5.4	-13.5	-9.1
Turkey	:	-0.6	-0.1	-1.2	:	:
Norway	:	15.1	18.5	17.7	19.1	9.7
Euro area	0.1	-2.5	-1.3	-0.6	-2	-6.3
EU (27 countries)	0.6	-2.5	-1.4	-0.8	-2.3	-6.8

Source: Eurostat.

Table A12: General government consolidated gross debt as a percentage of GDP

	2000	2005	2006	2007	2008	2009
Belgium	107.9	92.1	88.1	84.2	89.8	96.7
Bulgaria	74.3	29.2	22.7	18.2	14.1	14.8
Czech Republic	18.5	29.7	29.4	29	30	35.4
Denmark	52.4	37.8	32.1	27.4	34.2	41.6
Germany	59.7	68	67.6	65	66	73.2
Estonia	5.1	4.6	4.5	3.8	4.6	7.2
Ireland	37.8	27.4	24.9	25	43.9	64
Greece	103.4	100	97.8	95.7	99.2	115.1
Spain	59.3	43	39.6	36.2	39.7	53.2
France	57.3	66.4	63.7	63.8	67.5	77.6
Italy	109.2	105.8	106.5	103.5	106.1	115.8
Cyprus	48.7	69.1	64.6	58.3	48.4	56.2
Latvia	12.3	12.4	10.7	9	19.5	36.1
Lithuania	23.7	18.4	18	16.9	15.6	29.3
Luxembourg	6.2	6.1	6.5	6.7	13.7	14.5
Hungary	55	61.8	65.6	65.9	72.9	78.3
Malta	55.9	70.1	63.7	61.9	63.7	69.1
Netherlands	53.8	51.8	47.4	45.5	58.2	60.9
Austria	66.5	63.9	62.2	59.5	62.6	66.5
Poland	36.8	47.1	47.7	45	47.2	51
Portugal	50.5	63.6	64.7	63.6	66.3	76.8
Romania	22.5	15.8	12.4	12.6	13.3	23.7
Slovenia	:	27	26.7	23.4	22.6	35.9
Slovakia	50.3	34.2	30.5	29.3	27.7	35.7
Finland	43.8	41.7	39.7	35.2	34.2	44
Sweden	53.6	50.8	45.7	40.8	38.3	42.3
United Kingdom	41	42.5	43.5	44.7	52	68.1
Croatia	:	43.7	40.8	37.7	:	:
Iceland	:	26	27.9	29.1	57.4	:
Turkey	:	52.3	46.1	38.8	:	:
Norway	:	44.5	55.3	52.4	49.9	43.7
EU (27 countries)	61.9	62.8	61.4	58.8	61.6	73.6
Euro area	69.2	70.1	68.3	66	69.4	78.7

Source: Eurostat.

Table A13: Projections of general government deficit (-) and surplus (+); Percentage of GDP

	2010	2011	2014	2015
Belgium	-5.1	-4.4	-3	-2.6
Bulgaria	-1.8	-1.5	0.1	0.5
Czech Republic	-5.1	-5.3	-5.2	-5.3
Denmark	-5.4	-4.1	-0.8	0
Germany	-5.7	-5.1	-2.3	-1.7
Estonia	-2.4	-2.9	-4.9	-5.1
Ireland	-12.2	-11	-6.3	-5.3
Greece	-8.7	-8.8	-2.6	-2
Spain	-10.4	-9.6	-8	-7.7
France	-8.2	-7	-4.6	-4.1
Italy	-5.2	-4.9	-4.7	-4.6
Cyprus	-7.5	-8.7	n/a	n/a
Latvia	-12.9	-9.1	-1.6	-1.8
Lithuania	-8.6	-9.8	-8.3	-7.3
Luxembourg	-3.8	-5.1	n/a	n/a
Hungary	-3.8	-2.8	-0.5	0.1
Malta	-4.8	-4.6	n/a	n/a
Netherlands	-5.9	-5.1	-4.3	-4.3
Austria	-4.8	-4.5	-3.8	-3.7
Poland	-7.5	-6.9	-4.4	-3.8
Portugal	-8.7	-7.5	-4.8	-4.4
Romania	-6.5	-5	-3.1	-2.6
Slovenia	-6.1	-4.9	-2.4	-1.7
Slovakia	-5.8	-4.1	-3	-3
Finland	-4.1	-2.8	-4.2	-4.3
Sweden	-3.3	-2.1	-.6	0.1
United Kingdom	-11.4	-9.4	-5.2	-4.3
Iceland	-9.4	-5.3	2.7	2.7
Turkey	-3.4	-3	-2.1	-1.9
Norway	10.8	11.1	11.2	10.9
USA	-11	-8.2	-6	-6.5

Source: IMF, 2010b.

Table A14: Projections of general government consolidated gross debt as a percentage of GDP

	2010	2011	2014	2015
Belgium	100.1	101.5	101	99.9
Bulgaria	16.2	16.5	12.3	9
Czech Republic	37.6	40.1	48.1	49.9
Denmark	51.2	53.5	52.1	49.8
Germany	76.7	79.6	82	81.5
Estonia	9.7	9.3	21.4	25.3
Ireland	78.8	87	92.5	94
Greece	133.2	145.2	146.1	140.4
Spain	66.9	75.6	89.8	94.4
France	84.2	88.6	94.3	94.8
Italy	118.6	120.5	123.9	124.7
Latvia	48.8	64.7	52.6	51.8
Lithuania	39.2	47.3	67	71
Hungary	78.9	77.3	67.6	64
Netherlands	64.2	68.1	75.6	77.4
Austria	70.7	72.9	76.7	77.3
Poland	55	58.3	62.2	62.1
Portugal	86.6	91.8	97.1	98.4
Romania	35	36.9	39.4	39
Slovenia	35.2	38.7	40.7	39.6
Slovakia	37.3	39.1	41.4	41.9
Finland	49.9	53.1	70.7	76.1
Sweden	42.9	43.1	39.3	37.6
United Kingdom	78.2	84.9	90.7	90.6
Iceland	119.9	110.7	86.6	86.6
Turkey	44.5	44.3	43.9	43.5
Norway	53.6	53.6	53.6	53.6
USA	92.6	97.4	106.4	109.7

Source: IMF, 2010b.

Table A15: Medium-term fiscal consolidation plans - Spending

	Consolidation goal	Type of commitment	Time period	Path to target	Change in fiscal rule	Level of government	Spending
Austria	Increase the cyclically-adjusted primary balance from -0.7 % of GDP in 2010 to 0.2 % in 2013.	Numerical projection in the Austrian EU Stability Programme. No details on how this will be achieved.	2009-2013	The biggest consolidation is expected in 2013 (0.6 % of GDP).		Mainly central government.	
Belgium	Stabilise the budget deficit at -5.5 % of GDP in 2011 as a first step to bring the deficit below 3 % of GDP by end 2013 and to balance the budget in 2015.	Path until 2011 is fixed in the 2010-2011 budgets. Path for 2012-2015 is fixed in the complement of the 2009 Belgium EU Stability Programme.	2009-2015	Effort of 0.5 % GDP in 2010, 1 % in 2011 and 1.33 % for 2012-2015.		Until 2012: 65 % of the effort by central government and 35 % by regional and local governments.	Average annual real growth of primary expenditure of federal government of 0.4 % over 2009-2011; slower spending in health care sector yielding total saving of 0.26 % of GDP.
Czech Republic	General government deficit around 5.3 % of GDP in 2010, 5.6 % in 2011 and 5.4 % in 2012.	Medium-term ex-penditure framework (MTEF) legislative Act and parliament resolution; Legislated Consolidation Package (CP).	2010-2012	MTEF expenditures limits: 2010: CZK 1,295bn. 2011: CZK 1,160bn. 2012: CZK 1,197bn.		Central government.	CP: Reduce current spending, 4 % wage decrease in the public administration. Lower child allowance, maternity leave and sickness benefits, no indexation of pensions in 2010, lower unemployment benefits.

	Consolidation goal	Type of commitment	Time period	Path to target	Change in fiscal rule	Level of government	Spending
Denmark	In 2010, the budget balance should be 0.75-1.75 % of GDP when adjusted for cyclical and other temporary factors. From 2011 to 2015, there should be balance or surplus.		2010-2015				Public consumption can grow no more than 1 % annually in 2009-2012 and 0.75 % annually in 2013-2015.
France	Bring fiscal deficit to 5 % of GDP in 2013. Big loan of unspecified amount to finance extra public spending in 2010.	Budget proposal relying on projected GDP growth of 2.5 % per year from 2011. No detail on how consolidation will be achieved.	2010-2013	Deficit reduction of 1.5 % of GDP in 2011 and 1 % per year in 2012-2013.	Central government.	Hold real growth in public spending to 1 % per year.	Bring fiscal deficit to 5 % of GDP in 2013. Big loan of unspecified amount to finance extra public spending in 2010.
Germany	Limits for cyclically-adjusted deficits: 0.35 % of GDP for the federation from 2016 onwards, balance for the states from 2020 onwards.	Constitutional amendment.	2011-2016 Federal government, 2011-2020 States.	From 2011 onwards, in equal steps to reach targets by 2016 and 2020, respectively.	Replacement of the golden rule a) by cyclically adjusted deficit limit.	Federal government and states.	
Hungary	Reduce deficit from 3.8 % of GDP in 2010 to 2.2 % in 2013.	Legislated fiscal rule. The magnitude of the decline is planned.	2010-2013; 3-year rolling plan thereafter.	No details for 2011 and 2012.	Introduction of fiscal rule from 1 January 2010 that limits the growth in real primary spending to	Central government.	

	Consolidation goal	Type of commitment	Time period	Path to target	Change in fiscal rule	Level of government	Spending
					half of the growth rate in real GDP. Debt is required to be lower in the 3rd year of the rolling plan than in the 2nd year and the year before the plan.		
Ireland	Bring the general government deficit below 3 % of GDP by 2013.	Announced as part of the April 2009 Supplementary Budget.	2009-2013	Introduce total consolidation measures of 2.2 % of GDP in 2012 and additional 2 % of GDP in 2013. The announced measures for 2010-2013 add to the 5 % of 2009 GDP consolidation measures already implemented.			The identified expenditure reductions are a minimum.

	Consolidation goal	Type of commitment	Time period	Path to target	Change in fiscal rule	Level of government	Spending
Italy	Increase the actual primary surplus by 4 percentage points of GDP (compared with 2009) by 2013 (reduce actual deficit by 3 percentage points of GDP).	Medium-term budget plan.	2010-2013	Broadly equal steps.		Central government, including rules on transfers to sub-national governments.	Reduce overall current spending as share of GDP. Greater than 10 % nominal cut in investment spending in 2010 (approximately reversing the increase in 2009).
Netherlands	0.5 % of GDP structural improvement annually, growth dependant.	2010 Budget.	2011 onwards, exact timing of the measures is not decided (aside from the withdrawal of the stimulus package which is to yield 0.5 % of GDP structural improvement in 2011).	0.5 % of GDP adjustment per year if growth is higher than 0.5 %, smaller if 2011 growth is between -0.5 % and 0.5 %.		All levels but mainly central government.	Cuts in public administration costs of about 0.2 % of GDP. Health care cost cuts of about 0.4 % of GDP. Increase of pension age (from 65 to 67) estimated to eventually yield a structural improvement of 0.7 % of GDP (full effect only by 2026).
Poland	Limit the debt-to-GDP ratio at 60 %.	Constitutional.	A two-year consolidation plan expected for the 2nd half of November 2009.				

	Consolidation goal	Type of commitment	Time period	Path to target	Change in fiscal rule	Level of government	Spending
Slovak Republic	Reduce general government deficit to 3 % in 2012.	Budget plan for 2010-2012.	2010-2012	Deficit of 5.5 % of GDP in 2010 and 4.2 % of GDP in 2011.		Central government.	Expenditure cut of EUR 787 million in 2010.
Spain	Reduce the general government deficit to 3 % of GDP by the date required by the European Union (expected to be 2013).	Central government financial plan. Details will be presented to parliament as required by law.	2010-2012			The central government to propose an agreement with regional and local governments to en-courage spending restraint.	Central government: Crisis-related budgetary stimulus will be gradually withdrawn. Central government spending will be cut by 3.9 % overall in 2010 according to the budget proposal, with non-priority spending cut by 5.4 % and social spending programmes exempt from cuts.

	Consolidation goal	Type of commitment	Time period	Path to target	Change in fiscal rule	Level of government	Spending
Sweden	General surplus of 1 % over the business cycle. Balanced budget requirement for local governments (a deficit in one year has to be offset within 3 years).	Decision by parliament, stated in budget bills.	Ongoing	Takes account of: average net lending since 2000; structural net lending 7-year centred moving average; nominal expenditure caps in 26 categories.		Central and local government.	
United Kingdom	Consolidation equivalent to 1.33 % of GDP annually 2010/2011-2013/2014 foreseen.	Annual Budget reports.	2010-2014		Fiscal rules suspended and replaced with temporary operating rule. Plans to introduce legal requirement that deficit is reduced year on year.	Central government	Reduced government investment share of GDP.

Source: CESifo DICE

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