



Final Report

Short-time working arrangements during the crisis and lessons to learn

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Preface

During the most recent economic crisis commencing in the last quarter of the year 2008, several European countries used so-called short-time working arrangements in order to protect jobs that might otherwise be lost. Since a lot resources were invested in these programmes, affecting a large number of workers, it is important to understand whether and how these arrangements have contributed to keeping unemployment low and supporting economic recovery in the different Member States.

The European Commission has therefore commissioned policy research institute Pan-teia from the Netherlands, in cooperation with SEOR, to carry out an analysis of the use and the effectiveness of short-time working arrangements during the crisis.

This report presents the result of this research project carried out between June 2011 and June 2012. It presents qualitative information on the design, implementation and perceived effectiveness of short-time working arrangements, as well as quantitative information based on macro- and micro-econometric analysis at European level and at the level of businesses and employees. By combining different research methods, the report presents overarching conclusions on how short-time working arrangements can be used in order to maximise their effectiveness and efficiency.

In carrying out the study, the research team interviewed a variety of respondents and collected existing data from national and international sources. We would specifically like to thank Alexander Hijzen from the OECD and the national authorities of Germany, France and Germany for making data for the econometric analyses available to us. Furthermore, we would like to thank our respondents at European level, at national level and at company level for taking the time to share their experiences with us.

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Executive summary

The European Commission acknowledges that, in response to the current economic crisis, European governments have invested heavily in short-time working arrangements (STWA). The objective of STWA is to protect jobs that are under threat due to a temporary drop in output. Governments aim to help businesses keep their employees during the crisis so that they do not need to re-hire people when the economy picks up again. Given this prominent position of STWA, the Commission wishes to be provided with an analysis of whether these STWA have indeed protected jobs in the EU labour market and how this protection compares to earlier experiences with similar measures in previous crisis situations.

Such an analysis is relevant because in future crisis situations governments need to be able to make more informed and better decisions on introducing, modifying or terminating STWA. In order to do so, a European approach where countries with different arrangements can be compared will provide clarity on the best ways to effectively protect jobs during an economic downturn.

This report presents the results of a comparative research project that was carried out by Dutch research institute Panteia, in cooperation with SEOR, between June 2011 and June 2012. In the course of the project, an overview of STWA use in all European Member States was attained, followed by a quick scan of twelve European STWA and in-depth study of STWA use in three countries, namely Germany, France and Austria. For the overview, the available literature at European level and at national level was reviewed and some national stakeholders were interviewed. Furthermore, we conducted macro-econometric analyses of data provided by the OECD in order to measure the effectiveness of STWA at macro level. On the basis of the overview, the three countries Germany, France and Austria were selected as cases for the in-depth study.

In the three case studies, an extended interview programme was carried out, as the research team interviewed representatives of government, business representatives and trade unions in the countries concerned. Furthermore, company cases studies were carried out in order to understand how companies dealt with the crisis and which role STWA use played in their approach. Finally, we used micro level data provided by national governments and employment agencies to analyse the effectiveness of the measures at company level and at the level of the individual. The results of all these research activities are presented in this report.

Defining short-time working arrangements

Short-time work (STW) can be defined as a temporary reduction in working time intended to maintain an existing employer/employee relationship. It can involve either a partial reduction in the normal working week for a limited period of time (a partial suspension of the employment contract) or a temporary lay-off (a full suspension of the employment contract with zero hours' week). In both cases, the employment contract continues and is not broken. STWA are designed in order to allow employers to temporarily adjust the working hours (and thus maintain internal flexibility) without discontinuing the employer-employee relationship.

The focus of our study is on STWA that are subsidised by the government. Hereby, the government supports individual employees or companies on short-time work with subsidies in order to compensate for income loss. STWA that were created on the basis of for example a sectoral agreement without government support have not be taken into consideration in this study. During the economic crisis in 2008-09, STWA were applied by the majority of EU countries.

Though STWA differed considerably between the different countries, the literature shows that there are several main features that are common to most of the STWA.

- Firstly, STWA are associated with the reduction of working hours for (all) workers in a company or a specific work unit and it forms an alternative to layoffs.
- Secondly, this reduction in working hours is accompanied by a corresponding (pro-rata) reduction in wages/salaries.
- Thirdly, provision of wage supplements (usually public subsidies) is administered to affected workers.
- Fourthly, specific time limits on the period of STWA are usually established in order to ensure that STWA is a temporary measure.
- Finally, links between work sharing programmes and training / retraining activities may be created.

However, not all of these elements have to be necessarily present in every STWA. As the design and application of STWA differ significantly between countries, these differences are often reflected in the provisions relating to the eligibility criteria. According to the European Employment Observatory (2010) the main distinguishing features of individual STWA include:

- Scope of the application (only certain categories of employees or all employees eligible for STWA);
- Nature of the financial assistance from the taxpayer (wage support, social security payment support or both elements combined);
- Size of the company supported (small and medium enterprises, large companies or all companies);
- Generosity (duration and extent of the financial support from the taxpayer);
- Extent of the conditionality attached to the financial support from the taxpayer (e.g. requirements not to have any dismissals or to provide training to employees on STWA);
- Relation between STWA and training (training compulsory within STWA scheme, incentives for training, etc.)

One of the key characteristics of STWA is that they always include some kind of balance of investment and benefit. This is to say that all actors involved, i.e. employers, employees and public authority have to suffer some kind of loss, but that they also all benefit from the effects. This makes STWA an instrument based on public consensus and shared interest, since it only works if all actors are convinced of its use. As a consequence, different mechanisms work at different levels and for different target groups which makes it interesting to separate these different levels and look at each group separately. The key benefits and risks of the measures for the different target groups can be summarised as follows:

- Employers benefit from lower labour costs, cash flow protection, keeping competent staff in company and improving medium term productivity through qualification measures. They risk decreasing work morale, worsening competitive standing, pressure on prices.
- Employees gain employment security, keeping their job in difficult times, increase skills

and employability through qualification measures. They have to accept lower income levels in the short term, as not all idle time is compensated for.

- Public authorities use STWA to protect the national economy and crucial sectors against economic shocks, prevent mass dismissals, high unemployment (leading to financial pressure on social insurance) and social unrest in a crisis situation. They risk incurring deadweight losses, i.e. spending public money on jobs that would have been kept in any case, displacement effects, i.e. spending public money on jobs that are lost after all, and delaying necessary restructuring of the national economy by protecting unviable jobs and enterprises.
- The unemployed do not benefit directly from the measures as STWA is targeted at people in employment. It could even be argued that STW goes against the interest of the unemployed since the natural inflow and outflow in employment is prevented. At the same time, STW can contribute to a quicker recovery which is also in the interest of the unemployed.

Context of STWA use in different countries

The different short-time working arrangements in European countries are embedded in the national socio-political context and directly influence the scale of participation in STWA. The economic crisis of 2008-09 also had an effect on the design of the individual STWA schemes, as in most countries, several changes in the measures were carried out as a response to the economic downturn.

Preceding the recent crisis, Europe was experiencing sound economic growth and very strong employment expansion. Generally speaking, the main concern seemed to be the demographic developments which suggest a declining supply of labour in Europe while at the same time labour market demand was growing. The past years however, things were turned upside down. In 2008, global financial markets experienced their worst crisis since the 1930s. It is beyond the scope of this study to discuss the causes of the crisis, but its impact became more and more visible. Investment, production and consumption all declined through diminishing investor and consumer confidence as credit markets froze and millions of people lost their jobs.

The unfavourable economic development from 2008 onwards had far-reaching consequences for the EU labour market. The positive course of 2005 to 2008 was reversed after the beginning of the economic crisis in 2008 as the EU27 unemployment rate rose from 6.9% in mid 2008 to 9.7% in mid-2010. The growth of the unemployment rate varied strongly among European countries. In countries like Germany, Austria or the Netherlands, the growth of the unemployment was relatively modest. On the other hand the unemployment rate severely increased in Latvia, Spain and Slovakia. Spain is currently facing the highest (and increasing) unemployment rate of all observed countries.

Figures show that the increase in unemployment is not evenly distributed among different groups on the labour market. Some groups turn out to be more disadvantaged by the recession than others. Similarly to past recessions employees with lower education seem to be hardest hit by the recession at EU27 level. The employment of people with primary or lower secondary education decreased between early 2008 and late 2009 by more than 6%, compared to 1 percent of those with an upper and post-secondary education and 5 percent

of those with a tertiary education. Exploring the situation in some countries in more detail we can see that Latvia experienced the most serious decrease in the employment of primary or lower secondary educated. Their employment decreased by one fifth while in the case of people with tertiary education it was roughly 5%. The unemployment rate of people with low education in Spain increased 13.7% between mid 2008 and mid 2010. On the other hand in Germany and Slovakia the unemployment of low educated decreased by 0.3% and 0.1% respectively. Italy and Finland form the only exceptions in our country sample where the employment of upper and post-secondary educated showed a better trend than the employment of tertiary educated.

Design of STWA

When comparing STWA in European countries we can find a variety of individual measures in terms of eligibility requirements, conditional requirements, generosity, relation to the labour market policies and training, financing, payment and the role of stakeholders. This variety can be (partially) explained by the contextual differences and different (weights of particular) objectives. Apart from these differences we can identify some common features.

- Firstly, countries where STWA was established before the 2008-09 crisis prolonged the available durations of short-time work for the period of crisis. Thus, available duration of STWA in these countries was longer than in countries where STWA was newly introduced. As a consequence, there was a large variation in the possible length of STWA starting from 60 days (per year) in Slovakia reaching to 3 years in a 5 year period in Italy.
- Secondly, the majority of countries financially stimulated training activities (Austria, Belgium, France or Germany) or made participation in training mandatory during the STWA (Czech Republic, the Netherlands or Slovenia).
- Thirdly, the newly established STWA seem to be less generous and more stringent in terms of eligibility and conditionality requirements compared to STWA that had been established before the 2008-09 crisis. Furthermore, we assume that the generosity, eligibility and conditional requirements of STWA during the 2008-09 crisis maximized the effect and impact of STWA.
- Fourthly, involvement of social partners in some countries led to (additional) agreements about STWA. These agreements often increased the generosity of the scheme for employees.
- Fifthly, it appears that within the EU countries only in old member states STWA is financed by the unemployment benefits system. New member states finance STWA from the state budget or from the European Social Fund.

Finally, there is no obvious geographical clustering of STWA according to the above mentioned criteria.

Implementation of STWA

Depending on the tradition and the design of the measures, the implementation of STWA differed across the countries. In most cases STWA was designed by the authorised ministry, e.g. the ministry of social affairs and employment, and implemented by the Employment office/service. Where the STWA was adapted during the crisis, social partners (trade unions and industry associations, and sometimes businesses) were strongly involved in the policy discussions.

The adaptation of STWA to the crisis was easier in countries where the scheme already existed and was well known before the crisis. The reason for this is that the procedures, effects, advantages and disadvantages were known by the Employment Office/Service and the social partners. As in the case of Austria or Belgium, the tradition of social partnership and negotiation culture seem to further ease the negotiations about the adaptations to and the implementation of the scheme. In countries where STWA was newly introduced the scheme was designed within a relatively limited time frame and there was little space for detailed ex-ante assessments. It is important that employers and employees are well informed about the STWA. The ministries, Employments Office/Service and other stakeholders can take a role in informing the employers and employees about the scheme. Low knowledge of the scheme may decrease participation, raise ambiguities about the scheme and worsen the effect and impact of the scheme.

Once the framework of STW was stable, it was mainly up to businesses, work councils and the employment agency to implement the measures. Generally, the procedure of applying for STW can be described as follows (although the practice in case of individual country/scheme can differ):

- In countries in which a social partner agreement was needed as prerequisite for participation in STWA, employers often had to consult/come to an agreement with social partners before applying for the STWA.
- When applying for the scheme, employers were required to submit a number of documents (depending on the country and the scheme) to the Employment Office/Service, such as the application for STWA, proof of economic need, a list of participating employees or a solemn declaration.
- The Employment Office/Service assessed whether the employers / employees fulfil all the conditions required for the participation in the scheme. In case of ambiguities or doubts the Employment Office/Service approaches the employer or asked for additional documents.
- After the application was assessed and the participation in STWA was approved, the employer could apply the scheme. During the application of the scheme the employer may be required to regularly report on how many employees have been participating in STWA and the extent of the participation. This information may be checked by the Employment Office/Services in order to avoid abuse of the scheme.

The number of participants varied strongly in various countries. The reasons for this are the cross-country differences in population of employees and the difference in STWA participation rates. Judging from the absolute number of participants the largest short time working arrangement can be found in Germany. In May 2009 when the maximum number of participants in German scheme was reached, 1,442,667 employees were enrolled in the system. In France, 673,000 employees were affected by STWA in 2009. On the other hand, in the same year only 20,591 employees took part in STWA in Spain and in Latvia the total number of participants was less than 6,000. In the majority of examined countries, the participation in STWA started to increase in late 2008, peaked in 2009 and started to decrease in 2010. Less stringent eligibility criteria and conditional requirements and higher generosity of STWA led to a higher take up. Very complex schemes also seem to decrease the take up rate as they are less suitable for smaller companies.

STWA use was not distributed evenly across the economy. In many of the countries, it is clear that the great majority of participants worked in industry or in the manufacturing sec-

tor, whereas less demand came from the services sector. Specifically, the Austrian, German and French car manufacturers were intensive users, but also the metal industries in the Netherlands, and Slovenia were well-represented as well as the textile and clothing industry in France. Exceptions to this industrial emphasis are the schemes in Spain and Latvia. Thus, Latvian participation rates were high in retail and wholesale enterprises as well as in accommodation and catering whereas in Spain the services sector scored highest in terms of companies participating. However, the highest number of participants came from industrial companies, implying that these companies sent greater shares of workers into the schemes.

Reflecting the general composition of the workforce in these sectors, the majority of participants in STWA in several countries were male and aged between 30 and 50 years. Moreover, it appears that companies were most likely to use STW for skilled workers out of medium income groups, such as machine operators. These are after all the workers that will be hard to find for employers when the economy picks up again. In addition, the great majority of participants had permanent contracts, though it is unclear whether their representation was disproportional, depending on the country in question. Macro-econometric analyses and the analyses conducted by OECD (2010) and Hijzen & Venn (2011) suggest that STWA rather benefited permanent workers than temporary workers. No information is available on the ethnicity of participants.

There is great variety in the ways in which training was implemented within STWA in European countries during the crisis. Whereas in some countries, e.g. the Netherlands, Latvia and the Czech Republic, training was mandatory during STW, in other countries, e.g. Germany and France, it was an option that was supported by financial incentives for employers, in many cases else supported by the European Social Fund. However, the participation in the voluntary training measures was disappointing in most countries, as only a minority of companies made use of the support available.

There are several reasons explaining low participation rates in these countries.

- Firstly, the personnel participating in the training is less flexible and can not always be re-employed immediately when production increases again without terminating the training.
- Secondly, organisation of training imposes an additional administrative burden on the employer, especially where companies do not have specialised human resources departments or medium-run training strategies.
- Thirdly, as in some countries the costs of training schemes are not fully reimbursed, training is an extra expenditure for employers at a time when employers look at reducing their expenditure where possible.
- Finally, there is problem of trade-off between training in general or specific skills. Some employers may not be inclined to implement training if it does not directly response to their needs in a short period

Effectiveness of STWA

Most of the countries that have employed STWA in the recent crisis are positive about their experience of implementing STWA. Several ministries and agencies involved have published estimates of how many jobs have been saved as a consequence of STWA. However, these

estimates are not always based on hard data. High take-up rates are not necessarily indications of high effectiveness, as it may be the case that jobs are protected that did not need protection, or that workers who were subsidised are still dismissed after the crisis (so-called deadweight losses and displacement effects). Nonetheless, the general impression emanating from secondary sources at country level is positive.

According to sources at country level, the effectiveness of STWA is not only dependant on the design of the measures, but also on the context and the development of the economy during the crisis. STWA are seen as effective as long as there is no need for structural adaptation of the economy and the demand for goods is likely to pick up again quickly. In Germany, where the economy was in a robust state before the crisis, the STWA seems to have been highly effective, since the main reason for the economic difficulties was indeed a temporary fall in both national and international demand. In Latvia on the other hand, it was found that STWA was preventing necessary restructuring of the economy taking place. The economy was subject to a lot of change which also necessitated some labour relocation processes which became obvious during the economic crisis. As a consequence, STWA was not the right instrument to address the economic challenges.

Moving on from the national sources, overarching macro-econometric studies on STWA show that STWA are an effective instrument to protect jobs in times of crisis, at least in the short term. Most analyses do find that the measures are effective, but the way in which these effects are achieved remains unclear. A reconstruction of previous macro-econometric analyses has shown that it depends strongly on the model applied (1) whether the effect of STWA is found to be direct or indirect (indirect meaning that STWA only has effect through mitigating the effect of a drop in output on employment), and (2) how many jobs are found to have been saved by the use of STWA. Our own estimations fit in the existing literature as they also find a positive effect of STWA on employment, exclusively because STW temperates the impact of negative output shocks on employment. The total number of jobs saved in the 10 countries for which we have evidence from our own estimations and from the previous literature could range from 125,000 to 850,000.

The micro-econometric analyses conducted on the basis of establishment data for Germany and France present a more nuanced picture of the effects of STWA on employment. The same is true for the analysis of employee level data in Austria.

For Germany, our most reliable model suggests that firms which used short-time working retained 5 percent more workers than firms with comparable difficulties which did not. This matches the perceptions of users that Kurzarbeit helped to preserve employment during the crisis. However, the figure also suggests deadweight losses. It is important to keep in mind that this figure may be an underestimation of the real effect, as it is not clear whether our model completely manages to control for the endogeneity of the use of Kurzarbeit (i.e. for the fact that firms with difficulties are more likely to use Kurzarbeit anyway).

For France, the effects of STWA estimated on the basis of micro data are limited. We only find a positive effect of STW on employment for firms which experience very important drops in output (by more than 55 or 60 percent). For other firms, we only find slight negative effects. Again, this matches the perceptions of stakeholders in the field, who think that STWA could have had a bigger impact if the measure had been designed in a different way.

For Austria, we estimate the effects on the basis of data at the level of individuals, testing the hypothesis that employees participating in Kurzarbeit in Austria have, all other things being equal, higher job security than others. We consider short term job security. To be precise, we consider the job security six months after the start of the Kurzarbeit period. We find a statistically significant, but small effect. 650 employees would not have a job if they had not participated in Kurzarbeit. This leads us to the conclusion that Kurzarbeit has a very small effect on the short term job security of employees in Austria.

In general, it is noteworthy that our estimations based on micro-data find some positive, even if limited, effects of STWA on employment, as previous literature based on micro-data so far often found negative results. The latter are often associated with the difficulty to correct for endogeneity of STW use. We also had to deal with this problem in our analyses, and it is very well possible that our results still are an underestimation of the true effects of STWA.

In our study, as well as in previous literature on the subject, we note that estimations conducted on the basis of macro (country or sector-level) data in general find more positive effects of STWA than estimations based on data at establishment level. This is due to the fact that the problem of endogeneity of STW use is less important in analyses at country level. Many countries with quite different situations in terms of GDP and employment have STW schemes. Therefore, the use of STWA does not necessarily indicate that a country is in particular great trouble compared to others, while for firms, STW use is much more directly influenced by difficulties encountered. As the endogeneity problem is less important for analyses at the macro-level, the estimations based on macro data are less in danger of underestimating the effect of STWA on employment. However, this does not mean that the endogeneity problem completely disappears in macro-econometric analyses: the use of STWA can increase in a country as the employment situation deteriorates. In this sense, the risk of underestimating the effects of STWA is present for analyses both at micro and at macro level and the ideal solution to this problem is yet to be found.

In-depth qualitative research at country and company level in Germany, France and Austria shows that the effects of STWA are not limited to the direct protection of jobs which can be measured by using econometric calculations. Companies do report that they would have had to dismiss employees in the absence of STWA. In addition however, especially in Germany, the country with the largest STWA in terms of participation, STW is seen as a measure contributing to the stability of businesses and as a consequence to the stability of the economy as a whole. While respondents acknowledge that it is possible that deadweight effects occur, this is acceptable to the actors involved as the overall effect on the economy is judged to be more important. As short-time work enabled companies to react swiftly to the increasing demand after the crisis, the measure is seen as having contributed significantly to the strength of the German recovery.

The long-term effects of the arrangements remain unclear. This has to do with the fact that it is hard to isolate the impact of STWA in the further development of the economy in general and in individual careers. Of course, it is also still too early to measure the long term effects of STWA in the recent crisis.

Regarding broader effects of STWA, we can also include the results of training activities on the employability of STWA participants in our overall judgment. Though participation in

training schemes was not always high, where training activities did take place, participants are generally very positive about the results of the training. Other indicators of the short-term and long-term impact of training measures are hard to find. Previous studies have shown that the short-term impact of training is often low, but that it can have important consequences in the long-term both on individual careers as well as on the functioning of the labour market. However, these long-term consequences are very difficult to assess scientifically, since it is not easy to isolate the effects of training from other factors influencing labour market developments. Interestingly, in the macro-econometric analysis, there is one result that suggests that making STW conditional on training may enhance its impact on employment. It is however not robust across measurements of STW take-up.

Lessons learnt

Not only public authorities and policy makers, but also end users, i.e. companies and employees, interviewed for the purposes of this study have confirmed that in a future crisis situation short-time work would again be a useful instrument for tackling economic misfortune. Of course, none of the STWA can claim to be perfect, as some might have hoped for higher participations rates, others are worried about deadweight losses and still others show disappointing results regarding the use of training measures in the context of STWA. As has already been described, during the recent crisis several changes were made to the design of the STWA. Hereby the basic working mechanisms of the STWA were not influenced, but the balance between generosity and strictness, between public and private contribution, between employer and employee risk was adapted to make the measures more attractive. This implies that there are several points, 'buttons' so to say, at which STWA can be adjusted to produce different effects.

Looking at the information we have collected for this study from an overarching perspective we can formulate some lessons that are of importance for policy makers considering the use of STW in future crisis situations. We have linked these lessons to the most important issues surrounding STWA: the right context to use the instrument, the prevention of deadweight losses and displacement effects, the related minimisation of costs, the role of social partners, the facilitation of training and the effective and efficient implementation of the measures.

Recommendations regarding design and usage of STWA

1) Context: in what kind of situation is it advisable for a country to stimulate the use of STWA?

STWA use is most likely to be effective when:

- The economy was in good shape before the onset of the economic crisis;
- The causes the economic crisis are external, e.g. due to a drop in demand from other countries;
- The crisis is likely to be of a temporary nature and does not require structural changes in the economy to be overcome;
- There is a broad commitment to the protection of employment amongst the stakeholders involved.

2) How can deadweight losses and displacement effects be prevented?

- Require companies to present a proof of economic need before using STW in which they prove that the difficulties faced are of a temporary nature and caused by external events, i.e. not by mismanagement or internal problems.
- Make sure that some residual costs remain to companies, such as partial top-ups of STW allowances, social security contributions, other allowances such as holiday pay, to make sure that companies have to consider closely whether STW use is necessary. There is a trade-off here between generosity and participation.

- Require companies to make use of other instruments of internal flexibility before using STWA.
- Keep eligibility requirements for employees to a minimum to ensure that different groups of employees can benefit equally from the STWA.
- Introduce dismissal protection for participating employees during participation in the measure, but not after participation, in order to prevent companies being caught up in the measure.
- Keep the administrative burden resulting from these requirements in mind which may lead to lower participation and effectiveness.

3) How can the costs of the measures for the public be minimised?

- Let all the groups involved make concessions so that the costs of the instrument is distributed across the stakeholders: employers, employees, public purse.
- Set a limit on the duration of STWA in order to prevent over-use, but allow some flexibility to reassure companies
- Find a balance between attractiveness to increase participation and strictness to prevent deadweight losses
- Despite these efforts, STW will remain an expensive instrument, though it can be argued that it comes in place of unemployment benefit payments which may be even more expensive.

4) In what ways should social partners be involved in the shaping and implementation of the measures?

- Involve national social partners in policy discussions in order to stimulate debate, reach consensus, create commitment and increase the public awareness of the system. This can be seen as the groundwork for a successful implementation.
- Use the possibilities provided by company-level social dialogue, e.g. by requiring work councils to approve STW applications, as this provides both legitimacy as well as efficiency in the implementation and serves as a check against unjustified applications (deadweight losses).
- Be aware that a strong role for trade unions can lead to higher costs for businesses and possibly lower take-up rates as a result.

5) How can the use of training measures during STW be successfully stimulated?

- Be careful with making training measures a mandatory part of STWA as it changes the nature of the instrument and move the focus away from employment protection.
- Provide financial incentives, both as a general measure for stimulating training and reimbursing training costs during STW.
- Above all, provide practical support for the organisation of training, in cooperation with social partners and training institutions, by supporting the introduction of flexible training courses and training share/pool systems for SMEs.
- Increase efforts to explain the value of transversal competences to stakeholders and businesses.
- Keep the additional administrative burden as small as possible.

6) How can the effectiveness and efficiency of the implementation be improved?

- Make the support of businesses and the handling of STWA application an absolute priority within employment agencies. Make sure that employment agencies have recourse to additional resources to handle the administrative processes.
- Concentrate on a timely handling especially of applications and financial reimbursements to increase the effectiveness of STWA as a crisis instrument.
- Invite and make use of social partner support in awareness raising, information and support to enterprises.
- Ensure that all stakeholders involved make an unequivocal choice for STWA use as part of the overall crisis response to facilitate a smooth implementation process.

Zusammenfassung

Die Europäische Kommission konstatiert, dass die europäischen Regierungen als Reaktion auf die aktuelle Wirtschaftskrise viel in Kurzarbeitsprogramme (Short-time working arrangements, STWA) investiert haben. Das Ziel der Kurzarbeit ist es, Arbeitsplätze zu sichern, die durch den vorübergehende Produktionsrückgang bedroht sind. Die Regierungen möchten Unternehmen dabei unterstützen, ihre Mitarbeiter während der Krise zu halten, sodass sie nicht neue Leute einstellen müssen, wenn sich die Konjunktur wieder erholt. Wegen dieser wichtigen Rolle der Kurzarbeit möchte die Kommission analysieren, ob diese Programme wirklich Arbeitsplätze in der EU geschützt haben und wie sich dieser Effekt mit den Erfahrungen mit ähnlichen Maßnahmen in früheren Krisensituationen vergleichen lässt.

Eine solche Analyse ist relevant, weil Regierungen in zukünftigen Krisensituationen in der Lage sein müssen, fundierte und bessere Entscheidungen über die Einführung, Änderung oder Beendigung der Kurzarbeit zu treffen. Ein europäischer Ansatz, bei dem Länder mit unterschiedlichen Systemen miteinander verglichen werden können, kann zu mehr Klarheit über die besten Möglichkeiten führen, mit denen man Arbeitsplätze während eines wirtschaftlichen Abschwungs wirksam sichern kann.

Dieser Bericht enthält die Ergebnisse eines vergleichenden Forschungsprojekts, das zwischen Juni 2011 und Juni 2012 von dem niederländischen Forschungsinstitut Panteia, in Kooperation mit SEOR, ausgeführt wurde. Im Zuge des Projektes wurde ein Überblick über die Nutzung der Kurzarbeit in allen Mitgliedstaaten der Europäischen Union angestrebt, gefolgt von Quick Scans von zwölf europäischen Kurzarbeitssystemen und letztendlich eingehender Studie von Kurzarbeit in drei Ländern, und zwar Deutschland, Frankreich und Österreich. Für die Übersicht wurden die vorhandenen Studien auf europäischer Ebene und auf nationaler Ebene miteinbezogen und es wurden einige Beteiligte in den Mitgliedsstaaten befragt. Darüber hinaus haben wir makro-ökonomischen Analysen von Daten ausgeführt, die von der OECD zur Verfügung gestellt wurden, um die Wirksamkeit der Kurzarbeit auf Makro-Ebene zu messen. Die drei Länder Deutschland, Frankreich und Österreich wurden als Fälle für die eingehende Untersuchung ausgewählt.

In den drei Fallstudien wurde ein intensiveres Interviewprogramm ausgeführt, wobei die Vertreter von Regierungen, Wirtschaft und Gewerkschaften in den betroffenen Ländern befragt wurden. Darüber hinaus wurden Fallstudien von Unternehmen durchgeführt, um zu verstehen, wie die Unternehmen mit der Krise umgegangen sind und welche Rolle die Kurzarbeit in diesem Kontext gespielt hat. Schließlich wurden Mikrodaten verwendet, die von den nationalen Regierungen und Arbeitsagenturen zur Verfügung gestellt wurden, um die Wirksamkeit der Maßnahmen auf betrieblicher Ebene und auf Ebene des einzelnen zu analysieren. Die Ergebnisse all dieser Forschungsaktivitäten sind in diesem Bericht enthalten.

Die Definition von Kurzarbeit

Kurzarbeit kann als eine vorübergehende Verringerung der Arbeitszeit definiert werden, durch die ein bestehendes Arbeitgeber/Arbeitnehmer-Verhältnis aufrecht erhalten werden soll. Es kann sich dabei entweder um eine teilweise Reduktion der normalen Arbeitszeit für einen begrenzten Zeitraum handeln (eine teilweise Aussetzung des Arbeitsvertrages) oder

um eine vorübergehende Entlassung (eine vollständige Aussetzung des Arbeitsvertrages mit null Stunden pro Woche). In beiden Fällen bleibt der Arbeitsvertrag erhalten. Kurzarbeit ist so konzipiert, um Arbeitgebern die Möglichkeit zu geben, die Arbeitszeit vorübergehend anzupassen (und damit die interne Flexibilität aufrecht zu erhalten) ohne das Beschäftigungsverhältnis zu kündigen.

Der Schwerpunkt unserer Studie liegt bei Kurzarbeitssystemen, die von der Regierung subventioniert werden. Dabei unterstützt der Regierung einzelne Mitarbeiter oder Unternehmen in Kurzarbeit mit Zuschüssen, um Einkommensverluste zu kompensieren. Kurzarbeitssysteme, die auf der Grundlage zum Beispiel einer sektoralen Vereinbarung ohne staatliche Unterstützung erstellt wurden, werden in diese Studie nicht mit einbezogen. Während der Wirtschaftskrise von 2008-09 wurde Kurzarbeit von den meisten europäischen Regierungen angewendet.

Obwohl die Kurzarbeit zwischen den verschiedenen Ländern erheblich variiert, wird in der Literatur zu diesem Thema konstatiert, dass es mehrere Kernmerkmale gibt, die bei den meisten Kurzarbeitssystemen auftreten.

- Zunächst wird die Kurzarbeit mit der Reduzierung der Arbeitszeit für (alle) Arbeitnehmer in einem Unternehmen oder einer bestimmten Abteilung assoziiert, die eine Alternative zu Entlassungen bildet.
- Zweitens wird diese Verkürzung der Arbeitszeit von einer entsprechenden (relative) Senkung der Löhne/Gehälter begleitet.
- Drittens ist vorgesehen, dass eine Lohnaufstockung (in der Regel öffentliche Subventionen) an die betroffenen Arbeitnehmer gezahlt wird.
- Viertens werden gewöhnlich bestimmte Fristen für die Dauer der Kurzarbeit gestellt, um sicherzustellen, dass die Kurzarbeit eine vorübergehende Maßnahme ist.
- Schließlich können Verbindungen mit Arbeitsteilungsprogramme und Ausbildungs-/Umschulungsaktivitäten aufgebaut werden.

Allerdings sind nicht immer all diese Elemente in allen Systemen vorhanden. Während die Gestaltung und Anwendung von Kurzarbeit deutlich variiert zwischen den Ländern, spiegeln sich diese Unterschiede häufig in den Bestimmungen zu den Auswahlkriterien wider. Nach Angaben des Europäischen Beschäftigungsobservatoriums (2010) sind die wichtigsten Unterscheidungsmerkmale der einzelnen Kurzarbeitssysteme:

- Geltungsbereich der Anwendung (nur bestimmte Kategorien von Arbeitnehmern oder aber alle Beschäftigten haben Anspruch auf Kurzarbeit);
- Art der finanziellen Unterstützung durch den Steuerzahler (Lohnunterstützung, soziale Sicherheitszahlungen oder beide Elemente kombiniert);
- Größe der unterstützten Unternehmens (kleine und mittelständische Unternehmen, Großunternehmen oder alle Unternehmen);
- Großzügigkeit (Dauer und Umfang der finanziellen Unterstützung durch den Steuerzahler);
- Umfang der Auflagen die an die finanziellen Unterstützung verbunden sind (z.B. Kündigungsschutz während der Kurzarbeit oder Verpflichtungen, Schulungen für Mitarbeiter in Kurzarbeit anzubieten);
- Verbindung zwischen Kurzarbeit und Weiterbildung (verpflichtete Bildung im Rahmen der Kurzarbeit, Anreize für die Bildung, etc.)

Eines der wichtigsten Merkmale der Kurzarbeit ist es, dass sie immer auch auf einem gewissen Ausgleich von Kosten und Nutzen basiert. Das heißt, dass alle beteiligten Akteure, z.B. Arbeitgeber, Arbeitnehmer und die öffentliche Hand, einen Teil der Kosten tragen, dass sie aber auch alle von der Wirkung der Kurzarbeit profitieren. Dies macht die Kurzarbeit zu einem Instrument, das sich auf öffentlichen Konsens und gemeinsame Interessen stützt, denn es funktioniert nur, wenn alle Akteure von ihrem Nutzen überzeugt sind. Es gibt darum unterschiedliche Mechanismen, die auf verschiedenen Ebenen und für unterschiedliche Zielgruppen wirken, sodass es interessant ist, diese verschiedenen Ebenen zu trennen und sich jede Gruppe gesondert anzuschauen. Die wichtigsten Nutzen und Risiken der Maßnahmen können für die verschiedenen Zielgruppen wie folgt zusammengefasst werden:

- Die Arbeitgeber profitieren von niedrigeren Lohnkosten, Cash-Flow Protection, vom Halten der kompetenten Mitarbeiter im Unternehmen und von der Verbesserung der mittelfristigen Produktivität aufgrund von Qualifizierungsmaßnahmen. Sie riskieren eine abnehmende Arbeitsmoral, die Verschlechterung der Wettbewerbsposition und Druck auf die Preise.
- Mitarbeiter profitieren von Beschäftigungssicherheit, da sie ihre Arbeit in schwierigen Zeiten halten. Sie können ihre Kompetenzen und Beschäftigungsfähigkeit durch Qualifizierung verbessern. Sie müssen allerdings kurzfristig ein niedrigeres Einkommen akzeptieren, da nicht die gesamte Kurzarbeiterzeit kompensiert wird.
- Die Behörden verwenden STWA, um die Volkswirtschaft und die Kernindustrien vor wirtschaftlichen Schocks zu schützen und Massenentlassungen, hohe Arbeitslosigkeit (die zu finanziellem Druck auf die Sozialversicherungen führen kann) und soziale Unruhen in einer Krisensituation zu verhindern. Sie riskieren Mitnahmeeffekte, also öffentliche Ausgaben für Arbeitsplätze, die sowieso erhalten geblieben wären, Verlagerungseffekte, also öffentliche Ausgaben für Arbeitsplätze, die letztendlich doch verloren gehen, und sie verzögern möglicherweise eine notwendige Umstrukturierung der Volkswirtschaft durch den Schutz unrentabler Arbeitsplätze und Unternehmen.
- Arbeitslose profitieren nicht direkt von den Maßnahmen, da die Kurzarbeit auf Menschen in Beschäftigung ausgerichtet ist. Man könnte sogar sagen, dass Kurzarbeit den Arbeitslosen schadet, da der natürliche Beschäftigungsfluss auf dem Arbeitsmarkt verhindert wird. Gleichzeitig kann die Kurzarbeit aber zu einer raschen Konjunkturerholung führen, die auch den Arbeitslosen nützt.

Kontext der Kurzarbeitsnutzung in verschiedenen Ländern

Die verschiedenen Kurzarbeitsregelungen in europäischen Ländern sind in den nationalen gesellschaftlichen und politischen Kontext eingebettet, der das Ausmaß der Beteiligung an der Kurzarbeit direkt beeinflusst. Die Wirtschaftskrise von 2008-09 hatte auch Einfluss auf die Gestaltung der einzelnen Kurzarbeitssystemen, wobei die Maßnahmen in den meisten Ländern als Reaktion auf den wirtschaftlichen Abschwung etwas abgeändert wurden.

Im Vorfeld der jüngsten Krise konnte Europa ein solides Wirtschaftswachstum und einen starken Beschäftigungszuwachs aufweisen. Generell galt die größte Sorge dem demographischen Wandel, der zu einem rückläufigen Arbeitsangebot in Europa führte, während gleichzeitig die Nachfrage auf dem Arbeitsmarkt wuchs. In den vergangenen Jahre hat sich diese Situation aber ins Gegenteil gewendet. Im Jahr 2008 erlebten die globalen Finanzmärkte ihre schwerste Krise seit den 1930er Jahren. Es würde den Rahmen dieser Studie sprengen, die Ursachen der Krise zu besprechen, aber ihre Auswirkungen wurden nach

2008 immer sichtbarer. Investitionen, Produktion und Konsum sanken aufgrund des abnehmenden Anleger- und Verbrauchervertrauen, wobei die Kreditmärkte einfroren und Millionen Menschen ihren Arbeitsplatz verloren.

Die ungünstige wirtschaftliche Entwicklung ab 2008 hatte weitreichende Folgen für den europäischen Arbeitsmarkt. Die positive Entwicklung von 2005 bis 2008 wurde nach Anfang der Wirtschaftskrise im Jahr 2008 rückgängig gemacht, wobei die Arbeitslosenquote der EU27 von 6,9% (Mitte 2008) auf 9,7% (Mitte 2010) stieg. Die Zunahme der Arbeitslosigkeit variiert stark zwischen den europäischen Ländern. In Ländern wie Deutschland, Österreich oder den Niederlanden war die Zunahme relativ niedrig. In Lettland, Spanien und der Slowakei stieg die Arbeitslosenquote allerdings sehr stark. Spanien ist derzeit das Land mit der höchsten (und zunehmenden) Arbeitslosenquote aller hier besprochenen Länder.

Die Statistik zeigt, dass der Anstieg der Arbeitslosigkeit nicht gleichmäßig zwischen den verschiedenen Gruppen auf dem Arbeitsmarkt verteilt war. Einige Bevölkerungsgruppen erweisen sich als stärker von der Rezession benachteiligt als andere. Ähnlich wie bei früheren Rezessionen wurden Mitarbeiter mit geringerer Bildung am stärksten von der Rezession getroffen. Die Beschäftigung von Menschen mit Grundschulbildung oder Bildung auf Sekundarstufe I ist zwischen Anfang 2008 und Ende 2009 um mehr als 6% gesunken, verglichen mit 1% für Personen mit einer höherer und postsekundärer Bildung und 5% der Personen mit einem tertiären Bildungsabschluss. Im Vergleich der Länder fällt es auf, dass Lettland den deutlichsten Beschäftigungsrückgang bei Menschen in der Gruppe der Primar- oder Sekundarstufenbildung verzeichnet. Deren Beschäftigung sank um ein Fünftel, während im Falle von Personen mit tertiärem Bildungsabschluss circa 5% betroffen waren. Die Arbeitslosenquote von Menschen mit niedrigem Bildungsniveau stieg in Spanien um 13,7% zwischen Mitte 2008 und Mitte 2010. In Deutschland und der Slowakei verringerte sich die Arbeitslosenquote der gering gebildeten um 0,3% bzw. 0,1%. Italien und Finnland bilden die einzigen Ausnahmen in unserer Länderauswahl, da sich dort die Arbeitsposition von Menschen mit höherer und post-sekundärer Ausbildung positiver entwickelt hat als die Beschäftigung von Menschen mit tertiärer Bildung.

Gestaltung der Kurzarbeit

Beim Vergleich der Kurzarbeitssysteme in europäischen Ländern können wir im Hinblick auf die Anspruchsvoraussetzungen, Teilnahmebedingungen, Großzügigkeit, der Verbindung mit andere Arbeitsmarktmaßnahmen, Schulungen, Finanzierung, Zahlungen und Rollen der verschiedenen Akteure eine Vielzahl von einzelnen Maßnahmen identifizieren. Die Unterschiede können wir (teilweise) durch die unterschiedlichen Hintergründe und unterschiedliche Gewichtung der verschiedenen Ziele erklären. Abgesehen von diesen Unterschieden können wir aber einige gemeinsame Merkmale identifizieren:

- Erstens haben Länder, in denen die Kurzarbeit schon vor der Krise 2008-09 etabliert war, die verfügbare Dauer der Kurzarbeit für die Zeit der Krise verlängert. Als Folge war die Dauer der Kurzarbeit in diesen Ländern länger als in den Ländern, die die Kurzarbeit neu eingeführt haben. So gab es große Unterschiede in der möglichen Kurzarbeitsdauer, von 60 Tagen pro Jahr in der Slowakei bis zu 3 Jahren in einem Zeitraum von 5 Jahren in Italien.
- Zweitens hat die Mehrheit der Länder die Aus- und Weiterbildung finanziell gefördert (Österreich, Belgien, Frankreich oder Deutschland), oder die Teilnahme an Schulungen

wurde sogar als Voraussetzung während der Kurzarbeit definiert (Tschechien, die Niederlanden, Slowenien).

- Drittens erscheinen die neu gegründeten Kurzarbeitssysteme weniger großzügig und strenger im Hinblick auf die Berechtigung und die Bedingungen im Vergleich zu den Anforderungen der Systeme, die es bereits vor der Krise gab. Darüber hinaus gehen wir davon aus, dass die Großzügigkeit, die Förderkriterien und bedingten Anforderungen der Kurzarbeit während der Krise 2008-09 so austariert waren, dass sie die Wirkung der Kurzarbeit maximiert haben.
- Viertens führte die Einbeziehung der Sozialpartner in einigen Ländern zu (zusätzlichen) Vereinbarungen zur Kurzarbeit. Diese Vereinbarungen erhöhten oft die Großzügigkeit der Regelung aus Sicht der Mitarbeiter.
- Fünftens scheint es, dass die Kurzarbeit nur in den alten Mitgliedstaaten der EU durch die Arbeitslosenversicherung finanziert wurde. Neue Mitgliedstaaten finanzieren die Kurzarbeit aus dem Staatshaushalt oder aus dem Europäischen Sozialfonds.

Es gibt keine offensichtlichen geographischen Kategorien oder Ländergruppen von Kurzarbeitssystemen nach den oben erwähnten Kriterien.

Umsetzung der Kurzarbeit

Abhängig von der Tradition und der Gestaltung der Maßnahmen variierte die Umsetzung der Kurzarbeit in den einzelnen Ländern. In den meisten Fällen wurde die Kurzarbeit vom Ministerium gestaltet, z.B. das Ministerium für Arbeit und Soziales, und von den Arbeitsagenturen umgesetzt. Dort, wo die Kurzarbeit während der Krise verändert wurde, waren die Sozialpartner (Gewerkschaften und Industrieverbände, manchmal auch Unternehmen) stark an den politischen Diskussionen beteiligt.

Die Anpassung der Kurzarbeit an die Krise war leichter in Ländern, wo es die Regelung bereits gab. Der Grund dafür ist, dass die Verfahren, Wirkung und die Vor- und Nachteile bei den Arbeitsagenturen und den Sozialpartnern bereits bekannt waren. Wie im Fall von Österreich oder Belgien, scheinen eine Tradition der Sozialpartnerschaft und die Verhandlungskultur zur weiteren Lockerung der Verhandlungen über die Anpassungen und die Umsetzung der Regelung geführt zu haben. In Ländern, in denen die Kurzarbeit neu eingeführt wurde, musste das System innerhalb eines relativ begrenzten Zeitrahmens gestaltet werden und gab es wenig Spielraum für ausführliche vorbereitende Evaluierungen. Es war wichtig, dass Arbeitgeber und Arbeitnehmer gut über die Kurzarbeit informiert waren. Die Ministerien, Arbeitsagenturen und andere Beteiligte können eine Rolle beim Informieren der Arbeitgeber und Arbeitnehmer spielen. Geringe Kenntnisse des Systems verringern die Teilnahme, erhöhen Unklarheiten über das System und vermindern die Effekte und Wirkung des Systems.

Sobald der Rahmen der Kurzarbeit stabil war, waren vor allem Unternehmen, Betriebsräte und die Arbeitsagenturen gefragt, die Maßnahmen umzusetzen. Im Allgemeinen lief das Antragsverfahren für die Kurzarbeit nach dem folgenden Schema ab (obwohl die Vorgehensweise in einzelnen Ländern natürlich variiert):

- In Ländern, in denen eine Vereinbarung der Sozialpartner als Voraussetzung für die Teilnahme an der Kurzarbeit benötigt war, mussten die Arbeitgeber erst zu einer Einigung mit den Gewerkschaften über die Anwendung für den Kurzarbeit kommen.
- Bei der Beantragung der Kurzarbeit wurden die Arbeitgeber verpflichtet, mehrere Doku-

mente (je nach Land und Regelung) bei der Arbeitsagentur einzureichen, z.B. den Antrag für Kurzarbeit, einen Nachweis der wirtschaftlichen Notwendigkeit, eine Liste der teilnehmenden Mitarbeiter oder eine eidesstattliche Erklärung.

- Die Arbeitsagentur prüft, ob die Arbeitgeber/Arbeitnehmer alle Bedingungen für die Teilnahme an der Regelung erfüllen. Bei Unklarheiten oder Zweifel richtet sich die Arbeitsagentur an den Arbeitgeber oder fragt nach zusätzlichen Dokumenten.
- Nachdem der Antrag geprüft und die Teilnahme an der Kurzarbeit genehmigt wurde, kann der Arbeitgeber die Maßnahme umsetzen. Während der Dauer der Kurzarbeit kann es sein, dass der Arbeitgeber regelmäßig berichten muss, wie viele Mitarbeiter zu welchem Ausmaß an der Kurzarbeit teilnehmen. Diese Informationen können von der Arbeitsagentur überprüft werden, um den Missbrauch der Regelung zu vermeiden.

Die Zahl der Teilnehmer variiert deutlich zwischen den unterschiedlichen Ländern. Die Gründe dafür sind die länderspezifischen Unterschiede in der Berufsbevölkerung und unterschiedliche Kurzarbeitsbeteiligungsraten. Gemessen an der absoluten Zahl der Teilnehmer war das deutsche Kurzarbeitssystem am umfangreichsten. Im Mai 2009, als die Teilnehmerzahl der deutschen Regelung ihren Höchststand erreichte, wurden 1.442.667 Beschäftigte im System angemeldet. In Frankreich waren im Jahr 2009 insgesamt 673.000 Mitarbeiter von Kurzarbeit betroffen. Im selben Jahr nahmen andererseits nur 20.591 Mitarbeiter an der Kurzarbeit in Spanien teil, und in Lettland betrug die Gesamtzahl der Teilnehmer weniger als 6.000. In der Mehrheit der untersuchten Länder begann die Teilnahme an Kurzarbeit Ende 2008, erreichte im Jahr 2009 ihren Höhepunkt und verringerte sich im Jahr 2010 wieder. Weniger strenge Zulassungskriterien und Bedingungen und großzügigere Konditionen führten zu einer höheren Teilnahme. Sehr komplizierte Systeme verringern wahrscheinlich die Teilnahme, da sie für kleinere Unternehmen weniger geeignet sind.

Die Nutzung der Kurzarbeit war nicht gleichmäßig über die Gesamtwirtschaft verteilt. In vielen Ländern arbeitete die Mehrheit der Teilnehmer in der Industrie oder im verarbeitenden Gewerbe, während man das System im Dienstleistungssektor weniger nutzte. Genauer gesagt waren die österreichischen, deutschen und französischen Automobilhersteller intensive Nutzer, aber auch die Metall-Industrien in den Niederlanden und in Slowenien waren gut vertreten, sowie die Textil- und Bekleidungsindustrie in Frankreich. Ausnahmen von diesem industriellen Schwerpunkt sind die Systeme in Spanien und Lettland. So war die Teilnahme lettischer Unternehmen im Groß- und Einzelhandel sowie im Hotelgewerbe und Catering hoch, während in Spanien der Dienstleistungssektor die höchste Beteiligungsrates erreichte. Allerdings kam die höchste Zahl von Teilnehmern aus Industrieunternehmen, was bedeutet, dass diese Unternehmen größere Anteile ihrer Belegschaft in die Kurzarbeit geschickt haben.

Der allgemeinen Zusammensetzung der Belegschaft in diesen Sektoren entsprechend, war die Mehrheit der Kurzarbeiter in den meisten Ländern männlich und im Alter zwischen 30 und 50 Jahren. Außerdem scheint es, dass Unternehmen die Kurzarbeit am ehesten für Facharbeiter aus der mittleren Einkommensgruppe nutzten, wie zum Beispiel Maschinisten. Dabei handelt es sich um Arbeitnehmer, die für die Arbeitgeber schwierig zu finden sind, wenn die Konjunktur wieder anspringt. Darüber hinaus hatte die große Mehrheit der Teilnehmer unbefristete Verträge, obwohl nicht klar ist, ob ihre Teilnahme unverhältnismäßig war, je nach Land. Makro-ökonomische Analysen der OECD (2010) und von Hijzen & Venn (2011) legen nahe, dass eher Festangestellte als Zeitarbeiter von der Kurzarbeit profitiert haben. Es liegen keine Informationen zu der ethnischen Zugehörigkeit der Teilnehmer

vor.

Die Art und Weise, in der die Aus- und Fortbildung innerhalb der Kurzarbeit in europäischen Ländern während der Krise umgesetzt wurde, variiert sehr stark. Während in einigen Ländern, z.B. in den Niederlanden, Lettland und in Tschechien, Bildungsmaßnahmen während der Kurzarbeit eine Verpflichtung waren, war dies in anderen Ländern, z.B. Deutschland und Frankreich, eine Möglichkeit, die durch finanzielle Anreize für Arbeitgeber unterstützt wurde, in vielen Fällen mit Finanzierung aus dem Europäischen Sozialfonds. Allerdings war die Teilnahme an den freiwilligen Schulungsmaßnahmen in den meisten Ländern enttäuschend, da nur eine Minderheit der Unternehmen Unterstützung, die zur Verfügung stand, nutzten.

Es gibt mehrere Gründe, die die geringe Beteiligung in diesen Ländern erklären.

- Erstens sind die Mitarbeiter, die an Bildungsmaßnahmen teilnehmen, weniger flexibel und lassen sich nicht immer sofort wieder ohne Abbruch der Ausbildung einstellen, wenn die Produktion wieder steigt.
- Zweitens führt die Regelung von Bildungsmaßnahmen zu einer zusätzlichen bürokratischen Belastung für den Arbeitgeber, vor allem wenn das Unternehmen nicht über spezialisierte Personalstrategien oder langfristige Bildungspläne verfügt.
- Drittens führt die Bildungsmaßnahme zu einem Mehraufwand für den Arbeitgeber, da in einigen Ländern die Kosten für die Ausbildungsmaßnahmen nicht in vollem Umfang erstattet wurden, zu einem Zeitpunkt, zu dem Arbeitgeber die Kosten eigentlich so viel wie möglich reduzieren möchten.
- Schließlich muss eine Abwägung gemacht werden zwischen Ausbildungsmaßnahmen, die sich auf allgemeinen Fähigkeiten konzentrieren und Maßnahmen, die spezifische Fähigkeiten verbessern. Manche Arbeitgeber sind nicht geneigt, Bildungsmaßnahmen anzubieten, wenn diese nicht direkt und kurzfristig ihren Bedürfnissen zugute kommen.

Wirksamkeit der Kurzarbeit

Die meisten der Länder, die in der jüngsten Krise die Kurzarbeit eingesetzt haben, sind positiv über ihre Erfahrungen mit der Maßnahmen. Mehrere Ministerien und Behörden haben Schätzungen veröffentlicht, wie viele Arbeitsplätze durch die Kurzarbeit gesichert wurden. Diese Schätzungen basieren sich allerdings nicht immer auf vertrauenswürdige Zahlen. Eine hohe Teilnehmerzahl ist nicht unbedingt ein Zeichen von hoher Effektivität, da es auch der Fall sein kann, dass Arbeitsplätze gesichert werden, die gar nicht gesichert werden müssen, oder dass die Arbeitnehmer, die unterstützt werden, nach der Krise doch entlassen werden (sog. Mitnahmeeffekten und Verlagerungseffekte). Dennoch ist der allgemeine Eindruck, den die sekundären Quellen auf Landesebene vermitteln, positiv.

Laut Quellen auf Länderebene ist die Wirksamkeit der Kurzarbeit nicht nur abhängig von der Gestaltung der Maßnahmen, sondern auch vom Kontext und der Entwicklung der Wirtschaft während der Krise. Kurzarbeit kann als effektiv eingestuft werden, wenn keine Notwendigkeit für strukturelle Anpassung der Wirtschaft besteht und wenn die Nachfrage nach Gütern wahrscheinlich schnell wieder anziehen wird. In Deutschland, wo die Wirtschaft vor der Krise in einem robusten Zustand war, scheint die Kurzarbeit sehr wirkungsvoll gewesen zu sein, da die Hauptursache für die wirtschaftlichen Schwierigkeiten tatsächlich der vorrübergehende Rückgang in der nationalen und internationalen Nachfrage war. In Lettland

aber wurde konstatiert, dass die Kurzarbeit notwendige Umstrukturierungen der Wirtschaft verhinderte bzw. verzögerte. Die Wirtschaft war im Wandel, der auch Umstrukturierungen auf dem Arbeitsmarkt erforderte. Dies wurde während der Wirtschaftskrise deutlich. Als Folge davon war die Kurzarbeit nicht das richtige Instrument, um die wirtschaftlichen Herausforderungen zu meistern.

Abseits der nationalen Quellen zeigen übergreifende makro-ökonometrische Studien, dass die Kurzarbeit ein wirksames Instrument ist, um Arbeitsplätze in Krisenzeiten zu schützen, zumindest auf kurze Sicht. Die meisten Analysen zeigen, dass die Maßnahmen wirksam sind, aber die Art, auf die diese Wirkung erreicht wird, bleibt unklar. Eine Rekonstruktion der bekannten makro-ökonometrischen Analysen hat gezeigt, dass es stark vom Modell abhängig ist, das angewendet wird, (1) ob die Wirkung der Kurzarbeit, die festgestellt wird, direkt oder indirekt ist (bei indirekten Effekten hat die Kurzarbeit nur Einfluss, da sie den Effekt des Produktionsrückgangs auf die Beschäftigung abschwächt), und (2) wie viele Arbeitsplätze nach der Berechnung durch den Einsatz von Kurzarbeit gerettet werden konnten. Unsere eigene Berechnungen passen in die vorhandenen Literatur, da sie auch einen positiven Effekt von Kurzarbeit auf die Beschäftigung identifizieren, wobei Kurzarbeit den negativen Effekt vom Produktionsausfall auf die Beschäftigung abfedert. Die Gesamtzahl der Arbeitsplätze, die in den 10 Ländern, für die wir Daten haben, gesichert wurde, kann zwischen 125.000 bis 850.000 liegen.

Die mikro-ökonometrischen Analysen, die auf Grundlage von Daten auf Betriebsebene für Deutschland und Frankreich durchgeführt wurden, zeigen ein differenzierteres Bild von den Auswirkungen der Kurzarbeit auf die Beschäftigung. Das gleiche gilt für die Analyse von Daten auf Mitarbeiterebene in Österreich.

Für Deutschland zeigt unser zuverlässigstes Modell, dass Firmen, die Kurzarbeit eingesetzt haben, 5 Prozent mehr Beschäftigte gehalten haben als Unternehmen in vergleichbaren Schwierigkeiten, die die Kurzarbeit nicht nutzten. Dies entspricht den Vorstellungen der Nutzer, dass die Kurzarbeit dazu beigetragen hat, Arbeitsplätze während der Krise zu sichern. Allerdings deutet diese Zahl auch auf Mitnahmeeffekte. Es ist aber wichtig, nicht zu vergessen, dass dieser Wert eine Unterschätzung der tatsächlichen Wirkung sein kann, da es nicht klar ist, ob es unserem Modell komplett gelingt, die Endogenität der Kurzarbeitsnutzung herauszufiltern (d.h. die Tatsache, dass Unternehmen mit mehr Problemen eher Kurzarbeit benutzen als gesunde Unternehmen).

Für Frankreich ist die geschätzte Wirkung der Kurzarbeit auf der Grundlage der Mikrodaten begrenzt. Wir nehmen nur einen positiven Effekt auf die Beschäftigung bei Unternehmen in Kurzarbeit wahr, die sehr umfangreiche Produktionsrückgänge zu verzeichnen hatten (um mehr als 55 oder 60 Prozent). Für andere Unternehmen finden wir geringe negative Effekte. Auch hier entspricht dies der Wahrnehmung der Akteure im Land, die der Meinung sind, dass die Kurzarbeit in Frankreich einen größeren Einfluss gehabt hätte, wenn die Maßnahmen auf eine andere Art und Weise gestaltet wären worden wäre.

Für Österreich haben wir die Auswirkungen auf der Grundlage von Daten auf Mitarbeiterebene berechnet, wobei die Hypothese geprüft wurde, dass die an der Kurzarbeit beteiligten Mitarbeiter unter gleichen Bedingungen eine höhere Arbeitsplatzsicherheit aufweisen als andere. Es geht dabei um die kurzfristige Arbeitsplatzsicherheit. Um genau zu sein betrachten wir die Sicherheit des Arbeitsplatzes sechs Monate nach Beginn der Kurzarbeit. Der Ef-

fekt der Kurzarbeit ist statistisch signifikant, aber gering. 650 Mitarbeiter würden keinen Arbeitsplatz mehr haben, wenn sie nicht an der Kurzarbeit teilgenommen hätten. Das führt uns zu dem Schluss, dass Kurzarbeit eine sehr geringe Auswirkung auf die kurzfristige Sicherheit des Arbeitsplatzes der Mitarbeiter in Österreich hatte.

Im Allgemeinen ist es bemerkenswert, dass unsere Schätzungen auf Basis von Mikrodaten einige positive, wenn auch begrenzte, Auswirkungen der Kurzarbeit auf die Beschäftigung finden, da frühere Literatur, die sich auf Mikro-Daten basierte, bislang meist negative Ergebnisse aufzeigte. Letztere wird oft mit der Schwierigkeit erklärt, die Endogenität der Kurzarbeit zu korrigieren. Dieses Problem beeinflusst auch unsere Berechnungen, und es ist sehr gut möglich, dass unsere Ergebnisse immer noch eine Unterschätzung der wahren Auswirkungen der Kurzarbeit darstellen.

Wie auch in der bisherigen Literatur zu diesem Thema haben wir in unserer Studie festgestellt, dass Schätzungen auf der Grundlage von Makrodaten (auf der Ebene von Land oder Wirtschaftszweig) im Allgemeinen deutlich positivere Effekte von Kurzarbeit zeigen als Schätzungen, die auf Daten auf Betriebsebene basieren. Dies hängt mit der Tatsache zusammen, dass das Problem der Endogenität der Kurzarbeit bei Berechnungen auf Länderebene weniger wichtig ist. Viele Länder mit ganz unterschiedlichen Situationen in Bezug auf BIP und Beschäftigung haben Kurzarbeitssysteme. Die Verwendung eines Kurzarbeitssystems ist darum nicht unbedingt ein Zeichen, dass sich ein Land in größeren Schwierigkeiten befindet als ein anderes, während die Nutzung der Kurzarbeit für Unternehmen viel eher direkt vom Ausmaße der Schwierigkeiten beeinflusst wird. Da die Endogenität auf die Berechnungen auf Makroebene weniger Einfluss hat, liegt es weniger nahe, dass die Schätzungen auf Grundlage von Makrodaten den Effekt der Kurzarbeit auf Beschäftigung unterschätzen. Allerdings bedeutet dies nicht, dass das Endogenitätsproblem in makro-ökonomischen Berechnungen vollständig verschwindet: Die Verwendung von Kurzarbeit kann in einem Land steigen, wenn sich die Beschäftigungssituation verschlechtert. In diesem Sinne ist die Gefahr der Unterschätzung der Wirkung von Kurzarbeit sowohl für Berechnungen auf Mikro- als auf Makroebene präsent. Die ideale Lösung für dieses Problem ist noch nicht gefunden.

Die Ergebnisse unserer eingehenden qualitativen Forschung auf Länder- und Unternehmensebene in Deutschland, Frankreich und Österreich zeigen, dass die Auswirkungen der Kurzarbeit nicht auf die direkte Sicherung von Arbeitsplätzen, die mit ökonomischen Berechnungen gemessen werden können, begrenzt sind. Unternehmen berichten, dass sie ohne Kurzarbeit Mitarbeiter entlassen hätten müssen. Außerdem wird die Kurzarbeit aber auch als eine Maßnahme gesehen, die zur Stabilität von Unternehmen und damit zur Stabilität der Gesamtwirtschaft beiträgt, insbesondere in Deutschland. Während die Befragten bestätigen, dass es möglich ist, dass Mitnahmeeffekte auftreten, findet man dies akzeptabel, da die Gesamtwirkung auf die Wirtschaft als wichtiger beurteilt wird. Da die Kurzarbeit Unternehmen ermöglicht, schnell auf die steigende Nachfrage nach der Krise zu reagieren, wird die Maßnahme als wesentlicher Faktor in der starken konjunkturellen Erholung in Deutschland gesehen.

Die langfristigen Auswirkungen der Maßnahmen bleiben unklar. Dies hat mit der Tatsache, zu tun, dass es schwer ist, die Auswirkungen der Kurzarbeit in der weiteren Entwicklung der Wirtschaft im Allgemeinen und in individuelle Karrieren zu isolieren. Natürlich ist es auch noch zu früh, um die langfristigen Auswirkungen der Kurzarbeit während der jüngsten Krise zu messen.

In Bezug auf umfassendere Auswirkungen der Kurzarbeit können wir auch die Ergebnisse der Fortbildungsmaßnahmen auf die Beschäftigungsfähigkeit der Kurzarbeiter in unser Gesamturteil miteinbeziehen. Obwohl die Teilnahme an Bildungsmaßnahmen nicht immer sehr hoch war, sind die Teilnehmer dort, wo Bildungsmaßnahmen stattfanden, im Allgemeinen sehr positiv über die Ergebnisse. Weitere Indikatoren für die kurzfristigen und langfristigen Auswirkungen von Trainingsmaßnahmen sind schwer zu finden. Frühere Studien haben gezeigt, dass die kurzfristigen Auswirkungen der Bildung oft gering sind, aber dass sie erhebliche langfristige Auswirkungen sowohl auf individuelle Karrieren als auch auf das Funktionieren des Arbeitsmarktes hat. Allerdings sind diese langfristigen Folgen sehr schwer wissenschaftlich festzustellen, da es nicht einfach ist, die Effekte des Trainings von anderen Faktoren, die die Entwicklungen auf dem Arbeitsmarkt beeinflussen, zu trennen. Interessanterweise zeigt ein Ergebnis der makro-ökonomischen Berechnung, dass Kurzarbeitssysteme mit Bildungspflicht eine stärkere Wirkung auf die Beschäftigung haben. Dieses Ergebnis ist jedoch nicht robust über die gesamte Breite der Kurzarbeitsteilnahme.

“Lessons learnt”

Nicht nur Behörden und politischen Entscheidungsträger, sondern auch Endverbraucher, d.h. Unternehmen und Arbeitnehmer, die für diese Studie befragt wurden, haben bestätigt, dass die Kurzarbeit in einer zukünftigen Krisensituation wieder ein nützliches Instrument zur Bekämpfung der Wirtschaftsprobleme wäre. Natürlich ist keines der Kurzarbeitssysteme perfekt, da sich einige Systeme höhere Beteiligungen erhofft hatten, während sich andere Sorgen machen um Mitnahmeeffekte und wieder andere sind mit enttäuschenden Ergebnissen in Bezug auf die Nutzung von Qualifizierungsmaßnahmen konfrontiert. Wie bereits gesagt, wurde die Gestaltung der Kurzarbeit während der jüngsten Krise mehrfach verändert. Dabei wurden die grundlegenden Wirkungsmechanismen der Kurzarbeit nicht beeinflusst, aber die Balance zwischen Großzügigkeit und Strenge, zwischen öffentlichem und privatem Beitrag, zwischen Arbeitgeber und Arbeitnehmer wurde angepasst, um die Maßnahmen attraktiver zu gestalten. Dies impliziert, dass es mehrere Faktoren gibt, sozusagen “Knöpfe”, an denen man drehen kann, die angepasst werden können, um verschiedene Effekte zu erzeugen.

Mit Blick auf die Informationen, die wir für diese Studie aus übergreifender Perspektive gesammelt haben, können wir einige Lehren ziehen, die für die politischen Entscheidungsträger von Bedeutung sind, wenn die Verwendung von Kurzarbeit in zukünftigen Krisensituationen im Gespräch ist. Wir haben diese Lehren auf die wichtigsten Themen der Kurzarbeit gerichtet: der richtige Kontext, in dem die Maßnahme genutzt werden kann, die Vermeidung von Mitnahmeeffekten und Verlagerungseffekte, die damit verbundene Minimierung der Kosten, die Rolle der Sozialpartner, die Unterstützung von Bildungsmaßnahmen und die effektive und effiziente Umsetzung der Maßnahmen.

Empfehlung zu Gestaltung und Nutzung von Kurzarbeit

1) Kontext: In welcher Situation ist es ratsam für ein Land, die Verwendung von Kurzarbeit zu ermutigen?

Die Kurzarbeit ist am ehesten wirksam, wenn:

- Die Wirtschaft gut funktioniert vor dem Ausbruch der Wirtschaftskrise;
- Die Ursachen der Wirtschaftskrise extern sind, z.B. eine rückläufigen Nachfrage aus anderen Ländern;
- Die Krise wahrscheinlich nur vorübergehend ist und keine strukturellen Veränderungen in der Wirtschaft erfordert;
- Ein breites Bekenntnis zur Priorität der Beschäftigungssicherung unter allen Beteiligten vorhanden ist.

2) Wie können Mitnahmeeffekte und Verlagerungseffekte verhindert werden?

- Von Unternehmen sollte man verlangen, einen Nachweis der wirtschaftlichen Notwendigkeit vor der Verwendung der Kurzarbeit zu erbringen, in dem sie beweisen, dass die wirtschaftlichen Probleme nur vorübergehend sind und dass sie durch externe Ereignisse verursacht sind, d.h. nicht durch schlechtes Management oder interne Probleme.
- Man sollte sicherstellen, dass die Unternehmen noch Remanenzkosten tragen müssen, wie Aufstockungen des Kurzarbeitergeldes, Sozialbeiträge oder sonstige Zuschüsse wie Urlaubsgeld, um sicherzustellen, dass Unternehmen sich genau überlegen, ob die Kurzarbeit nötig ist. Hier besteht eine Abwägung zwischen Großzügigkeit und Teilnehmerzahlen.
- Man sollte von Unternehmen verlangen, die Möglichkeiten anderer Instrumente der internen Flexibilität auszuschöpfen, bevor Sie Kurzarbeit fahren.
- Die Voraussetzungen für Mitarbeiter sollten auf ein Minimum begrenzt sein um zu gewährleisten, dass unterschiedliche Gruppen von Mitarbeitern gleichermaßen von der Kurzarbeit profitieren können.
- Der Kündigungsschutz für die beteiligten Mitarbeiter sollte gewährleistet sein während der Teilnahme an der Maßnahme, nicht aber in der Zeit nach der Teilnahme, da die Unternehmen sonst in der Maßnahme gefangen sein können.
- Der Verwaltungsaufwand sollte berücksichtigt werden, da dieser zu geringerer Beteiligung und Wirksamkeit führen kann.

3) Wie können die Kosten der Maßnahmen für die Öffentlichkeit begrenzt werden?

- Alle beteiligten Gruppen sollten Zugeständnisse machen, sodass die Kosten der Maßnahme zwischen den Beteiligten verteilt werden: Arbeitgeber, Arbeitnehmer, öffentliche Hand.
- Die Dauer der Kurzarbeit sollte begrenzt werden, um Überbenutzung zu verhindern, aber eine gewisse Flexibilität in dieser Begrenzung kann Unternehmen beruhigen.
- Man sollte einen Ausgleich finden zwischen Attraktivität, um die Teilnahme zu befördern, und Strenge, um Mitnahmeeffekte zu vermeiden.
- Trotz dieser Bemühungen wird die Kurzarbeit ein teures Instrument bleiben, obwohl man auch argumentieren kann, dass die Kurzarbeit anstelle von Zahlungen von Arbeitslosengeld steht, die noch teurer sein können.

4) In welcher Weise sollten die Sozialpartner in die Gestaltung und Umsetzung der Maßnahmen miteinbezogen werden?

- Die nationalen Sozialpartner sollten an der politischen Diskussion beteiligt sein um die Diskussion anzuregen, einen gesellschaftlichen Konsens zu erreichen, allgemeines Engagement zu erschaffen und die Kenntnisse von dem System in der Öffentlichkeit zu verbessern. Dies kann als Grundstein für eine erfolgreiche Umsetzung gesehen werden.
- Die Möglichkeiten vom sozialen Dialog in den Unternehmen sollten genutzt werden, z. B. durch die Forderung, dass Betriebsräte die Kurzarbeitsanzeigen bestätigen müssen, da dies sowohl Legitimität als auch Effizienz bei der Umsetzung bietet und als Prüfung gegen ungerechtfertigte Anfragen (Mitnahmeeffekte) wirkt.
- Man sollte sich aber dessen bewusst sein, dass eine starke Rolle der Gewerkschaften zu höheren Kosten für Unternehmen führen kann und möglicherweise zu einer geringeren Teilnahmerate.

5) Wie kann der Einsatz von Fortbildungsmaßnahmen während der Kurzarbeit erfolgreich gefördert werden?

- Man sollte vorsichtig damit sein, die Fortbildung als Pflichtmaßnahme in die Kurzarbeit einzupassen, da dies die Art der Maßnahme verändert und den Fokus von der Beschäftigungssicherheit ablenkt.
- Es sollten finanzielle Anreize geboten werden, sowohl als allgemeine Maßnahme zur Stimulierung der Fortbildung und im Rahmen der Erstattung der Bildungskosten während der Kurzarbeit.
- Vor allem aber sollte praktische Unterstützung für die Organisation der Bildungsmaßnahmen geboten werden, in Zusammenarbeit mit Sozialpartnern und Bildungseinrichtungen, wobei die Einführung von flexiblen Schulungen und gemeinsamen Bildungsangeboten für mittelständische Unternehmen unterstützt werden sollten.
- Die Bemühungen, den Wert von übergreifenden Kompetenzen den Betroffenen und den Unternehmen zu erklären, sollten verstärkt werden.
- Der zusätzlichen Verwaltungsaufwand sollte so gering wie möglich gehalten werden.

6) Wie kann die Effektivität und Effizienz in der Umsetzung verbessert werden?

- Die Arbeitsagenturen sollten sich stark auf die Unterstützung von Unternehmen und die Abwicklung von Kurzarbeitsanzeigen als Priorität richten. Die Arbeitsagenturen sollten dabei auf zusätzliche Mittel zurückgreifen können, um die Verwaltungsprozesse gut verarbeiten zu können.
- Man sollte Wert darauf legen, dass die Bearbeitung von Anzeigen und vor allem die Zahlung der Zuschüsse zügig und pünktlich verarbeitet werden um die Wirksamkeit der Kurzarbeit als Kriseninstrument zu erhöhen.
- Man sollte die Unterstützung der Sozialpartner willkommen heißen und bei der Sensibilisierung, Information und Unterstützung der Unternehmen in Anspruch nehmen.
- Alle beteiligten Akteure sollten sich eindeutig zu der Kurzarbeit bekennen und sie als Teil der allgemeinen Krisenbewältigung sehen, um die reibungslose Umsetzung der Pläne zu erleichtern.

Sommaire exécutif

La Commission européenne reconnaît que, en réponse à la crise économique actuelle, les gouvernements européens ont investi de manière significative dans les régimes de chômage partiel. L'objectif du chômage partiel est de protéger les emplois menacés par une chute temporaire de la production. Les mesures adoptées par les gouvernements ont pour but d'aider les entreprises à préserver l'emploi de leurs salariés durant la crise afin de ne pas avoir besoin de réembaucher des employés au moment de la reprise économique. Étant donné l'importance de ces régimes de chômage partiel, la Commission souhaite obtenir une analyse afin de déterminer si ces mesures ont effectivement contribué à la protection de l'emploi sur le marché du travail de l'UE et, le cas échéant, d'établir une comparaison entre cette protection et les impacts de ces mesures dans le cadre des plans de relance entrepris lors des crises économiques antérieures.

Une telle analyse est pertinente car elle permettra aux gouvernements de prendre des décisions plus éclairées et plus appropriées concernant l'introduction, la modification et le retrait des régimes de chômage partiel en réponse à de futures situations de crise. Pour ce faire, une comparaison à l'échelle européenne des différents régimes de chômage partiel en vigueur mettra en évidence les meilleures approches à adopter pour préserver l'emploi de manière efficace lors des périodes de ralentissement économique.

Ce rapport présente les résultats d'un projet de recherche comparative réalisé entre juin 2011 et juin 2012. Ce projet fournit une vue d'ensemble des différents régimes de chômage partiel adoptés dans tous les États membres de l'UE, suivie d'un aperçu rapide de douze régimes de chômage partiel en Europe et d'une étude approfondie sur le recours au chômage partiel dans trois pays, à savoir l'Allemagne, la France et l'Autriche. La vue d'ensemble a été élaborée à partir de la documentation existante aux niveaux de l'UE et des économies nationales, et d'entretiens avec des parties prenantes nationales. En outre, nous avons réalisé des analyses macro-économétriques des données communiquées par l'OCDE (Organisation de coopération et de développement économiques) afin de mesurer l'efficacité des régimes de chômage partiel au niveau macroéconomique. Cette vue d'ensemble a permis de sélectionner trois pays, l'Allemagne, la France et l'Autriche, pour faire l'objet d'études de cas approfondies.

Chacune de ces trois études de cas a donné lieu à un programme d'entrevues de large envergure dans le cadre duquel les membres de l'équipe de recherche ont rencontré des délégués officiels des gouvernements, des représentants d'entreprises et des syndicats des pays concernés. En outre, des études de cas d'entreprises ont été réalisées afin de comprendre la manière dont celles-ci abordent la crise et d'appréhender l'importance du chômage partiel dans ce contexte. Enfin, nous avons étudié des données microéconomiques recueillies auprès des gouvernements nationaux et des agences pour l'emploi afin d'analyser l'efficacité de ces mesures, au niveau des entreprises et des individus. Les résultats de tous ces travaux de recherche sont présentés dans ce rapport.

Définition des régimes de chômage partiel

Le chômage partiel peut se définir comme la réduction du temps de travail dans le but de ne pas rompre une relation contractuelle liant l'employeur et ses salariés. Cela peut impli-

quer une réduction partielle de la durée de travail hebdomadaire normale applicable pour une période de temps limitée (c'est-à-dire une suspension partielle de l'exécution du contrat de travail) ou un licenciement temporaire (une suspension complète de l'exécution du contrat de travail sans aucun travail hebdomadaire). Dans ces deux cas, le contrat de travail subsiste et n'est pas révoqué. Les régimes de chômage partiel sont conçus pour permettre aux entreprises d'aménager provisoirement le temps de travail (et de maintenir par la même occasion une certaine flexibilité interne) sans rompre le contrat de travail qui lie l'employeur et le salarié.

Cette étude porte sur les régimes de chômage partiel subventionnés par le gouvernement. Dans ce cas présent, le gouvernement soutient les employés et les entreprises concernés par des mesures de chômage partiel en accordant des subventions permettant de compenser la perte de revenus. Les régimes de chômage partiel créés sur la base d'un accord sectoriel par exemple, sans l'appui du gouvernement, ne rentrent pas dans le cadre de cette étude. Au cours de la crise économique de 2008/2009, des régimes de chômage partiel ont été mis en place dans la majorité des pays de l'UE.

Bien que les régimes de chômage partiel diffèrent sensiblement selon les juridictions, une étude de la documentation existante révèle l'existence de plusieurs grandes caractéristiques communes à la plupart des régimes de chômage partiel.

- Tout d'abord, les régimes de chômage partiel sont liés à la réduction du temps de travail de tout le personnel d'une entreprise ou d'une unité de travail spécifique et ces mesures représentent une solution alternative au licenciement économique.
- Deuxièmement, cette réduction du temps de travail s'accompagne d'une réduction correspondante (au prorata) de la rémunération / du salaire.
- Troisièmement, des dispositions prévoient l'octroi de revenus de remplacement (en général sous forme de subventions publiques) aux travailleurs concernés.
- Quatrièmement, le régime de chômage partiel est défini en général selon une échéance précise afin de garantir qu'il s'agit là d'une mesure temporaire.
- Enfin, cette situation peut donner lieu à des programmes de travail partagé et des activités de formation / de reconversion.

Toutefois, il n'est pas nécessaire qu'un régime de chômage partiel regroupe tous ces éléments. La structure et la mise en application des régimes de chômage partiel diffèrent sensiblement selon les pays, mais c'est au niveau des dispositions relatives aux critères d'éligibilité que l'on constate le plus de différences. Selon l'Observatoire européen de l'emploi (2010), les principales caractéristiques qui distinguent les différents régimes de chômage partiel sont les suivantes :

- Champ d'application (seules certaines catégories d'employés ou tous les employés sont éligibles au régime de chômage partiel);
- Nature de l'aide financière de la part du contribuable (revenus de remplacement, prestations de sécurité sociale ou les deux);
- Taille de l'entreprise éligible à ce type de subventions (petites et moyennes entreprises, grandes entreprises ou toutes les entreprises);
- Générosité des prestations (durée et limite de l'aide financière du contribuable);
- Conditions d'octroi de l'aide financière de la part du contribuable (par exemple, obligations de préserver les emplois ou de dispenser des formations aux employés mis en chômage partiel);
- Liens entre le régime de chômage partiel et la formation (formations obligatoires dans le cadre d'un régime de chômage partiel, mesures incitatives encourageant la formation, etc.)

Parmi les principales caractéristiques des régimes de chômage partiel, nous pouvons noter que ceux-ci comprennent toujours un certain équilibre entre l'investissement réalisé et la prestation sociale accordée. Cela signifie que toutes les parties prenantes, à savoir les employeurs, les salariés et les pouvoirs publics, subissent une perte mais bénéficient également de certains avantages en découlant. De cette manière les régimes de chômage partiel se définissent comme un instrument conçu sur la base d'un consensus général et d'un intérêt commun, étant donné que ce système fonctionne uniquement si tous les acteurs impliqués dans ce processus sont convaincus de son utilité. Par conséquent, des mécanismes différents fonctionnent à divers niveaux et pour des groupes cibles spécifiques, et c'est pourquoi il est intéressant de distinguer ces différents niveaux et d'examiner chaque groupe séparément. Les avantages et risques clés découlant des mesures prises pour les différents groupes cibles peuvent se résumer comme suit :

- Les employeurs bénéficient d'une réduction des charges salariales ainsi que d'une protection du flux de trésorerie. Ils peuvent conserver le personnel qualifié au sein de leur entreprise et améliorer la productivité à moyen terme grâce à des mesures de qualification. Ils risquent de s'exposer à une dégradation de l'éthique du travail et de leur position concurrentielle, ainsi que de subir une pression sur les prix.
- Les employés bénéficient de la sécurité de l'emploi, puisqu'ils conservent leur poste malgré une conjoncture difficile, ils améliorent leurs compétences en bénéficiant de mesures de qualification. Ils doivent accepter un niveau de salaire moins élevé à court terme, puisque seule une partie du temps d'inactivité est rémunéré.
- Les autorités publiques ont recours aux régimes de chômage partiel pour préserver leur économie ainsi que les secteurs cruciaux de toute perturbation économique, vague de licenciements massifs, taux de chômage élevé (ce qui entraîne une pression financière sur les prestations sociales) et éviter toute agitation sociale due à un contexte de crise. Elles courent le risque de subir des pertes sèches, c'est-à-dire de dépenser des fonds publics pour des emplois qui auraient été conservés dans tous les cas, des effets de déplacement, à savoir d'engager des dépenses publiques pour des emplois qui, à terme, n'auront pas pu être conservés, et un retard de la restructuration de l'économie nationale en protégeant des emplois et des entreprises non viables.
- Les demandeurs d'emploi ne bénéficient pas directement de ces mesures, le régime de chômage partiel s'adressant aux titulaires d'un emploi. L'on pourrait même se poser la question de savoir si le chômage partiel ne va pas à l'encontre des intérêts des demandeurs d'emploi étant donné que ces mesures entravent la fluidité du marché du travail. Cependant, le chômage partiel contribue à une reprise économique plus rapide, ce qui est également dans l'intérêt des demandeurs d'emploi.

Contexte du recours aux régimes de chômage partiel dans différents pays

Les différences en termes de régime de chômage partiel dans les pays d'Europe sont étroitement liées au contexte socio-économique national et influent directement sur l'envergure du recours à de telles mesures. La crise économique de 2008/2009 a également eu des répercussions sur la structure des différents régimes de chômage partiel, ce qui s'est traduit dans la plupart des pays par l'adoption de réformes en réponse au ralentissement économique.

Durant les années qui ont précédé la crise, l'Europe connaissait une période de croissance économique saine et un marché de l'emploi en pleine expansion. D'une manière générale, la principale préoccupation semblait se poser sur le plan démographique, dont l'évolution

indiquait un déclin de la main d'œuvre disponible en Europe contre une hausse de la demande sur le marché du travail. Au cours des dernières années toutefois, la tendance s'est inversée. En 2008, les marchés financiers mondiaux ont connu leur plus grande crise depuis les années 1930. Cette étude n'a pas pour objet d'aborder les facteurs qui ont mené à cette crise, toutefois son impact est devenu de plus en plus tangible. L'investissement, la production et la consommation ont tous trois reculé en raison de la perte de confiance des investisseurs et des consommateurs suite au gel des crédits et au chômage de millions de personnes.

Cette conjoncture économique difficile qui perdure depuis 2008 a eu de lourdes conséquences sur le marché de l'emploi de l'UE. La tendance positive enregistrée entre 2005 et 2008 s'est inversée suite à la crise économique de 2008 et le taux de chômage enregistré dans l'UE-27 est passé de 6,9 % en milieu d'année 2008 à 9,7 % à la mi-2010. Il existe des écarts importants du taux de chômage parmi les pays de l'UE. Des pays comme l'Allemagne, l'Autriche ou les Pays-Bas ont enregistré une hausse du chômage relativement modérée. Cependant, le taux de chômage a fortement grimpé en Lettonie, en Espagne et en Slovaquie. Parmi l'ensemble des pays étudiés, l'Espagne est celui qui présente actuellement le taux de chômage le plus élevé (toujours en progression).

Les statistiques indiquent que la hausse du chômage n'est pas uniformément répartie parmi les différents groupes présents sur le marché du travail. Certains groupes ont été plus sévèrement touchés que d'autres par la récession. De même que lors des récessions économiques précédentes, les employés avec un faible niveau d'éducation ont le plus souffert de la récession qui a frappé l'UE-27. L'emploi des travailleurs de niveau d'instruction primaire ou de premier cycle du secondaire a reculé de plus de 6 % entre le début de l'année 2008 et la fin 2009, contre 1 % pour les travailleurs ayant un niveau d'instruction de deuxième cycle secondaire et d'enseignement post-secondaire et 5 % pour ceux ayant fait des études supérieures. En étudiant plus en détail la situation de certains pays, nous pouvons conclure que la Lettonie a subi la plus forte chute de l'emploi des travailleurs de niveau d'instruction primaire ou de premier cycle du secondaire. L'emploi de cette catégorie de travailleurs a reculé d'un cinquième contre environ 5 % pour les personnes ayant un niveau d'enseignement supérieur. Le taux de chômage des travailleurs ayant un faible niveau d'éducation a augmenté de 13,7 % en Espagne entre mi-2008 et mi-2010. Cependant, l'Allemagne et la Slovaquie ont enregistré un recul du chômage des travailleurs avec un faible niveau d'instruction de 0,3 % et de 0,1 % respectivement. L'Italie et la Finlande constituent les seules exceptions de notre échantillon de pays puisque l'emploi des travailleurs ayant un niveau d'éducation de deuxième cycle du secondaire et post-secondaire a enregistré une meilleure performance que celle des travailleurs ayant fait des études supérieures.

Structure du régime du chômage partiel

Lorsque nous comparons les différents régimes de chômage partiel mis en place dans les pays d'Europe, nous constatons qu'il existe un certain nombre de mesures distinctes en termes de critères d'éligibilité, de conditions requises, de générosité du régime, de relations avec les politiques de l'emploi et les formations, de financement et de rôle joué par les parties prenantes. Ces variantes peuvent s'expliquer en partie par les différences conjoncturelles et par le niveau de priorité accordé à certains objectifs. Malgré ces différences, nous constatons toutefois certaines caractéristiques communes.

- Tout d'abord, les pays ayant mis en place un régime de travail à temps partiel avant la crise de 2008/2009 ont prolongé la durée légale de la période de mise en chômage partiel pendant la crise. Par conséquent, la durée légale du chômage partiel était plus longue dans ces pays que dans ceux où une telle mesure était introduite pour la première fois. Ce phénomène a donc entraîné des écarts importants en termes de durée légale, allant de 60 jours (par an) en Slovaquie jusqu'à 3 ans sur une période de 5 ans en Italie.
- Deuxièmement, la plupart des pays ont soutenu financièrement les activités de formation (Autriche, Belgique, France ou Allemagne) ou ont rendu les formations obligatoires durant les périodes de mise en chômage partiel (République tchèque, Pays-Bas ou Slovénie).
- Troisièmement, les régimes de chômage partiel récemment institués semblent présenter des conditions plus strictes et moins généreuses en termes de critères d'éligibilité et de formalités que les régimes de chômage partiel établis avant la crise de 2008/2009. De plus, nous présumons que la générosité, les critères d'éligibilité et les conditions requises dans le cadre des régimes de chômage partiel en vigueur au moment de la crise 2008/2009 en ont maximisé les effets et l'impact.
- Quatrièmement, l'implication des partenaires sociaux dans certains pays a entraîné la signature d'accords supplémentaires relatifs aux régimes de chômage partiel. Ces accords ont la plupart du temps accru la générosité de ces programmes en faveur des employés.
- En outre, il semble que seuls les anciens États membres de l'UE financent le régime du chômage partiel par le biais du système des allocations de chômage. Les nouveaux États membres financent le chômage partiel avec le budget de l'État ou en ayant recours au Fonds social européen.

Enfin, il n'existe pas de concentration géographique claire de l'application des critères mentionnés ci-dessus dans le cadre des régimes de chômage partiel.

Mise en place des régimes de chômage partiel

La mise en place des régimes de chômage partiel varie selon les pays en fonction des traditions et de la structure relatives à ces mesures. Dans la plupart des cas, les régimes de chômage partiel sont élaborés par le ministère compétent, à savoir le Ministère de l'Emploi et des Affaires sociales, et sont mis en œuvre par l'agence / le service national(e) pour l'emploi. En ce qui concerne les pays où les régimes de chômage partiel ont été adaptés pour faire face à la crise, les partenaires sociaux (à savoir les syndicats, les associations industrielles, voire les entreprises) étaient fortement impliqués dans les négociations relatives à la politique.

L'adaptation des régimes de chômage partiel s'est faite avec beaucoup plus de facilité dans les pays où un tel programme existait déjà avant la crise et avec lequel les travailleurs étaient déjà familiarisés. En effet, les procédures, conséquences, avantages et inconvénients d'un tel régime étaient déjà connus par l'Agence / le Service national(e) pour l'Emploi et par les partenaires sociaux. Dans le cas de l'Autriche ou de la Belgique par exemple, la tradition de partenariat social et de négociation est fortement intégrée à la culture du pays, ce qui a semblé faciliter les négociations relatives à l'adoption de mesures d'ajustement et à la mise en place d'un tel régime. Dans les pays où les régimes de chômage partiel étaient introduits pour la première fois, un tel programme était conçu pour durer sur une période de temps relativement limitée et n'avait fait l'objet que d'une étude

assez sommaire au préalable. Il est essentiel que les employeurs ainsi que les salariés soient bien informés sur les régimes de chômage partiel. Les ministères, Agences / Services nationaux pour l'emploi et autres parties prenantes ont tous un rôle à jouer dans la sensibilisation des employeurs et des salariés sur ce régime. Une mauvaise connaissance de ce régime peut en diminuer la participation, générer des ambiguïtés quant à celui-ci et entraîner des effets et un impact négatifs.

Une fois le cadre du régime de chômage partiel défini, la mise en place des mesures incom-
bait principalement aux entreprises, aux comités d'entreprise et aux agences pour l'emploi. D'une manière générale, la procédure de demande d'adoption d'un régime de chômage partiel peut être décrite comme suit (bien que celle-ci puisse différer dans la pratique, en fonction du pays ou du régime en place) :

- Dans les pays où une convention avec les partenaires sociaux constituait un pré-requis pour la sollicitation d'un régime de chômage partiel, les employeurs devaient souvent consulter ces partenaires sociaux et conclure un accord avec eux avant d'entreprendre toute démarche relative au régime de chômage partiel.
- Au moment de la sollicitation d'un régime de chômage partiel, les employeurs devaient remettre un certain nombre de documents (selon le pays et le régime) à l'Agence / au Service national(e) pour l'emploi, tels qu'une candidature au régime de chômage partiel, une preuve attestant de l'existence d'un besoin économique, une liste des employés participants ou une déclaration solennelle.
- L'Agence / le Service pour l'emploi évaluait ensuite l'éligibilité des employeurs / salariés au programme. Toute ambiguïté ou doute devait être clarifié(e) par l'Agence / le Service national(e) pour l'emploi en se mettant en contact avec l'employeur ou en lui demandant de fournir des pièces supplémentaires.
- Une fois le dossier examiné et l'approbation à la participation au programme obtenue, l'employeur pouvait alors mettre en place ce régime. Durant la mise en application du régime, l'employeur peut être invité à signaler régulièrement le nombre d'employés participant au régime de chômage partiel et l'ampleur de cette participation. Ces informations peuvent faire l'objet de vérifications de la part de l'Agence / du Service national(e) pour l'emploi dans le but d'éviter tout abus dans le cadre de ce programme.

Le nombre de participants varie fortement selon les pays. Cela s'explique par les différences entre pays en termes de population des salariés et de taux de participation au régime du chômage partiel. Si l'on se base sur le nombre absolu de participants, l'Allemagne est le pays où le régime de chômage partiel a le plus d'ampleur. En mai 2009, le nombre maximum de participants a été atteint en Allemagne, avec 1 442 667 employés inscrits dans ce système. En France, 673 000 employés ont eu recours au régime du chômage partiel en 2009. Cependant, au cours de la même année, seuls 20 591 employés ont adopté ce type de régime en Espagne et, en Lettonie, le nombre total de participants était inférieur à 6 000. Dans la plupart des pays étudiés, le recours au chômage partiel a commencé à augmenter fin 2008, pour atteindre son plus haut niveau en 2009 avant de reculer en 2010. L'assouplissement des critères d'éligibilité et des conditions requises ainsi qu'une plus grande générosité du régime de chômage partiel en ont encouragé la participation. Les programmes très complexes semblent également engendrer un taux de participation plus faible, car moins adaptés aux petites entreprises.

Le recours au chômage partiel ne s'est pas répandu de manière uniforme dans l'économie. Dans la plupart des pays, il est clair que la grande majorité des participants travaillent dans les secteurs industriel ou manufacturier tandis que ce régime a été moins sollicité

dans le secteur tertiaire. Plus particulièrement, les constructeurs automobiles en Autriche, en Allemagne et en France ont largement recouru à ce régime, tout comme le secteur métallurgique fortement représenté aux Pays-Bas et en Slovénie ainsi que les secteurs du textile et de l'habillement en France. L'Espagne et la Lettonie, pays dans lesquels les entreprises du secteur secondaire ont eu peu recours au régime du chômage partiel, constituent l'exception. Ainsi les taux de recours au chômage partiel en Lettonie ont été importants parmi les entreprises du commerce de détail et de gros ainsi que dans les secteurs du logement et de la restauration, tandis qu'en Espagne, le secteur tertiaire a enregistré le plus grand nombre d'entreprises ayant recours à ce régime. Cependant, le secteur secondaire compte le plus grand nombre de compagnies ayant eu recours à ce régime, ce qui signifie que les entreprises de ce secteur ont placé un grand nombre de leurs salariés au chômage partiel.

En ce qui concerne la composition de la main d'œuvre dans ces secteurs, la majorité des salariés concernés par une mise en chômage partiel était dans un certain nombre de pays des hommes âgés de 30 à 50 ans. De plus, il semble que les entreprises étaient plus enclines à avoir recours à la mise en chômage partiel pour les travailleurs qualifiés faisant partie des catégories de revenu intermédiaires, comme les opérateurs. Il s'agit après tout d'une main d'œuvre difficile à trouver pour les employeurs au terme de la période de récession économique. De plus, la grande majorité des salariés touchés étaient titulaires d'un emploi permanent, bien qu'il soit difficile de déterminer leur proportion selon les pays. Les analyses macro-économétriques ainsi que les analyses conduites par l'OCDE (en 2010) et Hijzen & Venn (2011) suggèrent que les régimes de chômage partiel ont bénéficié aux salariés titulaires d'un emploi à durée indéterminée plutôt qu'aux travailleurs temporaires. Aucune donnée n'a permis de déterminer la diversité ethnique des salariés bénéficiant de ce régime.

Les actions de formation des entreprises dans le cadre du régime de chômage partiel ont été mises en œuvre de multiples façons au sein des pays européens pendant la crise. Certains pays, comme les Pays-Bas, la Lettonie et la République tchèque, ont rendu les actions de formation obligatoires pendant les heures chômées tandis que dans d'autres pays, comme en Allemagne et en France, la formation représentait une possibilité soutenue par des mesures financières incitatives pour les employeurs ou bénéficiant du soutien du Fonds social européen dans bien des cas. Cependant la participation volontaire à des programmes de formation a été inférieure aux attentes dans la plupart des pays, car seul un nombre très limité d'entreprises a eu recours aux aides mises à leur disposition.

Plusieurs raisons expliquent ces faibles taux de participation dans ces pays.

- Tout d'abord, le personnel participant aux programmes de formation est moins flexible et ne peut pas toujours être immédiatement réembauché au moment de la reprise de l'activité sans interrompre la formation.
- Deuxièmement, la mise en place d'un programme de formation représente un fardeau administratif supplémentaire pour l'employeur, notamment pour les entreprises qui n'ont pas de département des Ressources humaines en soi ou qui n'ont pas mis en place des stratégies de formation à moyen terme.
- Troisièmement, les programmes de formation ne sont que partiellement financés par l'État dans certains pays, et représentent donc une charge supplémentaire pour l'employeur, dans un contexte où ce dernier cherche à alléger les coûts supportés par son entreprise.

- Enfin, il existe un problème d'équilibre entre les compétences générales et spécifiques. Certains employeurs peuvent être réfractaires à l'idée de mettre en place des actions de formation si celles-ci ne correspondent pas à leurs besoins à court terme.

Efficacité du régime de chômage partiel

Dans la plupart des pays ayant instauré un système de chômage partiel, le bilan quant à sa mise en œuvre est positif. Plusieurs ministères et agences compétents ont publié des estimations du nombre d'emplois préservés grâce au système du chômage partiel. Cependant, ces estimations ne sont pas toujours fondées sur des données objectives. Les taux d'adhésion élevés à des conventions de chômage partiel ne sont pas nécessairement révélateurs d'une grande efficacité, car il peut s'avérer que certains emplois ayant fait l'objet de cette mesure n'aient en réalité pas besoin d'une telle protection ou que des salariés indemnisés soient tout de même licenciés au terme de la période de récession (il s'agit des effets de pertes sèches ou de déplacements). Toutefois, le bilan émanant des sources secondaires au niveau des économies nationales est d'une manière générale positif.

Selon les sources consultées aux niveaux domestiques, l'efficacité du chômage partiel dépend non seulement de la structure des mesures adoptées mais également du contexte économique et de l'évolution de la conjoncture durant la crise. Les régimes de chômage partiel sont considérés comme étant efficaces tant qu'aucune mesure d'ajustement structurel n'est nécessaire au niveau économique et tant que l'on prévoit une nouvelle hausse de la demande de biens et de services à court terme. En Allemagne, où la situation économique était solide avant la crise, le régime du chômage partiel a été très efficace, étant donné le fait que la récession économique était principalement due en effet à un recul temporaire de cette demande, aussi bien au niveau domestique qu'international. En Lettonie cependant, il en ressort que le chômage partiel a bloqué la mise en œuvre d'une restructuration nécessaire de l'économie. De nombreuses mutations économiques ont eu lieu, et la nécessité de procéder à certaines délocalisations de la main d'œuvre est apparue évidente au cours de la période de récession. Par conséquent, le régime du chômage partiel n'était pas une solution adaptée à la situation économique.

Pour terminer avec les sources nationales, des études macro-économétriques globales sur le régime du chômage partiel indiquent que celui-ci s'avère être un instrument efficace pour préserver l'emploi dans les périodes de récession, du moins à court terme. La plupart des analyses arrivent à la conclusion que les mesures adoptées dans le cadre de ce type de régime sont efficaces, toutefois la manière dont ces effets sont obtenus reste peu claire. Une reconstitution d'analyses macro-économétriques antérieures a démontré que cette efficacité reste étroitement liée au modèle mis en place (1) selon que l'effet du régime de chômage partiel s'avère être direct ou indirect (un effet indirect désigne les cas où le régime de chômage partiel a seulement pour effet de limiter les conséquences d'une chute de la production sur le niveau de l'emploi), et (2) selon le nombre d'emplois effectivement préservés suite au recours au chômage partiel. Nos estimations correspondent à la documentation existante car nous parvenons à la même conclusion selon laquelle le chômage partiel a un impact positif sur l'emploi, uniquement en raison du fait que ce régime limite les répercussions négatives d'une chute de la production sur l'emploi. Le nombre total d'emplois préservés dans les 10 pays pour lesquels nous avons recueilli des données dans le cadre de nos propres estimations et en consultant la documentation existante, peut se situer entre 125 000 et 850 000 postes.

Les analyses micro-économiques réalisées à partir des données sur l'emploi en Allemagne et en France présentent un panorama plus nuancé quant aux effets du chômage partiel sur l'emploi. Il en va de même pour l'analyse menée à partir des données relatives aux salariés en Autriche.

Dans le cas de l'Allemagne, notre modèle le plus fiable suggère que les firmes qui ont eu recours à la mise en chômage partiel ont gardé 5 % de salariés en plus que les entreprises qui n'ont pas fait appel à ce régime. Cela correspond au point de vue des personnes ayant eu recours à ce système, pour qui le « Kurzarbeit » (travail à temps partiel) a permis de préserver l'emploi pendant la crise. Cependant les chiffres révèlent également l'existence de pertes sèches. Il est important de garder à l'esprit que ce chiffre peut être une sous-évaluation des effets réels, car il n'est pas établi que notre modèle parvienne à parfaitement appréhender l'endogénéité du recours au Kurzarbeit (c'est-à-dire à déterminer si les entreprises qui rencontrent des difficultés sont plus susceptibles d'avoir effectivement recours au Kurzarbeit).

En ce qui concerne la France, les effets estimatifs du chômage partiel établis sur la base de données microéconomiques sont limités. Nous avons constaté que le chômage partiel n'avait des effets positifs sur l'emploi que dans le cas des entreprises subissant des chutes de production très importantes (plus de 55 ou 60 %). Dans le cas des autres entreprises, nous n'avons constaté que des impacts légèrement négatifs. Encore une fois, cette conclusion correspond à l'opinion des intervenants dans ce domaine, pour qui le chômage partiel aurait pu être plus efficace moyennant une réforme de ses mesures intrinsèques.

Concernant l'Autriche, nous mesurons les effets en nous appuyant sur les données recueillies au niveau des individus pour vérifier l'hypothèse selon laquelle les salariés autrichiens mis en chômage partiel ont, toutes autres choses égales par ailleurs, un niveau de sécurité de l'emploi plus élevé qu'ailleurs. Nous prenons en compte la sécurité de l'emploi à court terme. Plus précisément, nous prenons en compte la sécurité de l'emploi six mois après le début de la période de mise en chômage partiel. Nous trouvons un effet statistiquement significatif, mais faible. 650 salariés n'auraient pas conservé leur emploi s'ils n'avaient pas eu recours au Kurzarbeit. Cela nous amène à la conclusion que le Kurzarbeit a un effet très limité sur la sécurité de l'emploi à court terme des salariés en Autriche.

D'une manière générale, il est important de noter que nos estimations fondées sur des microdonnées concluent à des effets plus positifs, quoique limités, du chômage partiel sur le niveau de l'emploi, que la documentation existante également rédigée à partir de microdonnées, aboutissant jusqu'à présent à des résultats négatifs. Cela s'explique souvent par la difficulté d'établir le niveau d'endogénéité du recours au chômage partiel. Nous avons également été confrontés à ce problème dans le cadre de nos analyses, et il est tout à fait possible que nos résultats sous-estiment encore les effets réels du chômage partiel.

Dans le cadre de notre étude, ce qui est également le cas pour la documentation existante à ce sujet, nous avons observé que les estimations réalisées à partir de données macroéconomiques (au niveau national ou sectoriel) concluent en général à des effets plus positifs du chômage partiel que celles s'appuyant sur les données au niveau des établissements. Cela s'explique par le fait que la question de l'endogénéité du chômage partiel est moins importante dans les analyses menées à l'échelle nationale. Un grand nombre de pays présentant des écarts significatifs en termes de PIB et de niveau de l'emploi ont instauré des régimes de chômage partiel. Par conséquent, le recours au chômage partiel n'indique pas

nécessairement que le pays fait face à une conjoncture économique particulièrement difficile, cependant au niveau des entreprises, le recours à ce type de régime est plus révélateur des difficultés rencontrées. La question de l'endogénéité étant moins importante pour les analyses macroéconomiques, les estimations s'appuyant sur ce type de données sont moins susceptibles de sous-estimer les effets du chômage partiel sur l'emploi. Toutefois, cela ne signifie pas que le problème de l'endogénéité soit totalement absent dans les analyses macroéconomiques : le recours au chômage partiel peut augmenter dans un pays en fonction de la dégradation du marché de l'emploi. Ainsi, il existe bien un risque de sous-estimer les effets du chômage partiel aussi bien dans les analyses micro et macro et ce problème n'a pas encore été résolu.

Des travaux de recherche qualitatifs approfondis conduits au niveau national et au niveau des entreprises en Allemagne, en France et en Autriche démontrent que les effets du chômage partiel ne se limitent pas à la protection directe des emplois que nous pouvons mesurer en ayant recours à des calculs économétriques. Les entreprises affirment qu'elles auraient été contraintes de procéder à des licenciements en l'absence de régime de chômage partiel. En outre, dans le cas de l'Allemagne particulièrement, le pays qui a enregistré le taux de recours au chômage partiel le plus élevé, ce régime est considéré comme une mesure qui a contribué à maintenir la stabilité des entreprises et de ce fait la stabilité de l'économie en général. Bien que les personnes interrogées reconnaissent l'occurrence possible d'effets de pertes sèches, les agents économiques concernés acceptent ce risque étant donné que l'effet global sur l'économie est jugé plus important. Le recours au chômage partiel a permis aux entreprises de faire preuve de réactivité face à la hausse de la demande au terme de la crise, et c'est pourquoi cette mesure est considérée comme l'un des facteurs essentiels du redressement économique de l'Allemagne.

Les effets à long terme du régime restent à déterminer. Cela s'explique par le fait qu'il est difficile d'isoler l'impact du chômage partiel sur le développement futur de l'économie d'une manière générale et sur les carrières individuelles. Bien entendu, il est encore trop tôt pour pouvoir mesurer les effets à long terme du chômage partiel dans le cadre de la récente crise.

En ce qui concerne l'impact du chômage partiel au sens plus large, nous pouvons également inclure les effets des activités de formations sur l'employabilité des salariés concernés par le chômage partiel dans notre évaluation générale. Bien que la participation à des programmes de formation ait été relativement modeste, les salariés ayant pris part à ces activités ont été très satisfaits des résultats. Il est difficile de trouver d'autres indicateurs sur les impacts à long terme et à court terme des actions de formation. Des études antérieures démontrent que les effets de la formation sont souvent limités à court terme, mais peuvent devenir significatifs à long terme, aussi bien au niveau des carrières individuelles que dans le fonctionnement du marché de l'emploi. Cependant, ces conséquences à long terme sont très difficiles à appréhender à l'aide d'une méthode scientifique, en raison de la difficulté d'isoler les effets de la formation des autres facteurs influant l'évolution du marché de l'emploi. Il est intéressant de noter que dans l'analyse macroéconomique, un résultat suggère que le fait de rendre obligatoire la formation pour l'octroi du régime de chômage partiel peut avoir un meilleur effet sur l'emploi. Cette hypothèse n'est cependant pas assez solide pour se vérifier avec les autres mesures du recours au chômage partiel.

Enseignements acquis

Les pouvoirs publics, les responsables politiques tout comme les utilisateurs finaux, à savoir les entreprises et les salariés, interrogés dans le cadre de cette étude ont tous confirmé que dans l'éventualité d'une autre période de crise économique, le recours au chômage partiel resterait un outil utile pour faire rempart aux difficultés économiques. Bien entendu, aucun régime de chômage partiel ne peut prétendre à la perfection et tandis que certains espéraient des taux de participation plus élevés, d'autres se sont inquiétés des pertes sèches induites tandis que d'autres encore se sont déclarés déçus concernant le faible recours aux programmes de formation instaurés dans le contexte du chômage partiel. Comme nous l'avons déjà expliqué, le régime de chômage partiel a fait l'objet de plusieurs ajustements au niveau de sa structure en réponse à la récente crise économique. Les mécanismes de base du chômage partiel n'ont pas subi de modification mais l'équilibre entre la générosité et la rigueur du régime, entre les contributions publiques et privées et entre les risques encourus par l'employeur et par le salarié a été ajusté pour augmenter l'attrait de ces mesures. Cela implique qu'il existe plusieurs aspects, des « leviers » pour ainsi dire, au niveau desquels il est possible d'agir pour procéder à des ajustements du régime de chômage partiel dans le but de produire des effets différents.

En examinant les informations que nous avons recueillies aux fins d'élaboration de cette étude d'un point de vue global, nous pouvons énoncer quelques leçons importantes à l'intention des responsables politiques qu'il sera important de retenir dans le cadre du recours au chômage partiel lors de futures crises économiques. Nous avons relié ces leçons aux problèmes relatifs au régime de chômage partiel : le contexte propice à ce type d'instrument, la prévention des pertes sèches et des effets de déplacement, la minimisation des coûts corrélée, le rôle des partenaires sociaux, les mesures incitatives pour la formation et la mise en place efficace et efficiente de telles mesures.

Recommandations relatives à la structure et au recours au régime de chômage partiel

1) Contexte : dans quel type de situation est-il recommandé qu'un pays encourage le recours au chômage partiel ?

Le régime de chômage partiel a le plus de chances d'être efficace dans les cas suivants :

- Le pays jouissait d'une bonne situation économique avant le début de la crise économique ;
- La crise économique est provoquée par des facteurs externes, par exemple une chute de la demande internationale ;
- La crise sera vraisemblablement temporaire et n'appelle pas à des changements structurels dans l'économie pour y faire face ;
- Il existe un large consensus concernant la protection de l'emploi de la part des parties prenantes concernées.

2) Comment éviter les pertes sèches et les effets de déplacement ?

- Les entreprises doivent présenter la preuve d'un besoin économique avant d'avoir recours au chômage partiel, qui démontre que les difficultés rencontrées sont de nature temporaire et causées par des événements externes et non pas par une mauvaise gestion ou par des problèmes de nature interne.
- Les coûts résiduels doivent rester à la charge des entreprises, à savoir les revenus de compensation partielle des allocations de chômage partiel, les charges sociales et autres indemnités telles que les congés payés, de manière à responsabiliser les entreprises quant à la nécessité du recours au chômage partiel. Il doit exister un certain équilibre entre la générosité du système et le recours à celui-ci.
- Les entreprises doivent d'abord avoir recours à d'autres instruments permettant d'augmenter la flexibilité interne avant de solliciter une demande de mise en chômage partiel.
- Les critères d'éligibilité à l'égard des employés doivent rester basiques afin que ce régime s'adresse à tous les groupes de salariés quels qu'ils soient.

- Une protection contre les licenciements doit être prévue pour les employés mis en chômage partiel mais cette protection ne doit pas se prolonger au-delà de la période d'activité partielle afin que les entreprises préservent une certaine flexibilité.
- Le fardeau administratif induit par ces formalités doit être pris en compte, car celui-ci peut conduire à une participation et à une efficacité plus limitées.

3) Comment limiter les coûts de telles mesures pour le contribuable ?

- Tous les groupes concernés doivent faire des concessions pour une répartition des coûts entre les parties prenantes : employeurs, salariés, caisses de l'État.
- La durée de la période de chômage partiel doit être limitée pour éviter tout abus, avec une certaine flexibilité cependant pour rassurer les entreprises.
- Un équilibre doit être établi entre l'attrait d'une telle mesure pour accroître la participation et la rigueur du régime pour éviter les pertes sèches.
- Malgré tous efforts, le régime du chômage partiel reste un instrument coûteux, bien que les indemnités chômage ainsi évitées puissent être encore plus onéreuses.

4) Dans quelle mesure les partenaires sociaux doivent-ils être impliqués au niveau de la conception et de la mise en place de ce régime?

- Les partenaires sociaux doivent participer aux discussions ayant trait à la politique mise en place afin d'encourager des débats, parvenir à un accord commun, créer un engagement et faire connaître ce régime auprès du grand public. Cela peut être considéré comme la base d'une mise en œuvre réussie.
- Un dialogue social doit être instauré à l'aide des mesures mises en place au niveau des entreprises, c'est-à-dire en demandant aux comités d'entreprise d'approuver les candidatures au chômage partiel ; ce type d'approche légitime la mise en œuvre du régime et accroît son efficacité tout en permettant d'instaurer un mécanisme de contrôle des applications irrecevables.
- Le rôle joué par les syndicats doit être pris en compte car il peut entraîner des coûts accrus pour les entreprises et éventuellement avoir une répercussion négative sur le taux de participation en conséquence.

5) Comment encourager efficacement le recours à des plans de formation durant les périodes de chômage partiel ?

- Il convient de faire preuve de vigilance si les formations sont instaurées comme condition obligatoire à l'octroi d'un régime de chômage partiel car une telle mesure modifie la nature de l'instrument et crée une distance avec l'objectif de protection de l'emploi.
- Des mesures financières incitatives doivent être prévues, aussi bien pour encourager la formation que pour rembourser les coûts liés à celle-ci dans le cadre du chômage partiel.
- Il est capital de fournir un soutien pratique de formation à l'organisme, en collaboration avec les partenaires sociaux et les établissements de formation, en encourageant l'introduction de cours de formation flexibles et la mise en place de systèmes de partage / de formations collectives pour les PME.
- Il est important de multiplier les efforts de sensibilisation sur l'importance des compétences transversales auprès des parties prenantes et des entreprises.
- Le fardeau administratif supplémentaire induit doit être le plus modeste possible.

6) Comment améliorer l'efficacité et l'efficience de la mise en œuvre d'une telle mesure ?

- Le soutien aux entreprises et la prise en charge des sollicitations de mise en chômage partiel doivent être la priorité absolue au sein des agences pour l'emploi. Les agences pour l'emploi doivent avoir recours à des ressources supplémentaires pour assurer la bonne gestion des processus administratifs.
- La prise en charge doit être rapide notamment dans le cas des candidatures et des remboursements afin d'améliorer l'efficacité du chômage partiel en tant qu'instrument de gestion de la crise
- Les partenaires sociaux doivent jouer un rôle actif dans la sensibilisation, l'information et le soutien aux entreprises.
- Les parties prenantes doivent faire des choix sans équivoque quant au recours au chômage partiel dans le cadre de la réponse générale à la crise afin de faciliter un processus de mise en place sans heurt.

Part A: Design of the study and theoretical background

1 Introduction: objectives of the study and evaluation framework

The European Commission acknowledges that, in response to the current economic crisis, European governments have invested heavily in short-time working arrangements (STWA). The objective of STWA is to protect jobs that are under threat due to a temporary drop in output. Governments aim to help businesses keep their employees during the crisis so that they do not need to re-hire people when the economy picks up again. Given this prominent position of STWA, the Commission wishes to be provided with an analysis of whether these STWA have indeed protected jobs in the EU labour market and how this protection compares to earlier experiences with similar measures in previous crisis situations.

Such an analysis is relevant because in future crisis situations governments need to be able to make more informed and better decisions on introducing, modifying or terminating STWA. In order to do so, a European approach where countries with different arrangements can be compared will provide clarity on the best ways to effectively protect jobs during an economic downturn.

This report presents the results of a comparative research project that was carried out between June 2011 and June 2012. In the course of the project, an overview of STWA use in all European Member States was attained, followed by a quick scan of twelve European STWA and in-depth study of STWA use in three countries, namely Germany, France and Austria. The report follows the methodological set-up of the study by first presenting the background of the study and the theory behind STWA (chapters 1 to 2), then providing an overview of STWA use in the European Union at large (chapters 3 to 5) and then delving into the situation in the three selected countries for in-depth study (chapters 6 to 8). Finally, we present overarching conclusions on the use and effectiveness of STWA in crisis situation and the answers to the research questions (chapter 9).

In this chapter, we describe the set-up of the study and the evaluation framework applied to the short-time working arrangements we examine.

1.1 Aims and Goals

The main aim of the study (derived from the ToR) is:

To collect information on the functioning of short-time working arrangements and analyse whether these arrangements have protected jobs in the EU labour market to date and how this protection compares to earlier experiences with similar measures in previous crisis situations.

Moreover, the study aims to provide recommendations on the best ways to design new or improve existing STWA support schemes; provide insight into the extent of potential dead-weight losses connected to these measures; assess the impact of work-related training provision attached to STWA; provide insight into the distribution of these schemes' effects on different groups in the labour market; and identify the key actors involved.

1.2 Research Questions

To achieve the aims and goals that are specified above, we need to answer the following questions as stated in the ToR.

1. In EU-countries where relevant, has the application of STWA specifically protected jobs in the EU labour market to date, and if so, how many jobs were saved? In answering please disaggregate for individual Member States and quarters of years and sectors. A control group should also be analysed (firms in a sector not in receipt of STWA, or a sector not in receipt).
2. How does the protection offered by the current schemes compare to earlier performance of similar measures in previous crisis situations? As part of this question the contractor is asked to provide an overview of existing literature evaluating STWA and their functioning and to compare the impact and effectiveness of current and previous schemes within each Member State and across one or more Member states and at an aggregate level. Sources for this could include publications from the Commission, OECD, Member State evaluations and academic research.
3. How have the governments concerned designed the current STWA support schemes? How are they being implemented? How could they be better designed in order to save jobs in the most cost effective way? This question could be answered for example by analysing provisions with regard to eligibility criteria for firms or workers to participate. Characteristics of the most effective schemes should be analysed and assessed.
4. How have the schemes limited the risks of deadweight losses connected to these measures? Perhaps the jobs of the workers participating would have survived even without STWA, and/or perhaps other arrangements like employment protection legislation protected the worker from getting laid off.
5. If circumstances where the STWA requires the provision of work-related training, what has been the impact on the employability of the workers concerned? For example, have the worker's opportunities improved of being more productive in the current job? Are the skills acquired transferable to another job? Does the job have to be the same, or in the same sector? Has the training improved the general employability of the worker?
6. What is the role of different stakeholders in defining the general rules and regulation of the STWA, and on the criteria for firms to participate, and on the decisions on whether a firm will participate in the STWA? Stakeholders assessed in this context should include national authorities, public employment services, social partners, municipalities and other relevant labour market stakeholders.
7. How are threats and opportunities stemming from use of STWA distributed regarding the positions different groups of workers hold in the labour market? Groups could be identified by characteristics like skills level, contract type, gender age, nationality, work experience, sector or occupation.
8. Member States differ in the specifics of the STWA they implemented and in the amounts of public funding used for it. STWA can vary in their effectiveness and impact on national and external labour markets and economies. Which mechanism can cause national STWA to have positive or negative effects in neighbouring countries?

1.3 Evaluation Framework

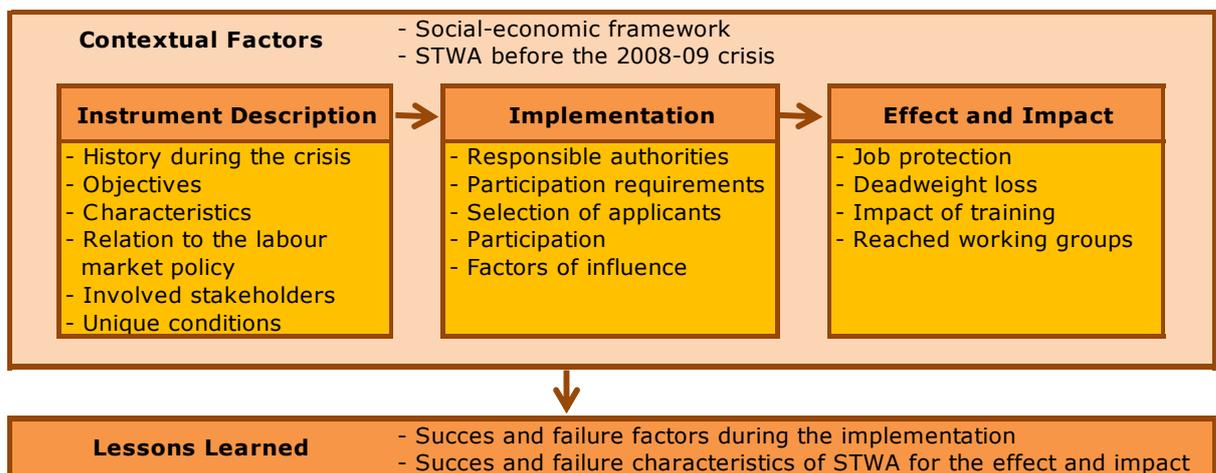
When evaluating short-time working arrangements, it is not enough to examine only the results and impact of such policy measures in terms of number of jobs protected or levels of employment or increases in skills as a result of in-work training. Although important, the results and impact alone do not provide adequate information on the effective elements of the different national short-time working arrangements which would enable the Member States to learn from each other via “peer learning review” processes. What makes a policy strategy successful? What causes the interventions to fail in reaching targets? Was it the structure for governance including the quality, efficiency and accountability of the arrangements’ system? Was it the design of the intervention itself, were the users different from the initially intended target group, or are there other circumstances that influence the outcomes?¹

In principle this boils down to two questions: “Do STWA work?” and “How do they work?” To answer these questions and thus realistically evaluate the STWA we developed an evaluation framework depicted in figure 1.1. In the context of this framework we will:

- Describe the contextual factors in which STWA have been implemented
- Describe the characteristics and design of the short time work schemes
- Analyze the way in which STWA were implemented
- Analyze the effect and impact of STWA and compare it with the objectives of the scheme

Based on the input from the analysis we will identify (1) whether the STWA fulfilled the objectives they were designed for and (2) how they did (or did not) achieve these objectives. On the grounds of the answers on questions (1) and (2) we will be able to formulate the lessons learned.

Figure 1.1 Framework for the evaluation of STWA schemes



¹ Pawson, R. & N. Tilley, 1997, *Realistic Evaluations*. In its essence, Realistic Evaluation argues that an effective policy evaluation focuses on what works, for whom, and under which circumstances? In doing so, it offers the possibility to develop insights into the effective elements of policy formation processes. Furthermore it shows the extent to which the approach might be applied in other situations or target groups.

To analyse this evaluation framework from beginning to end, we have defined a number of operationalised research questions for the individual parts of the framework. Through answering these questions we will be able to answer the main research questions. The operationalised research questions are listed below.

Questions for Contextual factors

1. What was the socio-economic situation like in the last decade in the country concerned?
2. What were the hardest hit sectors, enterprise types and employee groups during the economic crisis 2008-09?
3. Did the STWA already exist before the 2008-09 crisis?

Questions for Instrument Description

4. How did the STWA evolve during the economic crisis and hereafter?
5. What were the objectives behind the STWA?
6. What are the characteristics of STWA in terms of:
 - Name
 - Eligibility
 - Duration
 - Extent
 - Financing
7. What was the relation between STWA and training?
8. What is the relation between STWA and regular labour market policy?
9. Which stakeholders were involved with the STWA?
10. Were there any unique characteristics or conditions to individual countries?

Questions for Implementation

11. What authorities were responsible for the implementation of STWA and what is their role?
12. What requirements were laid on potential participants in STWA?
13. What did the selection procedure look like?
14. How many participants participated in STWA and for how long?
15. How did contextual factors / aspects of STWA / target groups influence the implementation of STWA?

Questions for Effect and Impact

16. How effective was STWA in terms of job protection?
17. Did the STWA cause deadweight loss and if it did, to what extent?
18. What was the impact of the training schemes that were attached to STWA?
19. Which working groups were reached by STWA?
20. How was the STWA evaluated in (individual) member states?
21. What is known about the implementation and effects of STWA in previous crises?

Questions for Lessons Learned

22. What were the success and failure factors during the implementation during the 2008-09 crisis?
23. What were the success and failure factors during the implementation during previous crises?
24. What characteristics positively or negatively influenced the effect and impact of STWA during the 2008-09 crisis?
25. What characteristics positively or negatively influenced the effect and impact of STWA during the 2008-09 crisis?
26. Which mechanisms influenced the competitiveness of individual firms and sectors?

1.4 Methodology for data collection

In order to be able to judge to what extent short-time working arrangements contributed to the protection of jobs during the most recent crisis and to understand which mechanisms determined the success and failure of the instruments, it was useful to adopt a mixed-method approach to this study. By combining literature study, quantitative macro- and micro-econometric calculations with qualitative data collection through interviews and case studies, this study aimed to give both a broad overview of the role of STWA during the crisis and go into depth on the workings of the measures at hand.

Thus in the first phase of the study, the research team carried out a broad exploration of STWA in OECD countries and more specifically European member states, based on EU-wide literature research, taking into account previous overarching research on the topic of STWA. On the basis of the EU-wide literature, a group of twelve countries was selected for which short quick-scans were carried out, based on country specific literature research and short interviews with policy makers in the countries concerned. This resulted in a clear overview of the different types of STWA and the experiences of the different countries during the most recent crisis. At the same time, macro-econometric calculations were carried out based on OECD data in order to estimate the effects of STWA in terms of the number of jobs saved across European member states. The results of the literature research, country quick scans and macro-econometric analysis are presented in **part B** of this report.

In the second phase of the study, the research team concentrated its efforts on the situation in three countries: Germany, France and Austria. This selection of countries was done on the basis of the results of the first research phase. In these countries, more in-depth research was carried out. To begin with, several in-depth interviews were carried out with stakeholders (at national, sectoral and regional level) in each of the three countries in order to understand the context and policy logic underlying the STWA in the specific countries. Furthermore, a number of companies, from very large to small and medium sized, were approached for interviews, with the objective of finding out how companies really dealt with the crisis and which role the STWA played in this context. Finally, in each of the three countries we carried out micro-econometric analyses of firm level and individual level data in order to determine the effectiveness of the measures. The results of these country studies are presented in **part C** of this report.

Finally, the overall analysis brought together the results of the different phases and research methods by answering the research questions and summarizing the lessons that can be learned from the experiences of the various countries for possible future crisis situations. These conclusions of the study can be found in **part D** of this report.

Before presenting the results of the data collection in the different countries, the following chapter will present the background and policy rationale of STWA, including the definition of the key terms and concepts.

2 Intervention logic of short-time work

2.1 Defining STWA

First government-run short-time working arrangements were introduced in Europe in the first half of the 20th century. Germany was one of the first countries introducing STWA in 1910. In some countries (such as Belgium) STWA became a common measure and were used on a large scale. Other countries (such as Austria) have introduced STWA but were used to a limited extent and mostly for extraordinary situations. A number of European countries (such as Latvia or the Netherlands) introduced STWA for the first time as a response to 2008-09 crisis. These measures were of a temporary nature and were terminated after the crisis.

Also in the United States, many companies reduced the working hours in cooperation with their employees during the Great Depression in the 1930's. Work week reductions were aimed to avoid layoffs as there was no unemployment insurance back then in the United States. The working time reductions led to considerable loss of income among affected workers. Therefore governmental schemes were established giving income protection to partially unemployed workers. These schemes have been adapted as the welfare state and the economic situation changed over time.

The great variety of measures that might fall under the term of STWA makes it important to be clear about the concept of STWA that was used in the context of this specific study. Before the individual aspects of STWA are described it is important to define what STWA actually are.

Short-time work (STW) can be defined as a temporary reduction in working time intended to maintain an existing employer/employee relationship. It can involve either a partial reduction in the normal working week for a limited period of time (a partial suspension of the employment contract) or a temporary lay-off (a full suspension of the employment contract with zero hours' week). In both cases, the employment contract continues and is not broken (Arpaia, 2010). STWA are designed in order to allow employers to temporarily adjust the working hours (and thus maintain internal flexibility) without discontinuing the employer-employee relationship.

The focus of our study is on STWA that are subsidised by the government. Hereby, the government supports individual employees or companies on short-time work with subsidies in order to compensate for income loss. STWA that were created on the basis of for example a sectoral agreement without government support will not be taken into consideration in this study. During the economic crisis in 2008-09, STWA were applied by the majority of EU countries (Arpaia, 2010).

2.2 The intervention logic of STWA

During economically difficult periods, companies may have to cut back their production levels in order to respond to lower demand from their clients or customers. This may lead to a

(temporarily) lower demand for labour. In most cases of regular employment relationships, employers are under an obligation to continue paying out the salary of their employees, even if the production levels are cut back and the work carried out is reduced. This leaves the employer with continuing costs in a situation of reduced income. STWA aim to solve this problem by assisting companies and employees in the time of crisis. Generally speaking, STWA allow employers to temporarily reduce the working time of their employees and relieves them from the obligation of continuing to pay the full salary.

In order to structure our analysis of the STWA that were applied during the most recent crisis, we will now describe the intervention logic of short-time working arrangements. While the intervention logic may differ slightly between different countries, the core policy rationale should usually be the same. Defining this model rationale will furthermore help us identify the specific aspects in which the systems differ. The intervention logic consist of policy objectives, policy input (instruments), the implementation of the policy, effects or results achieved by the policy instruments and the impact of these results.



As already mentioned, the most immediate **objective** of short-term working arrangements is to preserve sustainable employment relationships during a crisis period. By allowing companies to temporarily reduce working hours, STWA furthermore aim to lessen the impact an economic crisis has on individual companies and therefore prevent unnecessary systemic impact of a crisis situation. In some cases, STWA can also aim to improve the employability of employees through providing training measures. STWA differ in the extent to which a training component is included in the design.

STWA achieve their objective by providing a subsidy to companies who find themselves in temporary difficulties due to a drop of demand. This subsidy can be seen as the primary **input** of the measures. Employees are compensated for the loss of income with partial or full replacement of the missing part of their expected salary, paid out through government subsidies. Additional input measures may be related to financial or practical support to companies in the provision of training to employees, information and publicity campaigns and other ancillary measures. The input is determined by the **design** of the measure. Thus some measures are designed more generously, providing more financial input. Other measures include support for training in their design, thereby effecting some input in this area. Also, the designs differ with respect to the involvement of different actors, e.g. social partners and the administrative procedures.

While the input is the static aspect of the measure – e.g. the subsidy as such – the **implementation** refers to the way in which the measures are carried out. The implementation can be seen as the crucial link between the set-up and design of a measure and its actual effects and results. In the case of STWA, the measure needs to be communicated effectively to companies and employees; the application procedure needs to be managed successfully by the competent authority, often the labour agency; and the companies need to organise the internal process of planning and control in order to reap the benefits of the

measures. This whole process needs to be organised in a way which minimises the risks of inefficient and ineffective use of subsidies and maximises the results achieved for all actors involved.

The direct **result** of participation in STWA is the preservation of the employment relationship, bringing with it only limited loss in income for the employee. In the context of this study, we call this result the **jobs saved**. The number of jobs saved refers to the number of employment relations (between employer and employee) that were not terminated within the period of STWA or 12 months after the ending of STWA, that would be terminated in absence of STWA. The alternative would be dismissal of the employee who would then probably suffer a drop in income, possibly buffered by unemployment benefits. Other, mostly secondary results can refer to the participation of employees in training measures, the distribution of STWA participation amongst different groups of employees and savings in unemployment benefits which would otherwise have been paid.

Finally, these results are expected to have a positive **impact** on the participating employees, companies and the economy as a whole. Overall, STWA are supposed to lessen the impact of a crisis on all actors involved and enable them to respond more quickly to a recovery. Through protecting employment, STWA enable employees and companies to save the costs associated with loss of employment and re-recruitment, basically preserving the economic structure and preventing social unrest. Where training is concerned, STWA can contribute to improving the situation on the labour market by increasing the employability and therefore flexibility of employees. Staying in a job on itself also contributes to the employability of employees, as they can more easily apply for other jobs from within an employment relationship than from unemployment. Importantly however, the use of STWA is supposed to lessen the impact of external shocks, but not prevent necessary long-term adjustment processes.

This points us to a number of **risks** associated with STWA. These risks mainly relate to the efficiency and effectiveness of the subsidies provided. Firstly, it is possible that subsidies are paid out to employees whose jobs would be maintained also without recourse to the government support, so that the subsidies are actually unnecessary. This is referred to as the risk of **deadweight loss**. The deadweight loss is the financial amount of vain subsidies that were based on STWA and that were paid for jobs that would be retained even in the absence of STWA. Companies might prefer to bear the costs of unproductive workers where employment protection is very high, or where other instruments are available that allow for some internal flexibility within a company and which might be less expensive for the public purse. When companies use STWA instead of less expensive alternative measures, deadweight loss also occurs.

Another situation that may occur is that subsidies are paid out under STWA, but that the employment relationship is terminated nonetheless, after use of the subsidy. In this case, the subsidy was also paid out in vain, because the result of employment protection was not achieved. These cases are defined as **displacement effects**. The displacement effects also point to a broader risk, namely the risk that STWA may support essentially unprofitable enterprises and thereby prevent necessary restructuring of companies and the economy as a whole. In these cases, the economic shock is not purely external and temporary in nature, but rather permanent and also caused by internal problems (within company or economic

sector). This report will show how different systems aim to prevent these risks and apply STW only to situations in which its use is both necessary and effective.

When looking at the policy rationale behind STWA, it becomes clear that the measures work at different levels and involve different target groups. Since short-time work is an instrument which rests on the mutual understanding and benefit of all actors involved, it is important to understand the position of the different stakeholders in the overall system. In the section below we therefore explore what the considerations of these stakeholders may be.

2.3 The role of STWA for different stakeholders

One of the key characteristics of STWA is that they always include some kind of balance of investment and benefit. This is to say that all actors involved, i.e. employers, employees and public authority have to suffer some kind of loss, but that they also all benefit from the effects. This makes STWA an instrument based on public consensus and shared interest, since it only works if all actors are convinced of its use. As a consequence, different mechanisms work at different levels and for different target groups which makes it interesting to separate these different levels and look at each group separately. In the paragraphs to come we will discuss the advantages and disadvantages of STWA for employers, employees and governments which are provided by the literature on the topic.

2.3.1 Employers

Employers are maybe the most important actors in the policy cycle of STWA. They are the main target group as they have to decide to make use of STW. If employers do not see a use in the instrument, it will not be used. Furthermore, they are also the ones who implement it at company level. So what is their motivation in making use of short-time work?

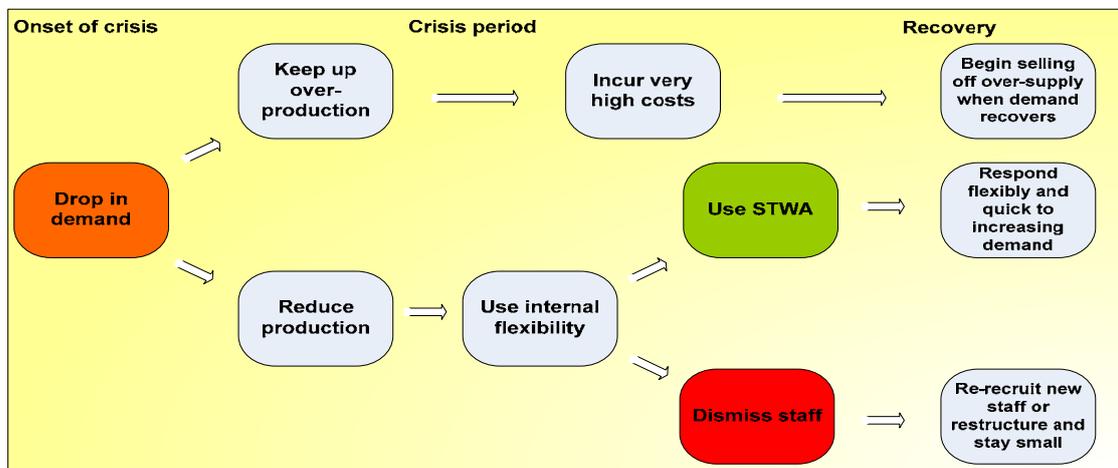
According to the literature, employers have several reasons to make use of STWA. First of all, employers use STWA to temporarily set aside idle personnel. As enterprises experience fluctuations in demand for their products/services, their demand for labour changes over time. In times of crisis, when the demand for their products significantly decreases they may be forced to lay off a part of their personnel if they do not want to keep up the overproduction which is not covered by demand. By using STWA, employers can adjust their production according to demand and keep their staff on board. This implies both financial benefits for the employer as well as the opportunity to keep the work force in the company.

Thus firms participating in STWA enjoy reduction in labour costs in the short term, and productivity improvements in the medium term. This comes through the reorganization of their production or service delivery processes which they can realize during the period of participating in STWA. Furthermore, in highly regulated labour markets the dismissal procedures may be long and costly (Arpaia, 2010). Keeping staff on instead of carrying out dismissals is therefore an attractive option for employers. In STWA which are related to training the employers may also enjoy effects of increased training investments. Furthermore, participation in STWA may enhance employees' morale since it is an alternative to layoffs.

At the same time, keeping employees on instead of dismissing them lowers the turnover costs that would have to be realized in case of lay-offs (Messenger, 2009) as the cost for recruiting and training of new workers during recovery is saved. Furthermore, the investments in human capital done by the firm are lost when the employee is dismissed. Besides, losing trained personnel as a consequence of dismissals may constrain a firm's capacity to quickly adjust the labour inputs in case that the demand for its products increases again. When the orders come in again, a firm on STW can adapt its production capacity according to the demand of the market.

This whole cycle of STWA implementation at company level with the different options for employers is represented in the box below.

Figure 2.1 Implementation of STWA at company level



Source: Panteia 2012

However, the usage of STWA can also bring disadvantages for employers. If an enterprise wants to take part in STWA, it may have to perform substantial adjustments in human resource management practices. Moreover, it has to bear additional administrative costs in the short term due to changes in scheduling and work organization (Messenger, 2009). In general, most STW schemes do not provide full compensation for employers, as some costs normally remain for the company, for example social security contributions or holiday pay. In fact, short-time work is often seen as a rather expensive measure for companies which was confirmed by the majority of respondents in this study.

Furthermore, employers might be concerned about the impact that the use of STW could have on the reputation of the company, both internally and externally. Within the company, use of STWA can lead to conflict or low work morale, especially where employees have the feeling that the burden is not distributed evenly among the staff or where employees do not believe in a recovery. Externally, it can happen that clients, customers and partners assume that the company is in economic difficulties and that they try to exploit this fact by putting pressure on prices, or alternatively that they lose trust in the company and look for different partners. Employers will do their best to prevent these kinds of undesired effects of short-time work.

2.3.2 Employees

The employees on the other hand are the group directly affected by STWA. According to the literature, they enjoy multiple advantages of STWA such as enhanced job security, at least temporarily, due to the preservation of existing jobs. In most cases, participants in STWA received higher levels of income than they would have received if they had been laid-off. Due to short time work, skills loss and skills depreciation which are associated with unemployment were avoided (Messenger, 2009) and showing up at work (almost) every day keeps workers in contact with the labour market.

Workers may also benefit from training activities provided in the context of short-time work. This may improve their job prospects both within their current working environment and outside of the company or sector they are used to working in. Finally, STWA supports solidarity among workers as the drop in working hours is distributed more evenly among a large group of workers. It forms an alternative to seniority-based lay-offs, which keeps certain groups in high risk of inactivity (for example women, minorities, old or young workers) (Arpaia, 2010).

However, participating in STWA may also bring disadvantages to employees. Firstly, even though the income level of participants is in general higher than it would be if they were unemployed, they mostly experience substantial reductions in their earnings compared to full employment. These reduced earnings may be partially compensated by public wage subsidies. Depending on the system in question, these income losses may have an impact on future entitlements to social security provisions, for example unemployment insurance, pensions and other benefits. Furthermore, participating in STWA may lead to a decline in worker morale especially if wage reductions are substantial and no wage supplements are provided (Messenger, 2009).

The perspective of the employee could be said to depend strongly on the alternative to short-time work. If the alternative for the employee is to lose the job and become unemployed, STW will look like a good option. If the alternative would however be to stay in full-time employment, despite the problematic situation of the company, the employee will not favour using STWA. In the long-term, this might however lead to the company facing even greater problems which would also not be beneficial to the job security of the employee. These kinds of issues influence the way in which an individual employee approaches short-time work.

2.3.3 Public authorities

Finally, public authorities have to design and actively promote the use of their STWA. Their interests are on the one hand connected to the situation of the economy as a whole and on the other hand to their own position within the field of public management. In this context, we can differentiate between the government of the country in question and the employment agency which is often involved in the management and financing of STWA. Their interests and motivation may overlap, but may also differ in cases.

Governments may be in favour of STWA because they help preserve a country's crucial industries and thus help safeguard its economic future. Most importantly, STWA avoid mass dismissals in times of crisis. Due to this fact they alleviate pressure on unemployment benefit schemes and social tension in general. It depends on the country in question, but the protection of employment is usually a factor which is also of high electoral importance, so governments will support efforts which prevent unemployment. STWA also ensure that the system of work organisation remains stable and avoid costs and loss in productivity associated with the re-organisation of work. Finally, in some schemes workers may take part in training when participating in STWA which should have a positive impact on the employability and the general educational level of the work force.

Employment agencies will share these motivations, though they might also look more closely at the financial side of the bargain. Depending on the country in question, employment agencies can be responsible for the funds of the unemployment insurance out of STWA may be financed. In such a case, they will only be in favour of short-time work where these funds are available and where they can indeed support the view that the use of STWA will prevent mass unemployment and will therefore also save the costs of paying out unemployment benefit. Furthermore, employment agencies play a crucial role in the implementation of the arrangements. They can therefore be interested in using the instrument as it gives them a crucial position in the public policy process, but they will also have to be prepared for administration and have enough resources to manage the process.

As has already been mentioned, there are also a number of risks associated with STWA which are of special relevance for public authorities. As with other public insurance policies, STWA are subject to "moral hazard" problems (for example taking part in the scheme because it is advantageous although it is not necessary) which eventually lead to policy failures (Arpaia et al, 2010). Secondly, STWA are a cyclical instrument and their effectiveness depends strongly on the expectation of rapid recovery. If such expectations are wrong and the crisis lasts much longer, companies will still carry out lay-offs, in spite of the application of STWA. These moral hazard problems thus refer to the displacement effects and the deadweight losses which were explained in the previous section.

Making the situation still more complicated for policy makers, STWA may also delay the necessary structural adjustments in the economy or help to maintain ultimately unviable businesses and sectors. Therefore they may only postpone the necessary emergence of mass dismissals at a later stage. In such a case, STWA cannot be seen as effective and efficient labour market policy instruments. Furthermore, STWA seem to undermine competition as the subsidies are provided only to some firms and they are vulnerable to fraudulent practices (for example work is undertaken informally and workers in practice do not reduce the working hours). In this context the question of cross-border effects also arises, as countries differ in the approach they take to STW, with some countries being more generous than others. It can be argued that this has an impact on the fair competition between companies in different countries, which might be reason for concern at European level. Furthermore, STWA also externalise the private sector's costs of adjustment to the tax payer and can thus significantly contribute to increasing budgetary deficits. Finally, STWA are only effective for those people already at work as they do not address the needs of unemployed people.

These risks associated with STWA are of course taken into account by public authorities when designing and implementing measures, including the European Commission that was monitoring the situation according to respondents. In the discussion of the actual use of STWA by European countries during the recent crisis, we will therefore repeatedly come back to the way in which governments and other public actors try to prevent possible negative effects while trying to achieve their positive objectives.

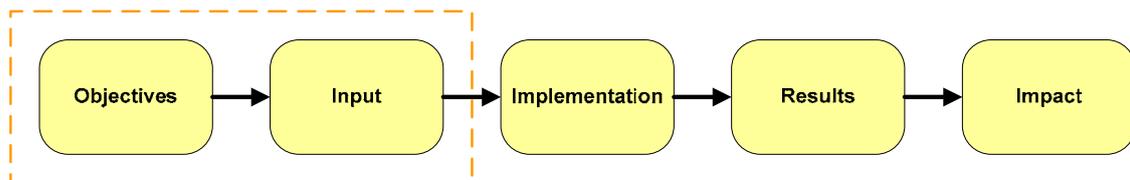
2.3.4 The unemployed

One group of people that is not included in the policy considerations of short-time working arrangements is the group of the unemployed. As short-time work is purely focused on people in work, the unemployed cannot reap the benefits of the measures. In fact, it could even be argued that the measures are not in the interest of the unemployed, since they intervene with the natural flow on the labour market. Thus, dismissals followed by new recruitment may open up opportunities for people who are unemployed before the crisis. At the same time, the unemployed also have a strong interest in economic recovery and the creation of new jobs, so that a deeper recession with more dismissals would certainly not be in their interest either. From a very narrow perspective STWA do not benefit the unemployed; through their overall impact, the measures can however contribute to the general economic situation and therefore be beneficial to this group as well.

Part B: Overview of STWA in 12 countries

3 Context and design of STWA during the most recent crisis

This chapter brings together the information about the context in the different countries where STWA was applied, and the evolution and the design of the STWA. It focuses on the first stages of the policy cycle.



The information in this chapter is based on the EU-wide literature research and country quick scans. In the first part of the chapter we will describe the contextual factors. Following that, we will focus on the characteristics of STWA such as eligibility requirements, conditionality requirement and the degree of generosity.

3.1 Context: the 2008-09 economic crisis

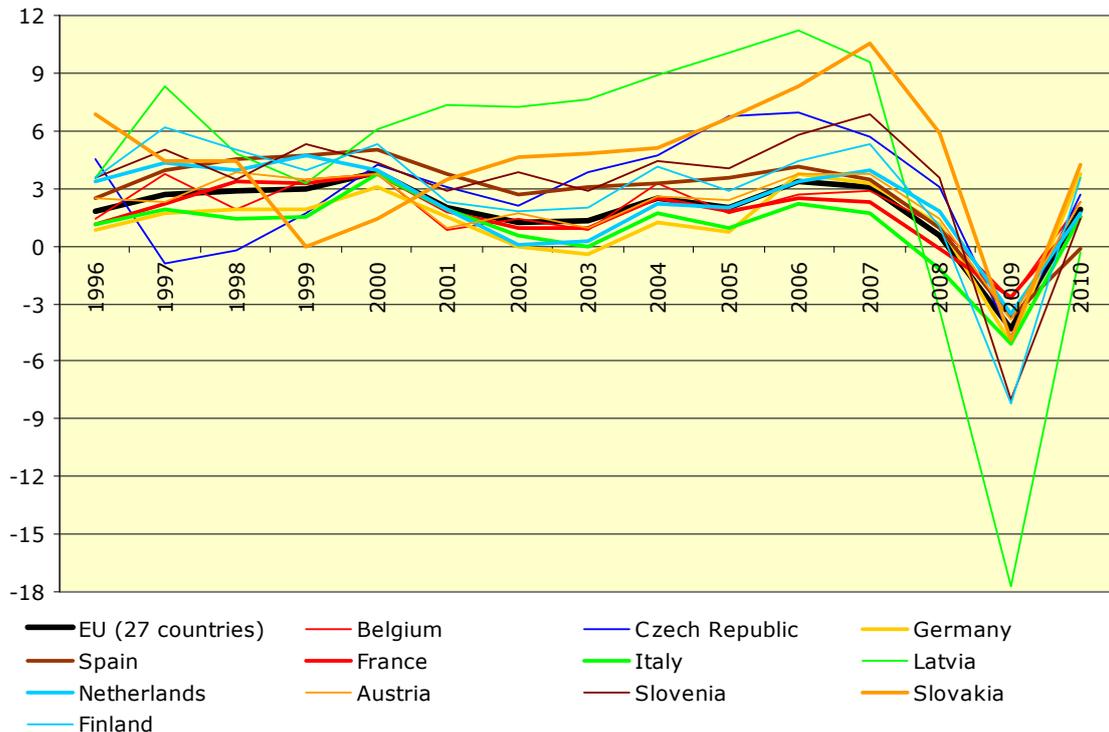
Firstly, we will describe the consequences of the 2008-09 crisis and how this crisis relates to previous crisis periods. Preceding the recent crisis, Europe was experiencing sound economic growth and very strong employment expansion. Generally speaking, the main concern seemed to be the demographic developments which suggest a declining supply of labour in Europe while at the same time labour market demand was growing. The past years however, things were turned upside down. In 2008, global financial markets experienced their worst crisis since the 1930s. It is beyond the scope of this study to discuss the causes of the crisis, but its impact became more and more visible. Investment, production and consumption all declined through diminishing investor and consumer confidence as credit markets froze and millions of people lost their jobs.

In this section we will concentrate on the consequences of the crisis for labour markets. Nevertheless, for understanding the labour market development we will first describe the development of the GDP in the EU27 and sample countries. This can give us insight into how severely individual European countries were hit by the crisis. Later on, we will describe how this relates to the development of unemployment generally and more specifically in different sectors and how the crisis affected certain vulnerable groups.

As shown in figure 4.1, Europe and EU Member States were experiencing a period of economic growth between 2004 and 2007. The most intense growth of GDP can be seen in new member states such as Latvia, Slovakia, the Czech Republic and Slovenia. On the other hand, Italy and France experienced modest growth not exceeding 3% per year. Since mid-2008 the economy of the EU experienced a severe economic downturn. While in 2007 the annual EU27 GDP growth rate was 3%, in 2008 the rate sank to 0,5%. In 2009, the EU27 economy shrank by 4,2%. The most serious slump was witnessed in Latvia as its GDP

shrank by almost 18% in 2009. Significantly higher decrease of GDP compared to EU27 can be seen also in Finland and Slovenia (roughly 8%). In contrast, French and Belgian GDP decreased by less than 3% in 2008 which is better than the EU27 average.

Figure 3.1 Real GDP growth rates for EU27 and 12 countries from the country sample (annually, in %)

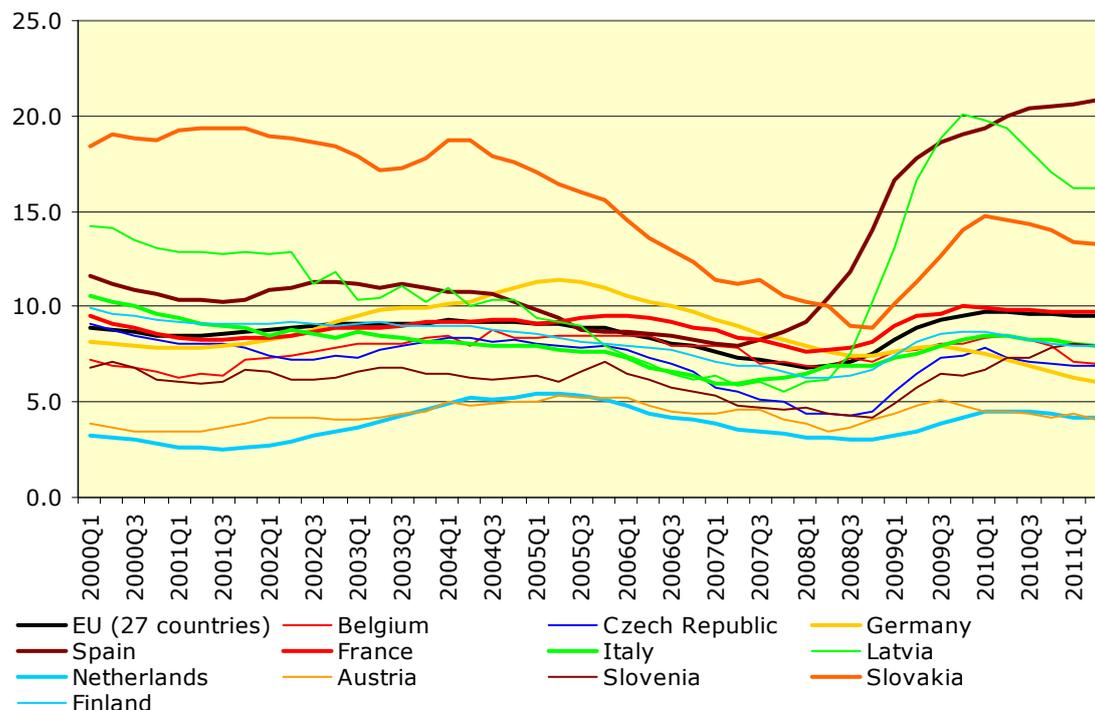


Source: Based on data from Eurostat

The key question in this context for this study is the extent to which the drop in GDP influenced the labour market. Figures show that in the EU27 and majority of observed countries the unemployment level in early 2008 was lower than in early 2000 (see figure 3.2). In Austria and the Netherlands the difference between 2008 and 2000 was marginal since the unemployment rate in these countries was already relatively low in 2000. In contrast, in Latvia and Slovakia the unemployment rate halved over the discussed period. Furthermore, due to economic growth between 2005 and mid-2008 the unemployment rate was at a historically low level in most of the observed countries.

The unfavourable economic development from 2008 onwards had far-reaching consequences for the EU labour market. The positive course of 2005 to 2008 was reversed after the beginning of the economic crisis in 2008 as the EU27 unemployment rate rose from 6,9% in mid 2008 to 9,7% in mid-2010. The growth of the unemployment rate varied strongly among European countries. In countries like Germany, Austria or the Netherlands, the growth of the unemployment was relatively modest. On the other hand the unemployment rate severely increased in Latvia, Spain and Slovakia. Spain is currently facing the highest (and increasing) unemployment rate of all observed countries.

Figure 3.2 Seasonally adjusted unemployment rate in EU27 and countries from the countries sample (quarterly average, in %)



Source: Based on data from Eurostat

The OECD (2010) compared the impact of the current recession and the recessions in the early 1970's, late 1970's and early 1990's on the OECD countries' labour markets. They found out that the unemployment rate between late 2007 and early 2010 rose by more than half. The unemployment curve observed during the first nine months of the crisis was very similar to the development of unemployment rates during the recession following the first oil shock in the early 1970's. Nevertheless, comparing the current crisis with the overall post-war recessions, one can conclude that the proportional increase in unemployment rates was smaller and less rapid on average. Additionally, based on May 2010 data the OECD projected that the recovery after the current crisis is likely to be insufficiently rigorous to reabsorb current high unemployment levels.

Figures show that the increase in unemployment is not evenly distributed among different groups on the labour market. Some groups turn out to be more disadvantaged by the recession than others. Similarly to past recessions employees with lower education seem to be hardest hit by the recession at EU27 level. The employment of people with primary or lower secondary education decreased between early 2008 and late 2009 by more than 6 percent, compared to 1 percent of those with an upper and post-secondary education and 5 percent of those with a tertiary education. Exploring the situation in some countries in more detail we can see that Latvia experienced the most serious decrease in the employment of primary or lower secondary educated. Their employment decreased by one fifth while in the case of people with tertiary education it was roughly 5%. The unemployment rate of people with low education in Spain increased 13.7% between mid 2008 and mid

2010. On the other hand in Germany and Slovakia the unemployment of low educated decreased by 0.3% and 0.1% respectively. Italy and Finland form the only exceptions in our country sample where the employment of upper and post-secondary educated showed a better trend than the employment of tertiary educated.

According to Bell and Blanchflower (2010) the youth unemployment in the EU has been roughly 21% in January 2010 compared with EU overall unemployment of 9.9%. In Spain almost 40% of people aged less than 25 were unemployed in early 2010 compared with 33% one year earlier. Furthermore, the authors imply that in some countries young people seek to prolong their stay in education as a way of postponing labour market entry. OECD (2009) suggests that the disadvantaged groups in the labour market – low-skilled, youth, immigrants, ethnic minorities, persons with health problems and workers with temporary contracts – bore the most of the brunt of rising unemployment and reduced working hours. There are at least two reasons for this. Firstly, these groups are more vulnerable to being laid-off. Secondly, there seems to be a higher competition on the labour market during the crisis as there are a limited number of job vacancies and a high number of applicants. Therefore, disadvantaged groups are less likely to be hired for a job when competing for a limited number of job vacancies.

When comparing the 2008-09 crisis with earlier recessions we can find similar groups on the labour market being hit by the crisis. The only exception is the case of sex. From OECD (2009) calculations based on data from 1960 to 2007 it follows that men and women have very similar business-cycle sensitivity of total employment. However, during the 2008-09 crisis the employment rate of men decreased more dramatically than the employment rate of women. From our country sample, it was only in Latvia that the unemployment rate of males was higher than the unemployment levels of females in early 2008. Between 2009 and early 2010, in all sample countries the unemployment rates of men increased more dramatically than the unemployment rates of women. In early 2010 in five from 12 sample countries unemployment rates of women were lower than those of men. Males seem to be significantly harder hit by the 2008-09 crisis than females. Similarly, the employment rates for males declined more than the employment rates of women. The most significant growth in the unemployment rate of women between the second quarter of 2008 and the second quarter of 2010 took place in Latvia (9.8%) and Spain (8.1%). In contrast, in Germany the unemployment rate of women in the same period decreased by 1.1%. The growth of the unemployment rate of men was more significant. Again, from the 12 countries in our country sample Latvia suffered from the highest increase (16.3%), followed by Spain (10.3%). The lowest growth of the male unemployment rate is to be observed in Germany (0.2%).

The explanation for this can be that the sectors which employ men were hit harder than the sectors where most of employees are women. The 2008-09 crisis was for example associated with a dramatic fall in world trade which had a negative effect on medium-skilled production workers in durables manufacturing. In these positions males tend to be more represented than females. Construction, mining and quarrying were other sectors hardly hit by the crisis. Similarly to manufacturing, these are sectors predominately employing males. From the OECD (2010) analysis it follows that these sectors have been historically sensitive to cyclical changes. The relative impact of 2008-09 recession on employment in mining and manufacturing was however stronger than one would expect based on historical experience.

The change in employment in construction, banking and real-estates sectors followed the historical patterns.

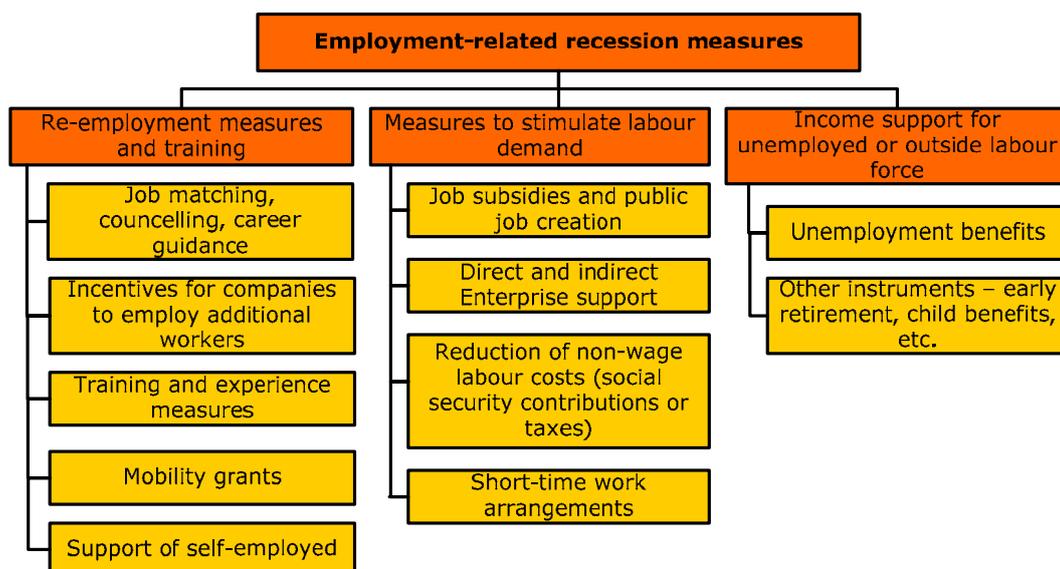
3.2 Instruments to cope with the unemployment levels

National governments used a variety of labour market policy instruments to cope with the rising unemployment levels. Across Europe, the involvement of social partners in the development and implementation of recession measures differed with regard to the level and extent of their integration in policy design. This is attributed to the differences in the tradition of social dialogue and in the strength of the particular government (for example how strong the support for the government is in parliament) in the present situations. The literature shows that the main points of discussion among employer and employee representatives and the government during the crisis include:

- the lack of the social dimension in the stimulus packages as tax cuts, wage increase and extra welfare spending was desired (for example in France);
- the use of flexible working hours, including short-time work and temporary lay-offs and the associated pay cuts (for example in Germany);
- the way in which the minimum wage is determined and the level of the minimum wage (for example in Bulgaria and Estonia);
- public spending on social benefits and public subsidies.

Furthermore, in some of the member states, special advisory bodies were established to develop and/or amend public instruments to address the current recession. The resulting employment measures that were applied across the EU are listed in figure 3.3. STWA were applied in the context of these measures.

Figure 3.3 Employment-related recession measures



Source: Based on Mandl and Salvatore (2009), alternations performed

As the figure shows, many countries applied **re-employment and training measures**. Job search assistance and activation measures were essential for effective activation in the context of increasing unemployment and a decreasing number of job vacancies. In most countries, the number of jobseekers registered with Public Employment Services increased quickly in the years 2008 and 2009. Some countries allocated special resources to provide job search support to particular groups (e.g. youth, immigrants, people with short-term contracts, people not receiving benefits). France, Italy and Poland expanded the role of private unemployment agencies to provide additional capacity. In some countries, job seekers were required to take more responsibility. Furthermore, resources devoted to business start-up incentives, training and work experience were increased in most EU countries. Many measures were focused on disadvantaged groups of job seekers but in some countries provided training also to existing workers at risk of job loss (European Commission, 2010).

Even in times of recession some vacancies in the labour market are not filled due to a mismatch between supply and demand in geographic terms. Therefore mobility grants, i.e. incentives for workers to relocate or change their place of residence may contribute to improving the labour market situation (Mandl and Salvatore, 2009). Some governments further supported the creation of self-employment (the start-up of businesses). As measures supporting the self-employment we can qualify advice, consultancy, training, funding for business start-ups and reducing or deferring social security payments (Mandl and Salvatore, 2009). Business start-up incentives were scaled up in Bulgaria and Poland and brought forward in time in the United Kingdom (European Commission, 2010).

In response to the economic crisis, European countries adapted their schemes of income **support for the unemployed and low-income earners**. In most countries, spending on unemployment benefits and social assistance increased during the economic downturn as a response to the increase in unemployment and in the number of low-income households. In the Czech Republic, Estonia, Hungary, Poland, Slovenia and the United Kingdom the benefit coverage of the unemployed increased during the crisis. In contrast, in Latvia this coverage decreased (European Commission, 2010).

In different countries a variety of **measures to stimulate labour demand** was applied. Hiring subsidies and wage subsidies were introduced or scaled up in a number of countries (e.g. Austria, Cyprus, Estonia, Finland, France, Malta, Portugal, Sweden, and United Kingdom). Some of these measures were targeted only at certain groups (youth or old workers, disabled workers). Latvia expanded public-sector job creation for unskilled municipality jobs. Ireland introduced job subsidies to save jobs which were under specific threat of being terminated. A number of countries reduced social security contributions to support vulnerable groups (low skilled, young and old workers) to stay in the labour market (Finland, France, Hungary, Ireland, Portugal, Slovenia). Some of these measures were targeted solely at newly hired employees, particular groups or periphery regions (European Commission, 2010).

To support companies, many countries introduced or amended existing direct and indirect enterprise support such as public loans (e.g. Latvia and Lithuania), loan guarantees (e.g. Estonia, Poland and Slovakia), direct subsidies to enterprises and/or risk-capital schemes (e.g. Austria and Italy). This approach is particularly feasible during a recession marked by a financial crisis which leads to the inability to foster efficient capital reallocation and cur-

tailed credits. As for indirect enterprise support, numerous governments invested in the public infrastructure or created incentives for consumers (e.g. car scrappage schemes in Austria, France, Germany, Italy, Luxembourg, Portugal and Slovakia) (Mandl and Salvatore, 2009). Finally, with rising cyclical unemployment, maintaining internal flexibility was an essential way to preserve jobs. **Therefore, the majority of EU countries applied some kind of Short-time work arrangements (STWA) since mid-2008** (European Commission, 2010).

3.3 Key features of STWA and description of the instrument

While a lot of countries had recourse to some kind of STWA, the design and set-up of these instruments could differ significantly. In the following, we describe some of the key features of the STWA, thereby showing how broad the concept of STWA was interpreted in the different countries.

3.3.1 Main features of STWA

Though STWA differed considerably between the different countries, the literature shows that there are several main features that are common to most of the STWA.

Messenger (2009) identifies five key elements of STWA. Firstly, STWA are associated with the **reduction of working hours** for (all) workers in a company or a specific work unit and it forms an alternative to layoffs. Secondly, this reduction in working hours is accompanied by a corresponding (pro-rata) **reduction in wages/salaries**. Thirdly, provision of **wage supplements** (usually public subsidies) is administered to affected workers. Fourthly, specific **time limits** on the period of STWA are usually established in order to ensure that STWA is a temporary measure. Finally, links between work sharing programmes and **training / retraining activities** may be created.

However, not all of these elements have to be necessarily present in every STWA. As the design and application of STWA differ significantly between countries, these differences are often reflected in the provisions relating to the eligibility criteria. According to the European Employment Observatory (2010) the main distinguishing features of individual STWA include:

- Scope of the application (only certain categories of employees or all employees eligible for STWA);
- Nature of the financial assistance from the taxpayer (wage support, social security payment support or both elements combined);
- Size of the company supported (small and medium enterprises, large companies or all companies);
- Generosity (duration and extent of the financial support from the taxpayer);
- Extent of the conditionality attached to the financial support from the taxpayer (e.g. requirements not to have any dismissals or to provide training to employees on STWA);
- Relation between STWA and training (training compulsory within STWA scheme, incentives for training, etc.)

These distinguishing elements are embedded in the national socio-political context and directly influence the scale of participation in STWA. The economic crisis of 2008-09 also had an effect on the design of the individual STWA schemes, as in most countries, several changes in the measures were carried out as a response to the economic downturn. Firstly, policy makers enabled longer duration and higher incentives for short-time work. The coverage of STWA was extended and less stringent conditions for participating companies were applied. In some countries, training subsidies were provided if employees on short time work took part in training. Finally, simplified procedures and more flexible working-time arrangements were enabled.

In the following paragraphs several key elements of STWA (generosity, eligibility requirements and conditional requirements), including the changes that have taken place, will be described in more detail. We will also provide a general description of variation in these elements and if possible we will give specific examples hereof. The information is based on the available literature and on the country quickscans that have been carried out in the interim phase of this study.

3.3.2 Eligibility Requirements

Eligibility is defined as a set of conditions that the employer (or employee) must meet in order to participate in the arrangement. Eligibility criteria are supposed to reduce the deadweight loss and displacement effects (OECD, 2010). As defined in the previous part of this report, the **deadweight loss** appears when subsidies based on STWA are paid for jobs that would be retained even in the absence of the subsidy, making STWA a pure financial transfer which does not limit total job losses. A connected problem are the **displacement effects** which occur when STWA preserve jobs that are not viable without the subsidy, even after the economic condition recovers. Maintaining these jobs locks workers into low-productivity job matches and represent a barrier to job creation and efficiency-enhancing labour mobility (Hijzen, A. and D. Venn, 2011). It is thought that the deadweight loss can be minimized by limiting access to STWA for companies that would not lay off employees even without STWA subsidies. On the other hand, by excluding the companies which would lay off employees even when obtaining STWA limits the extent of the displacement effects. Therefore the cost-effectiveness of STWA should increase if the appropriate eligibility criteria are applied. However, eligibility criteria may also be related to substantial administrative costs, which deter some firms from participating in STWA. Countries apply various eligibility criteria that can be categorised into two groups, depending on whether they apply to employers or employees (OECD, 2010).

Eligibility criteria for employers

In the majority of countries, the economic situation of the employers applying for STWA is tested and they are asked to provide a **proof of economic need**. This is intended to limit the deadweight loss which would be created by subsidizing companies which are not in economic need and would not lay off employees without STWA.

The criteria determining the eligibility for STWA are usually based on a minimum decline in production or sales or a similar indicator. Belgium added a condition that the bad economic situation must not be a result of mismanagement. As mentioned, these criteria are in gen-

eral meant to avoid deadweight loss. Slovenia used eligibility criteria also to limit the displacement effects as it applied a maximum limit to the drop in demand of products (not explicitly mentioned in the law) and to the loss of the capital value as a criterion for STWA. Companies whose indicators exceeded a given threshold were not supposed to be healthy enough to apply for STWA. Other countries (the Netherlands or Latvia) did not test the economic need of applying companies.

In addition, employers may be required to make an (explicit) **agreement with social partners** about the participation in STWA (such as in Austria, Czech Republic, France, Germany, Italy, the Netherlands, Slovakia, Slovenia or Spain). In Belgium, collective (or individual) agreements may be required for participation in certain schemes. In the scheme for white collar workers the collective agreement can be substituted by a business plan approved by an ad hoc committee. In Spain, workers' representatives can even be initiators of the process and submit the application for STWA.

Additional criteria for employers occur such as type of the company (usually only private companies are eligible for STWA), its size (limits on size apply for example in the Italian CIGS scheme) or sector (for example Slovakia excluded companies active in fisheries, aquaculture, agricultural production, processing and sales and coal sector).

Eligibility criteria for employees

In order to be eligible for STW, employees may be required to meet the eligibility criteria for **regular unemployment benefit**. This is the case in Germany, Finland or the Netherlands. In Spain, employees are required to be affiliated with the social security system or an equivalent scheme which insures against unemployment and have to have paid social contributions for at least 360 days during the last six years preceding STWA. STW is thus seen as a specific kind of unemployment, though obviously different mechanisms apply.

Employees that have certain **types of contracts** (part-time, temporary, irregular workers, etc.) may be limited in access to STWA. During the economic crisis, these criteria were often relaxed. In Germany, temporary agency workers and workers on fixed-term contracts are usually excluded from STWA but during the crisis they were eligible after all. Part-time workers may not be eligible for STWA in Finland in the case that they are not insured members of the unemployment fund. Temporary agency workers are often allowed into the scheme if they satisfy additional criteria. For example, in Austria they may take part in STWA if the company where they work applies STWA and they cannot be redeployed elsewhere. In Belgium, part-time workers have been eligible for STWA since 2009 under a special crisis measure. In France, STWA does not apply to seasonal workers who are seasonally unemployed. These criteria highly affect certain target groups that are often working part-time, on temporary contracts and in seasonal labour, such migrants and women.

Entitlement for STWA may also be limited only to certain **professions**. In Belgium, white collar workers were not allowed to participate in STWA until a special crisis measure came into force in 2009. In Germany, employees specifically responsible for acquiring new orders must not be subject to STWA. In Slovenia, the management is not eligible for one of the STWA schemes. Apprentices, CEOs and board members are excluded from STWA in Austria. Similarly, managers or officers, childminders, house staff employed by private individuals and sales staff with variable wage based on the number of products sold cannot take part

in the French STWA. The Italian CIGO does not cover senior executives, home workers or apprentices.

3.3.3 Conditional Requirements

According to the OECD (2010), conditional requirements set conditions about the behaviour of the employers and employees participating in STWA. First of all, employers participating in STWA may be **forbidden to dismiss workers**. The length and the strictness of the dismissal protection vary in different countries and over time. In Austria, France (APLD scheme) and the Netherlands the dismissal protection applies to the participants in STWA during and after taking part in the scheme. In Austria, the duration of the dismissal protection depends on the length of participation in STWA and can be between 2 and 4 months. Only workers participating in STW are protected against dismissal. Before the adaptations to the STWA were enacted in 2009, the dismissal protection referred to the whole staff of the company and the duration equalled the duration of the participation in STWA. In the Netherlands, employers are forbidden to dismiss employees in 6 months following the participation in STWA. In Germany and France (*chômage partiel*), the dismissal protection covers participants in STWA only during participation in the scheme. In Slovenia, the dismissal protection is selective and no redundancies are allowed because of business reasons. Belgium, Czech and Italian STWA schemes do not have dismissal protection but in Belgium, the notice period can start only after the end of participating in STWA.

The dismissal protection has been criticized by many employers. Since the situation of the company entering STWA is often turbulent and dependent on the economic development, the employer has limited influence on the future economic situation of the company. Therefore he or she has lack of control over whether or not they will be able to preserve jobs. It appears that the dismissal protection was a reason for some companies to undertake other measures than STWA. There was no dismissal protection in Slovakia. According to experts' opinion this did not lead to mass dismissals after participating in STWA.

Furthermore, employees taking part in STWA may be required to **look for a job** (e.g. Denmark, Finland, Germany and Spain). This is especially the case in countries where the subsidy to employees is administered through the unemployment benefits system. In Germany and Finland, the employee has to accept a job provided by the Employment Agency. Furthermore, German employers taking part in STW can unilaterally decrease the number of hours of short time work. In contrast, in Spain employers need the agreement of employees if they want to shorten the extent of short time work. In the Czech Republic, Italy or the Netherlands employees taking part in the system do not have to look for a job.

Companies may also be expected to perform adjustments in order to be able to cope with new economic reality. Thus, employers taking part in STWA may be required to design a **restructuring plan** or a **recovery plan**. Examples of countries where this is the case are Belgium, Germany, Italy, Luxembourg, Poland and Spain. In Slovenia, an employer applying to the STWA scheme for temporary lay-offs has to submit a programme on maintaining and increasing the quality of workplaces and developing human resources.

Other conditional requirements may apply. In Slovenia for example paying out bonuses and hiring new staff for particular jobs (temporary lay-off scheme) is forbidden during the participation in STWA. Finally, participants in STWA may be required to take part in training. This requirement will be discussed in the section focusing on training in this chapter.

3.3.4 Generosity and costs

According to Hijzen and Venn (2011) generosity encompasses the amount of subsidy to employers and employees and the maximum length of participation. STWA differ considerably across countries in terms of generosity. Even though requiring firms to share the cost of STW appears to be an effective way of reducing deadweight loss, in some EU countries firms do not bear any part of the cost of STWA. Boeri and Bruecker (2011) further indicate that generosity of STWA has important implications for the social partners' attitude towards agreements about STWA in countries where this is required. Generally speaking, when combining the income from hours worked and STWA allowances, workers taking part in STWA receive higher incomes than they would do in the case of full unemployment.

In France, Germany, Hungary, the Netherlands, Poland, Portugal and the Slovakia firms participate in the costs of STWA by paying a part of **working costs** for the hours not worked. In other countries, firms may not have to bear the costs of STWA at all. In Germany firms are also obliged to pay all or part of the social security contributions for the hours not worked. This discourages abuse of STWA and decreases the deadweight loss because even if the employee is on STWA the employer has to bear part of the costs. The payment of social security costs can in certain countries be (partially) reimbursed if the employees participate in training during the period of STWA (Germany, Spain). This measure is intended to motivate employers to provide training activities to their employees. German employers have to continue to pay labour-on-costs such as holiday pay, payment for public holidays and sick pay. Furthermore, they pay contributions for pension and health insurance on 80% of foregone earning of workers on STWA. The costs incurred by companies amount to 24% and 35% of the usual labour costs. This is seen as a crucial incentive for companies not to use STW where this is not necessary or viable. In order to decrease the financial burden for the employers, Austria reimbursed the social security costs from the seventh month of STWA onwards. Because a design of the scheme that was too attractive could tempt employers into abusing the scheme, Austrian employers, too, were asked to pay part of the working costs such as Christmas remuneration and other bonus payments, based on the normal full-time wage. Furthermore, the STW support paid to employees is often higher than the public subsidy, often as a consequence of social partner agreements. These costs seem to play an important role in the employer's decision of whether to take part in the scheme or not.

The manner in which the **height of STWA subsidy** is determined varied among countries. Several countries set the height of the compensation for employees as a percentage of the preceding salary (80% in Italy, up to 75% in Belgium and the Netherlands, up to 70% in Spain, up to 67% in Germany or 60% in the Czech Republic). In France, the employer receives a so called specific allowance per hour of STW (the height depends on the size of the company) and in case of very strong economic downturn also a 'conventional allowance'. In Latvia, the employee participating in STWA received a monthly scholarship. Participants in

Finland received a fixed basic allowance and insured members of the unemployment fund also an earning-related daily allowance.

The **maximum duration** of participation in STWA ensures that STWA will not become an obstacle to job reallocation, as employees cannot be stalled indefinitely in short-time work. When comparing the maximum durations in EU countries, we see that countries with newly introduced STWA during the 2008-09 crisis allow on average shorter durations of STWA than countries where the STWA already existed (Hijzen and Venn, 2011). A number of studied countries set the maximum duration of STWA as a number of months or days (up to 24 months in Austria and Germany, up to 18 months in Spain, 6 months in the Czech Republic and Latvia, 60 days in Slovakia). In France, the maximum duration of STWA was set to 800 hours per year (1000 hours in specific industries). In Belgium the maximum duration of STWA depended on the extent of the scheme, i.e. what proportion of the working time is devoted to STWA. The proportion of employees who participated in STWA within a particular company influenced the maximum length of STWA in the Netherlands. In Belgium and Slovenia several schemes with various maximum durations were available. Italy had also several short time working measures which could be used by the employer. However, the maximum duration of both combined was 36 month within a period of five years. Some countries expanded the maximum length of STWA during the crisis (Austria, Germany or France). According to experts' opinions, the maximum duration of 60 days per year in Slovakia was legitimate as the operational difficulties by the majority of the employers did not exceed this period.

The **minimum and maximum hours reduction** differed between countries and sometimes even between measures in particular countries. Reason for introducing minimum hours reduction is often an effort to limit the number of applications for STWA with a low number of non-working hours. Motivation for maximum hour reduction may be the distribution of the hours not worked between a larger group of employees. Hour reductions between zero and a hundred per cent were possible in Belgium (depending on scheme), Czech Republic, France and Italy (depending on scheme). Finland, Germany, Slovakia, Slovenia and Latvia put limits on the minimum hours reduction but enabled maximum hour reduction up to 100%. Minimum hour reduction varied from 4% in Slovakia up to 50% in Latvia. Austria, Finland, the Netherlands and Spain restricted both minimum and maximum hour reductions. Most strictly limited hours reductions were found in the Netherlands (between 20 and 50%). Employers seem to prefer schemes that offer more flexibility in terms of hours reduction. This gives them space to adjust the working hours reduction to current circumstances. It is also appreciated if the working hours reduction can be adjusted during the participation in STWA as it is difficult for the employer to foresee the development of orders at the moment that she applies for STWA.

3.3.5 Financing and payment of STWA and its relation to the Labour market policies

STWA is **financed** in different ways. In a number of countries such as Austria, Belgium, Finland, the Netherlands or Spain, STWA are financed via the unemployment benefits system. The Italian CIG system is funded by the contributions of the state and employers, while the CIGS is financed by the contributions of the state, employers and employees. Slo-

vakian and Slovenian STWA were financed from the state budget whereas Czech and Latvian STWA were financed from the state budget and from the European Social Fund. The French STWA was financed by the state and by Unédic (institution paying unemployment benefits in France).

The benefits are not always **paid** directly to the employee. They may be paid through the employer (Austria, Czech Republic, Germany or Slovakia). In France, the employer receives from the state a contribution per hour of STWA. In the Slovenian scheme of partial subsidizing of full-time jobs, the employer is not obliged to pass on the state contribution to the employee. In Latvia, employees participating in STWA receive a scholarship during the compulsory training.

If the participation in STWA has a negative effect on the **length or the amount of the unemployment benefit** or other contributions, employees' willingness to participate in the scheme may decrease. Participation in STWA has no consequences for the duration or amount of unemployment benefit in a number of countries (Austria, Czech Republic, Germany, Italy, Latvia or Slovenia). In the Netherlands, participation in STWA may have negative effects on the unemployment benefits if the employee is dismissed within half a year after having participated in STWA.

3.3.6 Relation to training

Many of the STWA are related to training, requiring participant to take part in training. This requirement may help to reduce displacement effects that arise when STWA support unviable jobs, since training arrangements have the potential to enhance either the viability of the current jobs (via up-grade training) or worker mobility (via job search or general training). Similarly, even when not compulsory, training may be supported within STWA by financial subsidies or incentives.

Some countries (e.g. Czech Republic, Latvia, Netherlands, Portugal, and one of the Hungarian and Slovenian STWA) require that the employee takes part in training during the hours not worked. Most of these countries subsidize (part of the) training costs. Latvia has applied a system of training vouchers. In the Netherlands, the training was compulsory for the participants in STWA but it was not subsidized so the financial burden was carried by the employer herself.

A number of countries did not make participation in training compulsory, but tried to promote participation by financial incentives. For example, Austrian or Flemish employees participating in training qualified for higher STWA benefits than those without training. In Germany, the cost of training and employers' social security contributions were reimbursed if the employee took part in training. Similarly, discount on social security contributions was applied in Spain. In France, training during the STW period was strongly recommended. However, combining training with STWA may have been complicated in France because training and STWA are two separate schemes. In addition, funding for training is a complex arrangement. Nevertheless, when applying for STWA (APLD scheme), the employer has to have an individual interview with every employee affected by STWA in order to explore the possible training actions.

Slovakian STWA did not have any connection to training although this had been an original intention of the policy makers. Employers' organisations opposed the possible relation with training as they feared the excessive administrative burden of such a scheme.

3.3.7 Role of social partners

Employer and employee organisations, as well as work councils, may be involved in both designing and administering STWA. Particularly in times of crisis, quick solutions are needed to maintain the economy's competitiveness. Strong and well-established tripartite systems seem to be an essential success factor for the development and timely implementation of STWA (Mandl et al., 2010). The extent of involvement of social partners seems therefore dependent on the national framework of social partnership.

Walsh et al. (1997) suggest that unions may oppose STW on the grounds that spreading the effects of the downturn over a large group of workers would reduce the income of many workers who would otherwise have been unaffected financially. This potentially undermines seniority rules laid out explicitly in union contracts. In several countries, social partners have established sectoral or company level agreements that go beyond the governmental STWA. These arrangements may include greater income support, dismissal protection, the coverage of employees' social security contributions or provision and funding of training and are beneficial to the affected employees. However, the question has been asked what the effect of these additional costs was on the sustainability of a firm that already was in financial difficulty (Mandl et al., 2010). These non-governmental arrangements are beyond the scope of this study.

These issues have led in some countries to institutionalise the role of social partners both during the design of the scheme as well as during the application at the company level. As described in chapter on eligibility requirements, in order to be allowed to participate in STWA employers may be required to make an (explicit) **agreement with social partners**. Such agreements were required in Austria, Czech Republic, France, Germany, Italy, the Netherlands, Slovakia, Slovenia or Spain. For participation in certain Belgian schemes, collective (or individual) agreements may be required. In the Belgian scheme for white collar workers the collective agreement can be substituted by a business plan which is approved by an ad hoc committee. In Spain, workers' representatives can initiate the process and submit the application for STWA.

On national level, agreements of social partners also resulted in fundamental adaptations in STWA. In France, social partners played a crucial role in the design and adjustment of the scheme. Amendments to existing provisions were introduced in collective agreements and were subsequently validated by the government and transposed into the Labour Code. In Finland, the amended STWA originated from an agreement between The Federation of Finnish Technology Industries and the employee federations. The Ministry of Finance supported this agreement and initialised the STWA amendment. Afterwards, the amendment was forwarded to the Ministry of Social Affairs and Health to be elaborated. In Slovakia, the involvement of social partners in the design of the scheme was limited due to the short timeframe within which the measure was designed. Nevertheless, the employers' represen-

tatives lobbied for excluding the training element in the scheme since it would have a negative effect on the participation in the scheme.

Involvement of the social partners in STWA was relatively strong in countries such as Austria, Belgium, Finland or France. Often, the involvement of the social partners resulted in additional agreements about the scheme. In Austria, agreements with social partners in some cases resulted in top-ups on the benefits for the employees. These top-ups were paid by the employers. In Belgium, sectoral extensions of the eligibility duration could be realized. Additionally, social partners often informed the companies about the changes in the legislation and enhanced the knowledge about STWA amongst potential beneficiaries. This was especially important in countries where STWA had no tradition and/or was not well known.

Except for social partners there are other stakeholders such as employment offices and authorised ministries. The function of these stakeholders is described in chapter 4.1.

3.4 Conclusions

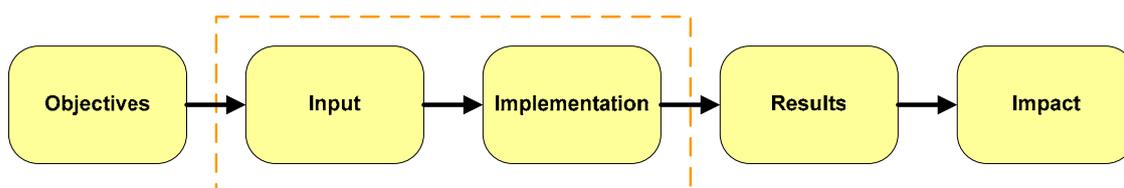
When comparing STWA in European countries we can find a variety of individual measures in terms of eligibility requirements, conditional requirements, generosity, relation to the labour market policies and training, financing, payment and the role of stakeholders. This variety can be (partially) explained by the contextual differences and different (weights of particular) objectives. Apart from these differences we can identify some common features.

- Firstly, countries where STWA was established before the 2008-09 crisis prolonged the available durations of short-time work for the period of crisis. Thus, available duration of STWA in these countries was longer than in countries where STWA was newly introduced. As a consequence, there was a large variation in the possible length of STWA starting from 60 days (per year) in Slovakia reaching to 3 years in a 5 year period in Italy.
- Secondly, the majority of countries financially stimulated training activities (Austria, Belgium, France or Germany) or made participation in training mandatory during the STWA (Czech Republic, the Netherlands or Slovenia) .
- Thirdly, the newly established STWA seem to be less generous and more stringent in terms of eligibility and conditionality requirements compared to STWA that had been established before the 2008-09 crisis. Furthermore, we assume that the generosity, eligibility and conditional requirements of STWA during the 2008-09 crisis maximized the effect and impact of STWA.
- Fourthly, involvement of social partners in some countries led to (additional) agreements about STWA. These agreements often increased the generosity of the scheme for employees.
- Fifthly, it appears that within the EU countries only in old member states STWA is financed by the unemployment benefits system. New member states finance STWA from the state budget or from the European Social Fund.

Finally, there is no obvious geographical clustering of STWA according to the above mentioned criteria.

4 Implementation of STWA

This chapter summarizes the information on the way that STWA was applied - the implementation, covering aspects such as the organisations that were involved, the selection process, number of participants, etc. and the most important lessons drawn.



Again, the information presented in this chapter is based on the EU wide literature study and desk research in 12 Member States,

4.1 Authorities responsible for the implementation of STWA

STWA was generally designed by the authorised ministry, e.g. the ministry of social affairs and employment, and implemented by the Employment office/service. In the following paragraph we will describe the situation in countries where the implementation of STWA was more complex, i.e. that were an exception to the rule.

In Austria, STWA was administered by the Employment Service since 1960 while the Federal Ministry of Labour, Social Affairs and Consumer Protection designed the legal basis of the scheme. Since the reform of the scheme in 2009 the Employment Service has been responsible for designing the scheme while the ministry keeps a monitoring role. In Belgium, the National Employment Office has the responsibility for STWA schemes but the temporary adaptation of working time for crisis reason is administered by the National Social Security Office. In Finland, the STWA is jointly implemented by local employment agencies with unemployment funds or the Social Insurance Institution of Finland. In France, the government is responsible for the implementation, monitoring and evaluation of partial unemployment allowance. The scheme has been designed partially by the Ministry for Economy, Industry and Employment. The compensation for reduced activity of long duration, the APLD, is managed by the government and Unédic participates in its funding. In Italy, the Wages Guarantee Fund (administered by the National Institute of Social Insurance) makes up the pay of the employees affected by STWA.

In the Czech Republic the Ministry of Labour and Social Affairs has set the general eligibility criteria but the local Employment Agencies were given substantial freedom in implementing the STWA. They could determine their own method of assessing the applications and the composition of the selection commission in terms of represented departments and expertise could differ between the regions. Furthermore, the regional employment agencies were free to set the marginal values of certain indicators determining employer's eligibility for STWA. Additionally, the employment agencies could choose which indicators of economic need they would accept. The reference in the case of ambiguities was provided by the Ministry of Labour and Social Affairs. If a problem occurred more frequently, all participating agencies were provided with an updated instruction. This system enabled the Employment Offices to

adapt the policy to the local needs (for example to suit an important sector in a particular region better) and led to increased quality of implementation of the scheme. On the other hand, it must be ensured that enough relevant expertise is present in the selection commission so that various aspects of the application (economic need, suitability of the training scheme, etc.) can be assessed. There is also a danger that knowledge will be fragmented between Employment Offices. A central platform for Local Employment agencies can help to avoid this.

The adaptation of STWA to the crisis was easier in countries where the scheme already existed and was well known before the crisis. The reason for this is that the procedures, effects, advantages and disadvantages were known by the Employment Office/Service and the social partners. As in the case of Austria or Belgium, the tradition of social partnership and negotiation culture seem to further ease the negotiations about the adaptations to and the implementation of the scheme.

4.2 Carrying out STWA and the selection of participants

Good knowledge of the scheme and its requirements among the key stakeholders is of great importance for a smooth implementation of STWA. For example, an evaluation study from the Czech Republic shows that some employers and employees confused STWA arrangement with other programmes and some had doubts about the requirements. This can have a negative effect on the participation in the scheme and its effect and impact. More parties (usually the Employment Office or the social partners) can be included in **informing the employers and employees** about the possibility of participating in STWA. This was the case in Austria, where the Austrian Federal Ministry of Labour, Social Affairs and Consumer Protection conducted press releases in order to inform the general public. The Employment Services published information and guidelines for employers and employees on its website and the Chamber of Labour as well as the Federation of Austrian Industries offered specific information on their websites. In Slovenia the Employment Service conducted training presentations in cooperation with the Chamber of Commerce and the Chamber of Crafts to inform human resource managers about the STW schemes and how to apply them. Finally, the name of the scheme is an important detail as in France the double terminology (*chômage partiel*/partial unemployment and *activité partielle de longue durée*/reduced activity of long duration) was confusing.

Generally, the procedure of applying for STW can be described as follows (although the practice in case of individual country/scheme can differ):

- In countries in which a social partner agreement was needed as prerequisite for participation in STWA, employers often had to consult/come to an agreement with social partners before applying for the STWA.
- When applying for the scheme, employers were required to submit a number of documents (depending on the country and the scheme) to the Employment Office/Service, such as the application for STWA, proof of economic need, a list of participating employees or a solemn declaration.
- The Employment Office/Service assessed whether the employers / employees fulfil all the conditions required for the participation in the scheme. In case of ambiguities or doubts the Employment Office/Service approaches the employer or asked for additional documents.

- After the application was assessed and the participation in STWA was approved, the employer could apply the scheme. During the application of the scheme the employer may be required to regularly report on how many employees have been participating in STWA and the extent of the participation. This information may be checked by the Employment Office/Services in order to avoid abuse of the scheme.

The bureaucratic burden of the application process and the ongoing administrative requirements for receiving the public subsidy for reduced working hours was a factor hindering participation in STWA. Companies striving to survive in economically difficult times have little interest in dealing with administrative procedures, especially if the public support achieved is relatively low compared to the effort required (Mandl et al., 2010). Evaluations of STWA imply that **administering the scheme** also imposed a substantial burden on the employers, as the production level, working times and salary levels needed to be kept under constant observation. This is the case especially in smaller companies which have no specialized HR departments.

4.3 Participation in STWA

4.3.1 Number of participants

In this subchapter, we are going to give details on the participation in STWA. The levels of participation had different dimensions in various countries. The reasons for this are the cross-country differences in population of employees and the difference in STWA participation rates. Judging from the absolute number of participants the largest short time working arrangement can be found in Germany. In May 2009 when the maximum number of participants in German scheme was reached, 1,442,667 people took part in it. In France, 673,000 employees were affected by STWA in 2009. On the other hand, in the same year only 20,591 employees took part in STWA in Spain and in Latvia the total number of participants was less than 6,000.

If STWA already existed in a particularly country, the participation in the scheme started to increase in late 2008. In most countries, the participation in STWA peaked in the first half of 2009. In Belgium the peak was reached in March 2009 when 313,000 people took part in the scheme. Generally, the participation in the scheme began to decline in the second half of 2009. The reason for this was an improving economic situation in many countries.

In several countries, for example in Austria, employers often requested STWA for a higher number of employees than actually later participated in the scheme. When the peak in participation took place in April 2009, more than 37,000 people participated in STWA. This is a lower number than the 56.000 employees whose participation the authorities authorised for the same period. This may indicate that employers who apply for STWA make use of it only if it is inevitable, i.e. there are no other alternatives of how to keep employees in work. However, not all schemes allowed employers flexibility in determining whether or not employees will actually take part in STW after that has already been authorised. In Spain for instance, employers had to have agreement of employees placed on STWA before if they wanted them to start working before the date when STWA would terminate. In Belgium, STWA is considered a regular part of labour market policy and it has an extensive take up. Some companies tend to a regular use of STWA. This may raise concerns whether the

measure is addressed exclusively to cyclical problems rather than to structural or seasonal fluctuations.

4.3.2 Groups reached by STWA

When looking at participation rates, it is also important to see which groups of workers and companies made use of STWA in the different countries, whether this distribution was uneven in any sense and whether the distribution differed between countries. Of course, STWA respond to the demand from businesses and sectors, and thus respond to the economic need. However, this in itself might already lead to a skewed distribution of participants amongst target groups depending on the specific need of different sectors in the economy. In addition, within businesses, the selection processes might favour some groups over others. Thus there might be an overrepresentation of men instead of women, young or older workers, employees with permanent contracts instead of flexible contracts and migrants instead of natives.

A complicating factor in this context is the question of whether participation in STWA is a desired outcome or not for an individual. This depends on the situation of the company in question and on the alternative to participation in STWA for the employee. The issue here is that STW implies both threats and benefits for workers. If the alternative to participation in STWA is permanent dismissal, it will be desirable for employees to take part in STWA. However, if the alternative to participation in STWA is staying in regular full-time employment, participation for the individual employee is undesirable. Employees coming from particular vulnerable groups might have the feeling that they are being pushed aside, or stalled in an unproductive position. These mechanisms are important when considering the implications of the reach-out to target groups of the STWA in different countries.

In most countries information is available on the use of STWA in different business sectors. In many of the countries, it is clear that the great majority of participants worked in industry or in the manufacturing sector, whereas less demand came from the services sector. Specifically, the Austrian, German and French car manufacturers were intensive users, but also the metal industries in the Netherlands, and Slovenia were well-represented as well as the textile and clothing industry in France. Exceptions to this industrial emphasis are the schemes in Spain and Latvia. Thus, Latvian participation rates were high in retail and wholesale enterprises as well as in accommodation and catering whereas in Spain the services sector scored highest in terms of companies participating. However, the highest number of participants came from industrial companies, implying that these companies sent greater shares of workers into the schemes.

The overrepresentation of manufacturing and industry in the different countries may be connected to the intended targeting of STWA: in most countries, short-time work is seen as an instrument aimed at the traditional production-based sectors. On the other hand, the high interest of industry and manufacturing can also be a reflection of the impact of the economic crisis. These are crucial export industries which experienced a sudden drop in international demand as a result of the crisis. At the same time they are also well-established industries with a long standing in the respective countries. As a consequence, they usually expect the demand to pick up again soon after the crisis, as no deep restructuring is deemed necessary. As long as this idea proves to be correct, short-time work is a very

suitable instrument for these sectors, as it provides the temporary buffer that is necessary to survive the period of low demand.

From the same point of view, the exceptional situation in Latvia can be explained. Compared with countries such as Germany and France, the Latvian economy is subject to a lot of changes and constant restructuring. This is also reflected in the high growth rates before the crisis and the substantial drops during the crisis. It is possible that the sectors that made use of STWA had grown disproportionately in the years before the crisis and experienced a backlash when the crisis hit. It is important to remember that the Latvian system of STWA was terminated because it was thought to prevent necessary restructuring. Thus, the participating companies may already have been unviable in the long-run which explains the different picture when compared to other countries within the European economy.

Furthermore, it seems to be the case that the STWA were less suitable for small and medium-sized enterprises. Large enterprises on the other hand made disproportional use of the schemes. Thus, in France, 50 percent of the compensated hours were located in large enterprises. Similar overrepresentation of large companies can be seen in Slovenia, Germany and Germany. It is assumed that the administrative effort that is needed for participation in STW plays a role in the more intensive use of large enterprises. Small and medium-sized companies often miss the organisational capacities to make use of instruments such as STW. However, other reasons can also play a role. Small companies might be more flexible in their approach to personnel management, being able to grow and shrink more easily. Furthermore they might not be able to absorb large shocks at all, and might then also not be able to use short-time work as a way out. Larger companies on the other hand often have more stable structures which help them determine which parts of their production can be temporarily dispensed with. Finally, the sectors that made use of STWA, notable the car industry, feature a lot of large companies in comparison with the whole of the economy.

The selection of companies making use of STWA obviously has an impact on the types of workers that participate in the schemes. It is thus not surprising that the vast majority of participants were male. This reflects the composition of the working population in the sectors involved. As an example, in Germany 70 percent of participants were male and in Austria even 80 percent. Latvia is again an exception, as 68 percent of participants there were female. Since Latvia was already an exception in the representation of specific sector such as the retails sectors, the different gender distribution seems to be a reflection of this. Despite the fact that the gender distribution reflects the distribution in the specific sectors, in some cases the dominance of male participants has led to questions about the equal distribution of benefits. This was the case in Finland where it was noted that in female-dominated sectors it is more common to reduce daily working hours instead of laying off whole days. Due to the design of the STWA in Finland, this meant that these female-dominated sectors did not make use of the scheme, whereas the male-dominated did. It can be concluded that the STWA did not take into account this specific sector-based factor of influence.

In addition to the strong representation of men, it seems that in several countries the participants were skilled workers, at least in the countries where information is available. Thus in Germany it was shown that the workers came from a medium income group suggesting that they were not part of the group of low-skilled manual workers. In Slovakia it was

found that plant and machinery operators were the most affected group, as well as craftsmen, repairmen and qualified producers. In addition, in most countries the participation was highest amongst employees with permanent contracts. This distribution is not surprising and actually fits well into the rationale of short-time work. Companies can use STWA to keep the employees that they expect to require after the time of crisis has subsided. Hereby they gauge how difficult and costly it will be to re-hire employees after the crisis at a time when demand picks up. Skilled workers are harder to find than the unskilled workers and are thus more valuable to keep in the staff composition, even if they are temporarily unproductive. In fact, in some countries such as Germany, companies were facing a lack of skilled workers in the years before the crisis. This explains why they tried to keep on these workers so that they would not have to pay the recruitment costs after the economy picked up again. Again however, there is an exception to this dynamic, this time in France. There it is reported that participants in STWA had a lower level of education than average and that fixed-term contracts and temporary workers were actually overrepresented amongst STWA participants.

The distribution of participants between the different age groups also shows little to be concerned about. Where data is available, e.g. in France, Germany, Latvia and the Netherlands, the distribution of younger and older workers is even across the range. Most participants fall within the group of 30 to 50 year olds and the proportion of those above or under this age range is the same. There were some concerns that short-time work might be used by companies to dispose of older workers who were seen as less productive. Thus older workers might be 'locked' in short-time work and not be able to re-integrate in the production process. In Germany, statistical research in the area of Nuremberg has shown that the age distribution of participants is constant and that there is a high turnover of participants in the scheme. This implies that there is no difference in the way that older and younger employees are treated in the context of the German STWA.

Other aspects such as the ethnicity of participants are not recorded in national statistics on STWA. Obviously, it can be said that ethnic minorities are well-represented in the sectors that made use of STWA, but they are also often overrepresented in the low-skilled groups and in flexible employment. In the Netherlands for example, unemployment amongst ethnic minorities increased considerably in the crisis years, after it had been decreasing in the years before the crisis. However, it is difficult to find a firm link with short-time work in any of the countries under consideration.

We can conclude that in the implementation of STWA in the different European countries, specific sectors and groups of workers were overrepresented, but that this was not necessarily a consequence of unequal access to the schemes. The distribution of participants can be seen as a reflection of the sectors and companies that make use of STWA. The majority of participants is male, skilled, has a permanent contract and comes from the medium age groups. In general, the distribution is stable and the different groups are not treated differently by their employers in the context STWA. Nonetheless, it would be interesting to delve more deeply into the ways in which the decisions are made of which employees can take part in STWA, the role of social partner agreements in these processes and the role of the sectors that do not make intensive use of STWA. Some insights into these processes are shared in the country studies in part C of this report.

4.4 Implementation of training

The importance of training schemes and life-long learning has increased due to the rapid technological development and the changing structure of modern economies. Skills that an individual obtained during the school years may be obsolete after one or two decades. Employers play an important role in providing and/or financing training to employees during their careers. Due to training employees' productivity is enhanced and employees may even be promoted to higher positions thanks to newly obtained skills. On the other hand, some employers hesitate to provide training because they fear that employees would change jobs after finishing the training. For employers this would mean a clear loss as they would have financed the training but would not enjoy the employee's increased productivity.

There is great variety in the ways in which training was implemented within STWA in European countries during the crisis. This allows us to compare how successful the individual measures were. Firstly we will look at examples of countries where training was compulsory during participation in STWA. Afterwards, we will describe how training was implemented in countries where it was not mandatory.

In the Czech Republic general training was made compulsory for participants in STWA. The employer who wanted to participate in STWA could choose the subject of the training and an external training provider to provide training to the employees. Subsequently the Employment Office assessed the employer's motivation for the training and whether the training fulfilled the criteria postulated by the law. During this process the Employment Offices were given a substantial level of freedom in their assessment methods. They could for example choose what indicators they would use during the assessment and what thresholds they would handle. This enabled an individual approach with regard to the local context. This way the Employment Office could for example concentrate on sectors which were crucial for a given region. On the other hand this approach requires that the assessment committee has enough expertise in the issues concerned. Additionally, firms located in certain regions may be disadvantaged because their local Employment Office handles more stringent selection criteria. Finally, there is no nationwide system of training certification in the Czech Republic. This made it difficult for employment agencies to control the quality of training.

Participation in training was also mandatory within the Slovenian temporary lay-off arrangement. Unlike in the Czech Republic most of the training measures were conducted in-house. These training schemes were appreciated to keep workers in touch with the company. However, as there was no specific definition of training, it was possible that training contained lectures on work place security which were legally required anyway. It is therefore important to give a definition of an adequate training required during the participation in STW. In Latvia, training vouchers were provided to participants in STW with which they could choose their course of training themselves. This training voucher system emphasized the individual characteristics of the programme. The disadvantage was that employees who were applying for unpopular programmes could not always receive the training and did therefore not benefit from the scheme. The reason for this was that the education agencies were assembling groups to provide the training. Where the number of interested participants was too low, the training did not take place. Furthermore, 6 months of the training turned out to be too short to take full advantage of the professional training. Finally, detailed legislation procedures of the scheme made the implementation very time consuming and complicated.

Enterprises which were implementing training schemes in the Netherlands could ask for support from local Employment Office, sectoral organizations (construction, etc.) or for regional support (available for example in the Eindhoven region). The quality of support provided by the Employment Offices depended on the individual case. Some Employment Offices prepared information materials for companies who need support with the implementation of training. Research showed that before applying for the scheme smaller companies would appreciate more clarity on what support they can expect (Grijpstra et al 2009). This can have an influence on their decision whether or not to apply for the scheme. Regarding the support of sectoral organizations, the quality and accessibility of support was dependent on individual organization. Some sectors have longstanding and elaborated system of training. In other sectors, firms were not certain about how they can access the support and how it is managed. In the Eindhoven region, regional support for companies was started in 2008. The basic idea was that the services of the municipality, the Employment Office, educational organizations, knowledge centers, etc. were cooperating in handling the issues related to the labour market. In practice this meant that there was one case manager (on behalf of all services) who worked as a contact point and advisor for a particular employer.

In Austria, Belgium, France, Germany, Italy and several other countries training activities were not mandatory during participation in STWA. However, several incentives were designed for employees to participate in training. Generally speaking, participation rates in training activities were disappointing as relatively small proportion of workers affected by STWA took part in it.

In Italy training has been generally managed at a decentralised level. This enables higher responsiveness to demand of skill in specific regions. However, it also leads to high heterogeneity. In general, since the beginning of the economic crisis, training initiatives promoted by firms have considerably decreased. In France training during STWA seems to concern only a minority of firms. The money reserved for training within STWA was not completely used. A survey showed that firms did not change their behaviour concerning training during the STW period. If training took place it was during the working time and not during the time on short time work. Training should be aimed to enhance workers' employability. However, only 25% of companies covered by APLD agreements provided accredited or certified training for the development of transferable skills. This means that the training was driven by the skill needs of the company.

There are several reasons explaining low participation rates in these countries. Firstly, the personnel participating in the training is **less flexible**. If an employer receives new orders and the production has to be restored it can be complicated to make use of employees who are taking part in the training. A possible solution could be that the training providers would offer programmes with more flexibility in the timing of the training. Secondly, **organisation of training** imposes an additional administrative burden on the employer. Usually, training has to be implemented during quite short periods of time. For the firm it may be difficult to identify the needs in training of their employees and to anticipate the needs for skills in the future. This may form a problem especially in the case of small companies which have no specialized HR departments or no medium-run training strategy. Thirdly, as in some countries the **costs of training** schemes are not fully reimbursed, training is an extra expenditure for employers. This is a drawback for many employers because they participate in STWA in order to reduce their expenditures. Training may there-

fore lead to a problem of priority – whether to invest in training when the firms is facing strong economic difficulties and maybe it is fighting to survive. Finally, there is problem of trade-off between training in **general or specific skills**. Some employers may not be inclined to implement training if it does not directly response to their needs in a short period.

This has to do with the fact that companies are not always interested in transversal skills training, but benefit more from specific training of employees. If they expect the employee to leave the company or the sector anyways, companies will not be interested in investing in the competences. If they expect the employee to stay, they will want to develop task-specific competences. As a consequence of these conflicting interest, the effectiveness of STWA can suffer. This issue was even seen in the Czech Republic, where there were some doubts whether employers were supporting the mandatory training aspect of the STWA, or only used the scheme as a way to receive the subsidy.

There is however also another side to the trade-off between specific and generalized training. This refers to the dimension of in-house and out-house training schemes. Training focusing on transversal skills is in many cases not carried out within the company but by external training providers. Specific job related training is however often carried out on the premises of the employer. This means that employees stay in touch with the company they work for, even though they are taking part in STWA. This can be seen as a positive effect of the specific task-based training which is lost in the case of external transversal training. This mechanism was seen in Slovenia where most of the training was conducted within companies themselves.

4.5 Influence of contextual factors

The implementation of STWA was obviously not administered in a timeless vacuum. The context of the country, the economic development and political discussions were of great influence on the different approaches to STW in different countries. Contextual factors explain several key characteristics of STWA in the countries under discussion.

Firstly, newly introduced STWA schemes were implemented in a very **limited timeframe** without the possibility of detailed ex-ante evaluation. The reason for this was a rapidly worsening economic situation. In Finland this decreased the quality of the text of the law according to stakeholders involved. The law was said not to be unambiguous and it allowed for more interpretations and inconsistent application. This may have been worsened by the fact that the Finnish STWA partly overlapped with the adjusted unemployment benefit system. This made the whole system more complex and handling of complicated cases became more difficult. Also, the social partners only had a relatively short time to influence the design of the scheme in countries that introduced new schemes. However, this does not have to mean that they had no influence. For example in Slovakia, the employers indicated that a compulsory training component would complicate the STWA and would have negative consequences for the take up rates. As a result, training was not compulsory for the participants in the Slovakian STWA.

The discussion between social partners, government and employers was less problematic in the countries where the scheme already existed and was well known. In these countries the conditions of STWA were often relaxed during the crisis (Austria, Germany, and Spain). The

reason for this was the severity of the crisis. Participating parties were aware that extraordinary measures had to be made in order to prevent substantial growth of unemployment. Countries with new STWA schemes often prolonged the validity of these schemes as well (the Czech Republic, the Netherlands, and Slovakia). Latvia forms an exception from this rule as the Latvian government terminated the STWA two years earlier than planned. The reason for this was that in order to increase the competitiveness of Latvia after the crisis, restructuring of the economy was deemed necessary which included the loss of less competitive sectors and jobs.

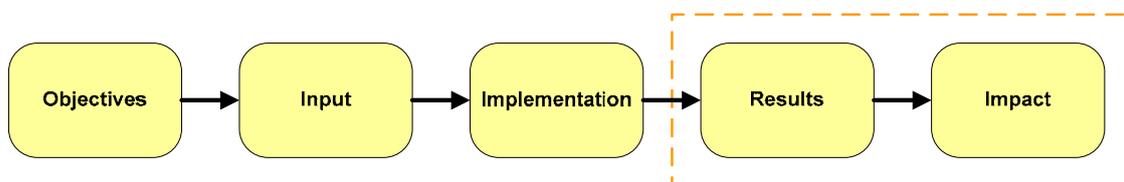
The design and application of the STWA was not only influenced by domestic factors but also by **factors abroad**. Austria can serve as an example in this context. The original STWA appeared to be insufficient for Austrian companies to cope with the crisis as the Austrian STWA was less generous than needed during severe economic downturn. In February 2009 several adaptations to the scheme were enacted. However, it seemed that German companies (Austria's main trade partner) still had an advantage as they could profit from the more generous German *Kurzarbeit*. In order to eliminate this competitive advantage from the seventh month of STWA onwards the social security contributions were reimbursed. This adaptation was enacted in July 2009. More information of this dynamic process is provided in part C of this report.

4.6 Conclusions

On the basis of information provided in this chapter we can formulate several conclusions. Firstly, STWA was in general designed by the authorised ministry and implemented by the Employment office/service. In countries where STWA was newly introduced the scheme was designed within a relatively limited time frame and there was little space for detailed ex-ante evaluations. Secondly, it is important that employers and employees are well informed about the STWA. The ministries, Employments Office/Service and other stakeholders can take a role in informing the employers and employees about the scheme. Low knowledge of the scheme may decrease participation, raise ambiguities about the scheme and worsen the effect and impact of the scheme. Thirdly, in the majority of examined countries, the participation in STWA started to increase in late 2008, peaked in 2009 and started to decrease in 2010. Finally, less stringent eligibility criteria and conditional requirements and higher generosity of STWA led to a higher take up. Very complex schemes also seem to decrease the take up rate as they are less suitable for smaller companies.

5 Results, impacts and lessons learned

This chapter covers the results and impacts of the arrangements and what this actually means for the effectiveness and usability of STWA in crisis situation.



We first describe the information that is available on country level regarding the effects and impacts of the measures. We use the data gathered for the country quick scans in the twelve countries selected for this overview. We then discuss the results of overarching research studies that have strived to estimate the effects of STWA using econometric analysis. We try to reproduce the results of some of these studies in order to test the robustness and accuracy of the conclusions. Taken together, the information on results and impacts provide us with a general impression of the effectiveness of the measures at macro level, which can be tested at micro level in the country studies presented in part C of this report.

5.1 Results based on the country-level information

5.1.1 Job protection and deadweight loss

The most important and direct effect of STWA is the protection of jobs of workers participating in the scheme. Because of the risk of deadweight losses and displacement effects, this effect is difficult to measure. Especially regarding displacement effects of recent STWA, it may still be too early to estimate the direct effects of STWA. Some countries have already carried out thorough evaluations of the recent schemes estimating the number of jobs saved, but this has not taken place in all countries. It is also important to remember that several of the STWA are still in force, influencing the effects of the measures.

In general, STWA in the different countries are seen as a success. Also in countries where no evaluation has yet taken place, such as Spain or Finland, the systems of short-time work or temporary layoffs are seen by public administrators and other stakeholders as an effective way to avoid dismissals. In Belgium for example, both the federation of employers as well as the ministry in charge see STWA as a main factor in explaining the unexpectedly small rise in unemployment. These judgments are often based on the popularity of the schemes, also in comparison with other labour market measures. In Spain for example, the use of STWA increase substantially during the crisis, whereas the use of other labour adjustment measures, such as temporary suspensions and permanent dismissals, receded. Thus, these general judgements say more about the extent of the usage of the STWA than about the actual effects.

Again focusing more on the popularity of the programmes and the experiences of the users, we can see that several countries (the Czech Republic, Latvia, the Netherlands, Slovakia) carried out surveys amongst participants, both employers and employees, aiming to estimate the effectiveness of the measures. The surveys show that most participants valued the STWA highly and were satisfied with the measures. In Latvia, 95% of participants judged the scheme to be (very) good, while in Slovakia, 82% of employers stated that participation in the STWA helped prevent dismissals of core employees. In the Czech Republic, 66% of employers reckoned that they did not have to dismiss employees thanks to STWA. According to employers in the Netherlands, around 30% of participants in the STWA would have had to be dismissed in the absence of the programme.

While the satisfaction of participants reflected in these surveys is not surprising, there are also some indications for adverse effects and deadweight losses. For example in Slovakia, 18 percent of employers said that employment would be the same in the absence of STWA, implying considerable deadweight losses. Around 11 percent of employers even had to dismiss core employees nonetheless, implying displacement effects. On the other hand, in the Netherlands, only two out of thirty companies did not agree that they would have had to dismiss employees without recourse to STWA. More generally, the surveys do not provide information on long-term effects. It is however rather likely that employers judge the scheme as more effective than it really was, both due to social norms in answering survey questions, but also as a consequence of the fact that they themselves benefited from the scheme.

Apart from the surveys, in several countries the ministries or the employment agencies make their own estimates of how many jobs were saved by STWA according to their data. These are not always well-founded estimates, but they give an impression of the effect that national authorities ascribe to these measures, often based on the take up rate of scheme. The estimates vary considerably according to the size of the country and popularity of the STWA. Thus, in Austria it was estimated that in 2009 around 8,400 jobs were saved. In Belgium this number was put at 30,275. In Slovakia, the short-term effects in terms of jobs saved in 2009 are estimated at 1,176 and in the first of 2010 at 208. In Slovenia on the other hand, the employment service estimates that STWA saved 25,000 jobs by April 2011. In France, estimates put the number of jobs saved at 30,000. For Germany, the country which had by far the largest STWA with up to 1.4 million people participating at the high point, no such estimates of total jobs saved could be found. In general we can say that the estimates diverge strongly from country to country and that the basis on which these estimates are made cannot be seen as equally strong.

However, there are also some data which show what happened to participants in STWA without relying on estimates of the total jobs saved, again of course depending on the country and the specific scheme. In several cases these are more critical on the impact of STWA than the short-term estimates. In the Czech Republic for example, it was found that enterprises participating in the STWA carried out dismissals to a greater extent than those that originally wanted to participate but ended up not participating, due to their own choice or because they didn't pass the requirements. This can be seen as a selection bias, since only those companies that are in trouble actually used STWA. However, it can also be seen as an indication of negative effects of the STWA, where the participation in STWA may have prevented companies from carrying out necessary restructuring, or participation had a negative impact on the image of the company. In Latvia, 8 percent of individual partici-

pants had become unemployed three months after participation in the scheme which means that 92 percent managed to keep their job. This distribution is similar in Slovenia, where 7 percent of participants were still registered at the employment service in March 2011. A recent evaluation of the STWA in the Netherlands, based on econometric analysis, found no robust positive or negative effects of the measures on the level of employment in enterprises.¹

In Germany, only indirect evidence is available in this regard. It has been shown that the duration of the time participants spend in short-time work in Germany is comparatively short, specifically rarely longer than four months. Companies seem to change the employees around who are participating, or seem to work on re-integrating them into production as soon as possible. While this suggests efficient use of the scheme by companies and workers, it is not clear whether employees manage to hang on their job for a longer time. In Italy, the increase of the use of 'shock-absorbers' such as the CIG scheme of around 30 percent per year is seen as an indication of the popularity of the programme, though this does not allow us to draw conclusion about the effectiveness. Again, it is not clear whether the participants actually kept their jobs.

Finally, recent research in France shows that employees participating in STWA are more often out of employment at different points after their participation than employees who did not take part in the scheme. This suggests significant displacement effects whereby employees are dismissed nonetheless. The research also shows that we are mainly talking about transitions into unemployment, though some employees also cease working completely, without continuing to look for other work. This means that having participated in the scheme, these employees need to make recourse to common unemployment benefit after all. Transitions from work to work, i.e. from one job to another one are not included in this analysis. Of course, the fact that an employee is participating in STW already implies that his or her employer faces economic difficulties.

Concluding this section, we can say that the general impression of the short-time working arrangements in the various countries is positive, although this impression is not easy to back up by current data. When looking at the experience of ministries and employment agencies, and even more so at the judgment of participating employers and employees, the different STWA look like a success. This perception probably has to do with the undeniable short-term effects, since in direct terms employment relationships are supported. However, when looking for harder evidence of the long-term effects of the STWA, the picture becomes slightly more blurry. Whereas some evaluations show positive effects, they also point towards deadweight losses and especially lead us to doubt the long-term effectiveness of the different schemes. Coming to reliable conclusions on the exact number of jobs saved by STWA is in this context very difficult.

However, STWA also have less tangible effects, such as increasing the flexibility of organisations and the employability and mobility of employees. This is mainly the case in the context of schemes that promote the use of training or even make it mandatory. The effects of the training schemes is further described in the section below.

¹ N. de Groot, R. Frierson, J. Weda and P. de Jong (2012): *Werkt werktijdverkorting?*; The Hague: APE.

5.1.2 Impact of training

As has already been described in the previous chapters, countries differed in their approach to training during the design and implementation of short-time work arrangements. This had the consequence that the participation rates differed between the different countries, which also has implications for the effects of the training schemes. In fact, the effects of training are not easy to measure in general. Nonetheless, several studies have been conducted on employees' mobility after training. Wolff et al. (2003) found that there is a higher chance of employees looking for another job in a year following the training. Furthermore, the chance of external mobility (accepting a job in another firm) seems to increase as well. Zweimuller and Winter-Ebmer (2000) looked into whether there is a difference in the effects on employees' searching behaviour between general and firm-specific training. They found that general training increases the chance that employee will be looking for another job after finishing the training. In contrast, firm-specific training decreases this chance. We will now describe the information that gives an indication of the effectiveness of training schemes within STWA.

Regarding the countries with mandatory training schemes, the judgement on the use and effect of the training schemes is generally positive. The Czech Republic is a good example for this positive experience, as more than 90 percent of employees taking part in the training scheme think that their prospects on the labour market increased as a result of it or that their chances of finding a new job were increased. At the same time, 70 percent of the employees think that the training also helped them to keep their current job. Training also helped increasing the self-confidence of workers. In other countries, such as the Netherlands and Latvia the satisfaction with the training aspect of STWA are unknown due to a lack of data. In countries where training was not a mandatory part of participation in STWA, the training itself was seen as a positive aspect by those who made use of it. However, the low take up rate as a result of the voluntary take up formed a problem, since in France, Germany, Belgium and Austria the use of training measures was lower than desired.

The effectiveness of training is not just determined by the number of participants, but also by the type of training and the context within which training takes place. During the recent crisis, countries have emphasised the need for training which focuses on transversal skills and competences instead of training specific to the job or sector a person is working in. The objective of training in the context of STWA is ultimately to increase the mobility of individual employees and the adaptability of the economy. Where employees in STW only learn specific skills for their current job this is unlikely to increase their chances of moving to a different company or sector if their own company ends up collapsing or dismissing them after all. Transversal skills and competences however do help employees to make a step towards other kinds of work when needed. In some countries, this desire for this kind of training was realised as has been described in the previous chapter

The evidence from the country quick scans shows that the potential of training within STWA can still be exploited more intensely. More information on this topic is also provided in part C of this report.

5.1.3 Cross-border effects

Short-time working arrangements are designed, organised and implemented by national governments, valid for the national economy. However, member states obviously operate within the internal market of the EU. Especially at times of crisis, it is important that this market works properly and is not distorted by asymmetrical state interventions. Internal market rules prevent that such interventions are carried out. However, it is not easy to determine at which point an intervention has distorting influence or to which point such an intervention might indeed have positive effects. These questions play an important role in the context of STWA, since STWA can also be seen as an indirect form of state subsidy for business. The Austrian system of short-time work for example was adapted to make it more generous in order to reduce the competitive advantage of Germany companies participating in STWA. However, little information is available on the actual cross-border effects of STWA. In this section, we therefore explore more on a theoretical level the issues that might play a role in this context in stead providing empirical data on this matter.

The cross border effects can both take place on an international level where companies compete on the same markets, but also on a regional level, where regional supply chains and labour market clusters are concerned. Regarding the international level, the key question is whether companies participating in STWA can gain a competitive advantage over companies in other countries who might not have recourse to STWA, or might only be able to make use of a less generous measure in their own country. Where this is the case, two aspects of STWA are of great importance: firstly the entry requirements and secondly the indirect nature of the support companies receive. The entry requirements ensure that only companies that are really in need of STWA can make use of it. This in turn means that the companies benefiting from the STWA, cannot be seen as the strongest competitors at that point in any case. It is the drop in demand and their resulting weak position on the market that drives them into employing short-time work. In fact, some employer may avoid making use of STWA since they are afraid of the negative effects this might have on the image of their company. Competitors, but also customers and suppliers may see them as a 'sinking ship'. In addition, the subsidies paid out by STWA cannot be classified as direct income. In exchange for the subsidy, employers lose the productive capacity of their employees for the STWA hours or days, and the remaining costs such as social security contributions and connected costs impose a continued financial strain on the company.

Nonetheless, competitors in other countries without recourse to STWA might incur even higher costs, either by having to keep on unproductive staff or by carrying out a costly reorganisation. When competing on the same saturated markets, they might be less able to decrease the price of their products or they might have to write off higher losses as a consequence of lower flexibility. On the one hand they might be pushed to innovate and reorganise more promptly and efficiently and thus respond more aptly to the changes in the market. On the other hand, they might have to do so with less consideration and planning, whereas the companies taking part in STWA have more time and space to carry out these changes. Thus the competitive advantage of STWA participants might only become obvious some years after the crisis, as the consequences of an orderly transition from crisis to usual production begin to pay off.

The European Commission monitored the situation regarding STWA closely as it was aware of the possibility of a skewing impact on competition. It also communicated its concerns to member states. Respondents at both member state and Commission level confirm that the risk of tilting the level playing field was addressed by adhering to certain guidelines. Firstly, it was an important characteristic of STWA that the benefits they provided applied to the entire economy of a country, thereby not discriminating between firms and not providing uneven subsidy to a specific company or sector. Secondly, STWA provide subsidies for jobs, not for companies. They are seen as a social and employment policy instrument, not as an economic subsidy. In this context the crucial factor are the residual costs for companies. In all STWA, employers have to contribute some costs, be it social security contributions, holiday pay or a top-up of STW salary. As a consequence, STWA cannot be classified as unwarranted state subsidies. By adhering to these rules, member states made sure that the internal market rules were upheld.

STWA can also have positive international effects, especially when we are looking at cross-border regions. Regional economic clusters that are spanning two or more countries are based more on cooperation between businesses rather than on competition. Thus, local cross-border supply chains are of great importance. When a company in one country manages to stay on top with the help of STWA in that country, the companies on the other side of the border will benefit from it as well, since a supplier or client is supported. More broadly, the entire regional economy is supported, even if only one of the countries offers STWA support. This can have positive effects for companies on both sides of the border. Nonetheless, it can remain an unequal relationship, even in a regional supply chain. Where one company manages to substantially reduce productive capacity as a consequence of STWA whereas another company cannot do this, this can lead to imbalances in the business relationship. The business partner without recourse to STWA will have to find other ways to compensate the drop in production levels or look for other partners outside of the production chain. Importantly, the question of the supply chain is significant not just for regional markets, but also for the internal market at large. Especially where very large businesses such as large car manufacturers or industrial companies are in a position where they can benefit from STWA, this is important and beneficial for their business partners all over Europe. Problems or bankruptcy of one of the very large companies may have disastrous also on industries in other countries. Thus, supporting these businesses can also feed through to their suppliers and customers across the border.

Another significant aspect may be the impact STWA has on regional labour markets. An obvious factor of influence is the training provided in the context of STWA. Where participants make use of the training, this can have positive effects on the labour market in general. Not only the company where the participants are employed benefit from the heightened competences of their employees. Especially where the STWA system succeeds in promoting transversal skills training, other companies, also across the border in a regional labour market, can benefit from the increased level of employability. Especially when the crisis subsides, the availability of skilled workers will be an important issue for all companies within such a regional cluster, and the training during STWA can pay a contribution to this.

The empirical evidence for these potential cross-border effects is difficult to find. It appears that these effects can be both negative and positive. Especially when talking about competitive advantages and disadvantages, it is important to remember that the majority of European countries do have some sort of STWA. This means that the different conditions

for companies lie mainly in the diverging conditional requirements and differing degrees of generosity. Also, countries learn from one another in the context of peer learning activities. In addition, other crisis measures, such as car scrappage schemes, might have an impact on the international playing field as well. As a consequence it is difficult to isolate the cross-border effects that differing STWA within the internal market might have. Nonetheless, the mechanisms behind STWA suggest that effects of the interventions may be felt across borders, both in positive and negative ways.

5.2 Econometric analyses on the effects of STWA¹

Having looked at the information available at country level, we now turn to overarching research carried out to measure the effects of STWA. As stated earlier, the key objective of STWA is to enable temporary working hours reduction while preserving employment. Employers save both dismissal and re-hiring costs by keeping on their workers. Employees do not lose their job because of a drop in demand and production and may even increase their employability through participation in training measures. When the crisis subsides, employers and employees can return to the previous employment relationship. Thus, it is thought, STWA can contribute to saving jobs during periods of economic downturn or decline. This hypothesis has been tested in a number of econometric research studies. The results of these studies are presented below.

5.2.1 Previous research on STWA

Some studies confirm that STWA have worked in the past according to the theory. Based on previous studies, Arpaia et al (2010) note that STWA increases the internal flexibility of a company, while retaining the workforce attached to the firm. This conclusion is backed up by descriptive and quantitative analysis. Abraham and Houseman (1993) used seasonally adjusted quarterly series for selected manufacturing industries in Belgium, France, Germany and United States. They found out that despite strong job security in the former three countries, the adjustment of working hours is rather comparable to the levels in the United States. This is the result of the alternative strategies that were developed to adjust labour input to changes in output (e.g. lay-offs and STWA). In fact, these authors found that workforce adjustment was more flexible under STWA than layoffs in response to economic downturns in Belgium and Germany. The authors point out that STWA may be used to accommodate structural as well as cyclical downturns. However, the use of STWA in the case of structural adjustment is controversial since, in order to avoid deadweight loss, workers should be reallocated to other sectors as quickly as possible.

Furthermore, several studies were performed in Europe examining the extent to which STWA actually save jobs. Flechsenhar (1979) examined German statistical data from the economic crisis in the mid-1970's. He found that the total decrease in working hours was absorbed by dismissals for up to 40%. Two thirds of the resting 60% of reduced hours was to be ascribed to the use of STWA. Without STWA, twice as many dismissals would have

¹ We would like to thank Pierre Cahuc, Alexander Hijzen, and Tito Boeri for kindly making the datasets they used available to us. We also would like to thank Alexander Hijzen for his comments on the first version of this paragraph.

taken place according to the authors. Spijkerman, M.A. et al (2004) evaluated STWA in the Netherlands. In the Netherlands, firms that are faced with strong declines in production for reasons that are beyond what is usually considered entrepreneurial risk (for example epidemic animal diseases), can apply for STWA. The main conclusion of the evaluation is that STWA do prevent lay offs. However, the administrative burden of STWA is considered high by firms and a significant number stated that they would not again apply for STWA.

More recently, the OECD (2010) performed an econometric study based on the quarterly panel data over the period between the first quarter of 2003 and the third quarter of 2009 for 19 countries and four industries. It appears that the STWA helped to preserve permanent jobs and increase average hours reduction of permanent workers at the same time. It is estimated that due to short-time work the decline in the employment was 0.75% lower in Finland, Germany and Italy than it would have been without STWA. For Belgium the estimate is even as high as 1.3%, although it is necessary to state that this number may be an overestimation because STWA had been in effect here already before the crisis. No evidence has been found for the effect of STWA on the employment and average hours of temporary workers. Furthermore, according to this study, STWA do not have a significant effect on the responsiveness of the average wage to output. While existing STW schemes limited the reduction in permanent employment and increased the reduction in average hours, no such effects were found for newly introduced STWA schemes. Timing seems to be critical since STWA are probably most effective in the early stages of an economic downturn, when the rate of layoff tends to be the highest. However, this estimate result may also be explained by the small country sample.

Some authors suggest that the effect of STWA varies for different worker groups. The available statistics confirm that certain groups of workers benefited from STWA more than others. The groups that seem to have benefited from STWA the most are: males, workers with permanent contract and middle aged employees. Cahuc and Carcillo (2011) analyzed the OECD quarterly database on short-time work take-up rates and the OECD harmonized labour market databases. They conclude that STWA used in the 2008-09 crisis had a significant beneficial effect, whereby workers on a permanent contract benefited more from the STWA than temporary workers. The paper emphasises that more research is needed on the impact of STWA in the recovery period. STWA may according to this study actually induce inefficient reductions in working hours and lower the reallocation of employees toward more productive jobs.

Hijzen and Venn (2011) finally performed a quantitative analysis for 16 OECD countries during the 2008-09 crisis. They found out that "the positive impact of STW was limited to workers with permanent contracts, further increasing labour market segmentation between workers in regular jobs and workers in temporary and part-time jobs". This is of course a result of the selection criteria of STWA and thus not necessarily an unintended effect. They indicate that STWA may support jobs that would have been maintained anyway or in contrast were terminated during or shortly after the end of the programme. Stricter eligibility requirements (a proof of economic need or a prior agreement between social partners) and requiring firms to share some of the cost of STW are likely to reduce deadweight losses. Conditionality requirements – which require particular behaviour such as job search or training from firms and workers while participating – can also reduce displacement effects. However, in all cases the trade-off is likely to be a lower take-up, which may be inefficient

during a sharp recession. This study is being updated with more recent data, but the results are not available yet.

Other studies, based not on macro- but on micro-econometric calculations, are more pessimistic about the effects of STWA on preserving employment. Thus, Calavrezo et al (2009) investigated the relationship between STWA and firm redundancy behaviour on French data over the period of 1996–2004. They found a positive and significant relationship between the participation in STWA and redundancies by firms with at least fifty employees. More precisely, long durations of STWA seem to indicate that establishments will lay off employees for economic reasons. This can indicate the following:

- STWA are an inefficient solution to avoid redundancies;
- STWA and redundancies are complement measures against economic difficulties;
- STWA are a policy for establishment in structural decline;
- Firms use STWA to calm down the social tensions before planned redundancies.

Speckesser (2009) uses German data (GSOEP and IAB Establishment Panel from the 1990s) to test the effects of STWA on employees and enterprises. He comes to the conclusion that the positive employment effect for short-time workers lasts for only three months (afterwards the positive employment effect was not proved). There is some evidence of an increasing difference between the wages of short-time workers and comparable other workers, with much lower wages for short-time workers in the long run. For the enterprises the total employment, the sum of business volume and investment are not significantly lower due to the implementation of STWA. However, the firms implementing the programme seem to grow less dynamically and invest significantly lower per employee compared to the estimated non-programme outcome (all this considering the selectivity of the programme). Calavrezo et al (2010) deal with the relationship between STWA and the establishment exit in France over the period of 2000–05. The main conclusion is that companies (with less than fifty employees) that are making use of STWA in one year have a lower probability of survival in the following year. The same effect, although somewhat delayed, is found also for larger companies. The authors perform tests that confirm a good control of the selection bias. De Groot et al (2012) use firm-level data to measure the effects of the Dutch STWA. They do not find robust results (negative or positive) of participation on the level of employment in enterprises, but they are careful in drawing strong conclusions since the endogeneity of STWA appears difficult to correct for.

We can see that the available literature on effects and impacts of STWA during previous times of crisis and, where available, during the current crisis, does not allow us to come to a strong conclusion on the effectiveness of the measures. The available research on this topic does not lead us to clear picture of the effects and impacts of STWA over the years. It is interesting that the macro-econometric papers seem to draw more positive conclusions than those studies based on micro-econometric analyses. In order to be better able to interpret the results of earlier studies, we need to take a closer look at the calculations that have led to these conclusions. In the following section, we therefore revisit the macro-econometric research and present the results of our own macro-econometric analysis, in which we tried to reproduce the results of the papers studied but also to provide some additional analysis by testing alternative specifications but also sectoral differences and how the design of the STWA influence the effectiveness of the schemes. In part C of this report, we present the results of our own micro-econometric analyses in the countries Germany, France and Austria.

5.2.2 Critical analysis of macro-econometric literature

As we can read in the preceding paragraph, all studies based on macro-economic data find that STWA contributed to saving jobs during the crisis. However, they base their conclusions on quite a wide range of hypotheses and estimated effects. In addition, it is not always clear in the papers whether the authors have tested alternative specifications of their models, and what the results were.

Short run vs. long run effects

First of all, it is interesting to note that almost all models estimated so far measure a temporary effect of STWA on employment: they test the effect of STW take-up on the change in, rather than the level of employment (see Table 1.11 in the Annex for an overview of the model specifications and the methods used). They assume that STW use only influences employment in the short run, for instance because it makes it possible to avoid lay-offs in difficult times. The only exception is the first model estimated by Cahuc and Carcillo (2011), without instrumental variables: they estimate the effect of a change in STW on the change in employment, which is equivalent to assuming that the level of the former has an impact on the level of the latter. This corresponds to the hypothesis that STW has an effect on employment in the longer run, for instance because employers are less reluctant to hire people in presence of an STW scheme which reduces the risks of too high labour costs in difficult periods. Cahuc and Carcillo do not, however, find any evidence of such an effect.

Through which channels does STW affect employment?

Second, it is important to have a more specific look at the way STW is included in the models estimated in the literature: whether it is taken up alone or crossed with other variables does matter for the interpretation of the results. Table 5.1 summarizes the effects measured in the literature for different specifications of the STWA variables.

Direct effect of STW

When the STW take-up rate is included on itself in the model, Boeri & Bruecker (2011) find a negative and significant effect on employment (both using standard OLS and instrumental variables), while Cahuc & Carcillo (2011) find an insignificant or negative effect when using OLS and the change in STW take-up rate, and a positive one when using instrumental variables and the level of STW take-up. OECD (2010) finds no significant effect of the average take-up rate by country on employment.

The other two studies do not include STW take-up on itself in their models, but crossed this variable with output growth and/or a crisis dummy. Either they assumed that STW only has an effect on employment through mediating the effect of output growth on employment growth, which is an assumption one may want to test, or they did not include it because it appeared to have no significant effect. The authors do not report whether they tried this possibility and what the results were. For instance in Arpaia et al. (2010), it would have been an interesting option to take up the dummy for STW on its own in the model. It would have been a way to test for a long-term effect of STW on employment¹. The authors do not report why they do not do so.

¹ Because they include a lagged value of employment in their model, estimating the effect of the level STW on the change in employment is equivalent to estimating its long-run effect.

We observe that the estimated effect of STWA on itself does vary a great deal across studies and that it is not clear how this variation can be explained.

Table 5.1 Specification and effects of STWA in the literature

Reference	STW variable	effect on employment growth
Arpaia et al. (2010)	crisis dummy * STW dummy	positive significant (1 percent level)
Boeri & Bruecker (2011)	STW take up rate	negative significant at the 5 percent level
	GDP growth * STW take up rate	negative significant at the 10 percent-level (thus favourable impact on employment in case of drop in output)
Cahuc & Carcillo (2011)	change in STW take-up rate (before-during crisis)	insignificant when estimated with OLS (positive effect on unemployment in 2008, at 1 percent level)
	STW take-up rate	positive significant at the 5-percent level when instrumented by lagged take-up rate and permissible reductions in weekly working time which can be compensated before 2008
Hijzen & Venn (2011)	Output growth*average STW take-up rate by country	insignificant (permanent workers)
	Output growth*average STW take-up rate by country*crisis dummy	negative significant at the 1-percent level (permanent workers) (thus favourable impact on employment in case of drop in output)
OECD (2010)	average STW take-up rate by country	insignificant
	Output growth*average STW take-up rate by country	positive significant at the 1-percent level (permanent workers)
	Output growth*average STW take-up rate by country*crisis dummy	negative significant at the 5-percent level (permanent workers) (thus favourable impact on employment in case of drop in output)

STW as a moderator of the effect of changes in output on employment

Boeri & Bruecker (2011), Hijzen & Venn (2011) and OECD (2010) include in their models a cross-term of output growth with STW take up. The idea there is that STWA helps to temper the effect of changes in output on changes in employment: in difficult times, STWA make it possible to avoid lay-offs, and it may also temper the increase in employment when output increases again, because firms have built a stock of unutilized labour during the STW period, which they can use before hiring new employees. The question is whether and in how far both effects appear in practice.

Boeri and Bruecker find a negative and significant effect of such a cross-term, which seems to indicate that STW always tempers the effect of output changes on changes in employment. Hijzen & Venn find no significant effect of such a cross-term, and the OECD finds a positive and significant effect, but both find that the same cross-term has got a negative and significant effect when crossed with a dummy indicating the crisis period.

To summarize: Boeri and Bruecker find that STW always tempers the effect of output growth on employment, which is only a desirable result for quite important declines in output, while Hijzen & Venn and the OECD find that STW either does not influence or does reinforce the effect of output growth on employment, except in the crisis, where it does limit the negative effects of a drop in output. The results of Arpaia et al. (2010) seem in line with this latter finding, since they find that STW has got a positive effect on employment in the crisis. Cahuc and Carcillo do not at all include output growth in their analysis, which is

quite surprising, as one would expect it to be a crucial determinant of employment. They also limit their analysis to the before-during crisis period (2007-2008 or 2007-2009). It would have been interesting to see whether their results also hold for a longer estimation period.

Conclusion

In the end, the models show that STWA has had a positive effect on employment in the crisis. However, it is not clear how this effect was brought about. It is an effect of STWA by itself or does STWA only mediate the effect of changes in output? It is an effect which appears only during the crisis, whereas STW is detrimental to employment in 'normal' times (as suggested by Boeri & Bruecker)? Or is STW always good (or at least not bad) for employment in that it reinforces (or at least does not hinder) the effect of economic growth on employment, but even more so in the crisis because it tempers its effect (as the results by Hijzen & Venn and the OECD suggest)? Is there a long-run effect in addition to the short-term effect? Better knowledge of the way STW influences employment would increase the reliability and usefulness of the results presented.

5.2.3 Reproduction and robustness check of earlier results

It is interesting to test alternative specifications of the models presented in existing papers, to check alternative hypotheses and the robustness of the results obtained. Alexander Hijzen and Pierre Cahuc kindly provided us with the data they used in their papers, so that we were able to reproduce and check some results. We first check the sensitivity of the results to changes in specification and in data used. Second, as an additional robustness check, we examine the effects of STW on employment for different sectors. Our regression results are presented in the Annex.

Sensitivity to specification and data issues

First, we wanted to check whether STW had an effect of its own on employment in the models which did not check for this possibility. We find that the average STW take-up rate in the crisis has no effect of its own on permanent employment when added to the model by Hijzen & Venn (2011) (see Table 1.5). However, we note that including this variable in the model leads to an increase in the coefficient on the cross-term of output, average STW take up and the crisis: from -10.8 to -11.1. Similarly, if we include in the model by Hijzen & Venn another set of dummies than time dummies, namely country and time-by-industry dummies, as in OECD (2010), the coefficient on the cross term of output, crisis and STW take-up becomes even bigger (-13.02) (see Table 1.6). Such changes in the coefficient following slight changes in the specification of the model have implications for the estimation of the number of jobs saved by STW.

When we re-estimate the model estimated by the OECD (2010) on the basis of the data by Hijzen & Venn (2011), we come to qualitatively very similar results. However, the coefficient on the cross-term of output, crisis and STW is higher than reported by the OECD: -9,117 instead of -8,628 (see Table 1.7). This difference could be due to the fact that Hijzen & Venn (2011) do not include Poland in their baseline estimations ($n = 1,632$), while the OECD (2010) does ($n = 1,724$). However, when we add the information on STW take-up rate for Poland to the dataset, our results become even more different from those reported in the OECD paper: the coefficient on the cross term of output, crisis and STW further in-

creases in magnitude, up to -12.7 depending on the way STW take-up rate and the crisis dummy for Poland are defined (see Table 1.8). It is not clear where the difference between the estimations reported by the OECD and our estimations comes from. It is not surprising that the decision to include Poland in the sample matters in our estimations, since permanent employment appears to be particularly responsive to a change in output in this land (see Figure 1.22, panel A in OECD (2010)). This means that the results are quite sensitive to changes in the estimation sample. OECD (2010) already notes the sensitivity of the results to the inclusion of Ireland in the sample. Hijzen & Venn (2011) also stress that their results are sensitive to the exclusion of Belgium and Ireland. In any case, the changes in coefficients due to use of different data and/or inclusion of different countries in the sample have implications for estimations of the number of jobs saved by STW take-up schemes.

Estimations by sector

One can also suppose that the effect of STW on employment is dependent on the sector. To check for this possibility, we first estimated separate models for the four big sectors retained by Hijzen & Venn (2011) and the OECD (2010): manufacturing, construction, distributive services and business services. In this case, the coefficient on the cross-term of output, crisis and STW take-up remains significant only for the manufacturing sector, but not for the other three. There is however a possibility that the lack of significance of the results is due to the limited sample size in each sector ($n = 408$).

Therefore, we also estimate a model in which the cross-term of output, crisis and STW take-up is crossed with each of the four industry dummies. In this case, we find that the coefficient on the cross-term is significant for manufacturing and distributive services only (see Table 1.9).

We also estimate the same model with the cross-term of output, crisis and STW crossed with industry dummies, with the STW take-up rate defined at industry rather than country level. The sample size is much smaller in this model ($n = 988$), but our results are similar in qualitative terms: STW has got a significant impact on employment in manufacturing and distributive services, and not in the other two sectors (see table 1.10).

This is a logical result, as manufacturing was the sector in which use of STW increased most.

Conclusion

Our own estimations show that the estimated effect of STW on employment is influenced in a non-negligible manner by the specification of the model and the data used. Therefore, it is interesting to have a look at the implications of such variation in the estimated coefficients for the estimations of the number of jobs saved by STW. This is addressed in section 5.2.4.

5.2.4 Model estimation

After comparing the results of the different models estimated in the literature so far, we estimate our own model, on the basis of data which covers 23 OECD countries from the first quarter of 2004 till the last quarter of 2010 and combines information about employment, GDP and use of short-time working arrangements.¹

¹ We would like to thank Alexander Hijzen (OECD) for making this data available to us.

Model and method

We estimate the two following models, which correspond to two different hypotheses about the relationship between the use of STW and employment outcomes at country level:

$$(1) \Delta l_{it} = \beta_0 + \beta_1 \Delta y_{it} + \beta_2 STW_{it} + \beta_3 STW_{it} * \Delta y_{it} + \varepsilon$$

$$(2) l_{it} = \beta_0 + \beta_1 y_{it} + \beta_2 STW_{it} + \beta_3 STW_{it} * \Delta y_{it} + t + \varepsilon$$

where l is the log of employment, y is the log of GDP (in dollars), STW is the share of employees who benefited from short-time working employment in a country, and t is a time trend included to proxy technological progress.

Model (1) examines how the use of STW influences the *change* in employment, while model (2) measures the impact of STW on the *level* of employment. The first model is very similar to the one estimated by Boeri & Bruecker (2011), while an analysis in levels has not been conducted so far to our knowledge.

With the STW term, we want to measure the direct effect of STW on employment. With the cross-term of STW and change in GDP, we measure the indirect effect of STW, i.e. how much STW tempers the effects of output shocks on employment. In addition, we include country dummies in the models, and time dummies in the model in changes (model 1). Employment is measured in three different ways here: the total number of employees, the number of permanent employees and the number of temporary employees. This makes it possible to distinguish the effects of STWA for different groups in the population. As in the estimations conducted by Hijzen & Venn (2011), the standard errors in our estimations are clustered within countries.

Effect of STW on the change in employment

The following three tables present the estimation results of model 1, i.e. the effect of the share of employees making use of short-time working agreements on the change in the number of total, permanent and temporary employees.

The negative and significant coefficient on the cross-term of STW and the change in GDP in the first table indicates that STW helps to at least partially offset the negative effects of negative output shocks on the change in the total of employees in a country. The other coefficients associated with STW in the three tables below are not significant. This suggests that STW has no direct effect of itself on the change in employment. It also means that the offsetting of output shocks can only be observed when we look at total employees, and not at for specific groups as permanent or temporary employees. The positive and significant effect of the change in output on the change in employment, which is found in the first two tables, is as one would expect.

Table 5.2 Effect of STW on the change in the total number of employees

	Coef.	t	P> t
N	768		
R ²	0.37		
Δy	0.0417	2.72	0.012
STW	0.0004	0.67	0.512
STW* Δy	-0.0083	-2.11	0.046

Table 5.3 Effect of STW on the change in the number of permanent employees

	Coef.	t	P> t
N	671		
R ²	0.24		
Δy	0.0488	1.93	0.067
STW	0.0009	1.34	0.196
STW* Δy	0.0045	0.54	0.596

Table 5.4 Effect of STW on the change in the number of temporary employees

	Coef.	t	P> t
N	661		
R ²	0.32		
Δy	-0.2343	-0.99	0.331
STW	0.0004	0.12	0.905
STW* Δy	-0.0328	-1.12	0.274

The results presented here are a bit different from the estimation results by Boeri & Bruecker (2011). They estimate a model very similar to ours for only 16 OECD countries and a shorter estimation period, and find both a negative direct effect of STW on the change in employment and an offsetting of output shocks by STW. The second effect overrules the first one, leading to a positive effect on employment, in the case of a sufficient drop in output. Our results are more optimistic as far as the effects of STW are concerned, as we find no direct negative effect of STW on employment.

Effect of STW on the level of employment

After estimating the effect of STW use on the change in employment, we examine its effect on the level of total, permanent and temporary employment. The estimation results of model (2) are presented in the three tables below.

As in the model in changes, we estimate a negative and significant coefficient on the cross-term of STW and change in GDP. We again find that the use of STW helps to moderate the effect of output shocks on employment. This is true for both total employment and permanent employment. We observe no direct significant effect of the share of employees benefiting from STW on total or permanent employment. If we look at temporary employment, however, the picture is different. Here, STW use appears to have a negative direct effect,

and it does not play any role in temperating the effects of output shocks on employment. This suggests that the use of STW principally benefits permanent workers, while temporary workers seem to be rather disadvantaged by it.

Further, we find a positive and significant effect of GDP on employment in the first two tables, which is a logical result. Also the negative coefficients on the time trend variables in the first table are a familiar result, as they indicate that less labour is needed as technology improves, all other things being equal. One would however expect the coefficients on the time trends to be bigger and more significant. The insignificance of the GDP variable in the third table raises more questions, as does the positive coefficient on the time trend.

Table 5.5 Effect of STW on the total number of employees

	Coef.	t	P> t
n	768		
R ²	1.00		
y	0.1722	4.68	0.000
STW	-0.0011	-0.30	0.765
STW*Δy	-0.0349	-2.73	0.012
time	-0.0005	-0.81	0.429

Table 5.6 Effect of STW on the number of permanent employees

	Coef.	t	P> t
n	708		
R ²	0.99		
y	0.1552	4.75	0.000
STW	0.0012	0.38	0.705
STW*Δy	-0.0347	-4.61	0.000
time	-0.0006	-0.79	0.439

Table 5.7 Effect of STW on in the number of temporary employees

	Coef.	t	P> t
n	703		
R ²	0.99		
y	-0.0151	-0.12	0.905
STW	-0.0178	-1.77	0.091
STW*Δy	0.0448	0.89	0.385
time	0.0053	1.96	0.063

The share of jobs which have been saved during the crisis thanks to short-time working arrangements can be computed by multiplying the coefficient on the cross-term of STW and change in GDP with the average take-up of STW in the crisis and the average drop in GDP during the crisis. This percentage can be applied to the total number of jobs to find out about the number of jobs saved. For our estimations, we use average STW take-up, drop in output and total employment in 2009. The resulting number of jobs saved is presented in the next section and compared with the other estimations in the literature.

Is the effect of STWA the same in good and in bad times?

Thanks to the fact that our dataset ranges until before and after the crisis, we can test whether the use of short-time working has had a significantly different impact on employment during the crisis, compared to other periods. To do so, we add to the model explaining the level of permanent employment presented above cross-terms of the two STW variables (the linear STW variable and the cross term of STW with change in GDP) with a dummy variable indicating whether a country has just experienced a quarter-on-quarter drop in output (a kind of 'bad time indicator'). The idea behind this model is that if the additional cross-terms with the 'bad time indicator' is significant, it indicates that short-time working has got a different effect on employment in a crisis period. The estimation results are presented in the table below.

Table 5.8 Effect of short-time working on the number of permanent employees, including a 'bad time indicator'

n	708		
R ²	0.99		
	Coef.	t	P> t
y	0.1554	4.70	0.000
STW	0.0016	0.44	0.663
STW*Δy	-0.0426	-2.23	0.036
STW*drop	-0.0004	-0.13	0.895
STW*Δy*drop	0.0113	0.28	0.780
time	-0.0006	-0.79	0.440

We can see that the newly introduced cross-terms with the 'bad time indicator' have no significant effect on employment. This suggests that the effect of short-time working arrangements on employment is not significantly different in crisis periods and in growth periods. This suggests that short-time working arrangements always moderate the impact of output shocks on employment: they limit employment losses in bad times, but probably also limit employment growth in good times.

5.2.5 The number of jobs saved by STWA

We have seen that the coefficients in the regressions can be subject to substantial variation depending on the specification of the model and the data included. Here, we first present the impact on the estimation of the number of jobs saved by STW of such a change in coefficient. We then present a range of estimations for the number of (permanent) jobs saved by STW, as estimated in previous literature and by ourselves.

Impact of a 1-point change in the estimated coefficient

In Hijzen & Venn (2011), the relevant coefficient to estimate the number of jobs saved is that of the cross-term of output, crisis and STW take-up. To obtain their estimate of the number of jobs saved, they multiply it with average STW take-up in the country during the crisis and the total output loss during the crisis in the country. We reproduce their calculation of the impact of STW on permanent employment based on their baseline specification, and examine the effect of increasing the magnitude of the coefficient of interest with 1 unit. We see that the proportional impact increases by 0.05 percentage points on average, ranging from almost no difference for countries as Norway and Portugal, to a difference of 0.15 percentage points for Belgium. In terms of the absolute number of jobs saved, an increase in 1 point in the magnitude of the coefficient can increase the estimates by more than 25 000 jobs for a country as Germany.¹

Table 5.9 Impact of an increase by one unit in the relevant coefficient for the estimation of the number of jobs saved by STW schemes

Country	change in the proportional impact of STW (in percentage points)	change in the number of jobs saved
At	0.01	462
Be	0.15	5067
Cz	0.05	2020
De	0.08	25918
Dk	0.01	172
Es	0.03	3529
Fi	0.09	1742
Fr	0.01	2102
Hu	0.01	347
It	0.09	1483
Jp	0.10	45927
Nl	0.01	656
No	0.00	
Pt	0.00	45
Average	0.05	

Because the existing studies and ours present different estimations, and because we have seen that the estimated coefficients used to estimate the number of jobs saved can vary a lot, we present here a range of different estimations.

¹ It is important to note that the differences between countries in the table is only due to variation in STW take-up and decline in GDP, as the coefficient on STW is assumed to be the same for all countries. The table only illustrates how a 1-point change in the coefficient common to all countries affects the results for each country.

Next to our estimations, we present the estimations by Boeri & Bruecker (2011), the OECD (2011) and Hijzen & Venn (2011). We add estimations which we computed ourselves on the basis of the model by Hijzen & Venn, defining a lower and a higher limit for the coefficient of interest. These limits are -6 and -15 respectively. They correspond roughly to the range of coefficients obtained in the different estimations we present here, and also roughly correspond to adding and subtracting a standard deviation to or from the coefficient estimated by Hijzen & Venn themselves. (The coefficient was -10.678 and the standard deviation 3.691.)

Table 5.10 Range of the estimated number of jobs saved by STW schemes

	our estimation	Boeri & Bruecker (2011)	OECD (2011)	Hijzen & Venn (2011)	H&V lower limit	H&V higher limit
	n permanent jobs	n jobs	n permanent jobs	n permanent jobs	n permanent jobs	n permanent jobs
Austria	1232	2842	3983	4971	2770	6925
Belgium	8260	22535	43317	54560	30401	76003
Canada	2741					
Czech Republic	5986	10558	17307	21746	12117	30293
Denmark	667		1471	1852	1032	2580
Germany	53129	82725	221541	279080	155505	388763
Spain	5909	30400	30253	38004	21176	52940
Finland	2951	13023	15300	18762	10454	26136
France	9505	11067	18061	22636	12613	31532
Hungary	2576	3506	3013	3737	2082	5206
Ireland	2216	9469				
Italy	32813	89416	123975	156971	87465	218663
Japan			395855	494538	275560	688900
Netherlands	3550	4500	5628	7068	3938	9846
Norway	1886			103		
Poland	44					
Portugal	366		382	481	268	670
Slovak Republic	586					
Total 10 countries	125911	270572	482379	607535	338522	846306
Total 13 countries			880086	1104406	615382	1538456

We see that the range of estimations is very broad. In particular, we note that Boeri & Bruecker (2011), who use a method quite different from that used by OECD (2010) and Hijzen & Venn (2011), come to a much lower estimate, in some cases even lower than our

lowest limit computed on the basis of Hijzen & Venn, although they are counting jobs rather than permanent jobs. Our own estimation of the number of permanent jobs saved is clearly the lowest. It is closest to the results of Boeri & Bruecker, which is logical as the model we estimate is most similar to theirs. The broad range of estimations indicates that the existing estimations should be treated with caution.

The estimation of the deadweight losses is dependent on the estimation of the number of jobs saved by STW schemes. This means that it is also difficult to estimate deadweight losses precisely. In the results published so far, the estimations of the number of jobs saved were lower than the use of STW in FTE's. This suggests that there are some efficiency losses.

5.2.6 Influence of characteristics of STW schemes

Another question of interest is to know how the characteristics of the STW schemes matter to the effect of STW on employment. This question has not been addressed in the literature so far.

We first thought about constructing clusters of countries on the basis of the characteristics of the STW schemes, but it was difficult to recognize patterns which could have formed a basis for the definition of such clusters. In general, eligibility requirements (such as economic need, the presence of a collective agreement or eligibility of beneficiaries for unemployment benefits) were present in a majority of countries, whereas further conditions for use of STW schemes were only present in a minority of countries. It was therefore difficult to make a clear difference between countries on the basis of the strictness of their rules, for instance. To illustrate this: Cahuc & Carcillo (2011) construct an index based on the sum of constraints imposed by a country to the use of STW. This index can in theory range from 0 to 7, but in practice, the overwhelming majority of countries scores between 2 and 4.

This is why we chose for examining the role of each characteristic taken separately. We added to the model by Hijzen & Venn (2011) a cross-term of output, crisis, STW take-up rate and a given STW characteristic. The idea is that the coefficient on the cross-term of output, crisis and STW take-up rate in the model can be interpreted as the baseline effect for all countries, while the effect of the new additional cross-term is the additional effect of STW on employment for those countries which possess the characteristic taken up in the cross-term. Systematized information on characteristics of STW schemes, which forms the basis of this analysis, is presented in OECD (2010), Annex 1.A1. We also use further indicators constructed on the basis of this data by Cahuc & Carcillo (2011) and Boeri and Bruecker (2011).

We first use STW take-up in terms of the number of employees participating, as in the models by Hijzen & Venn (2011), to enable direct comparison with their results. However, the differences between countries resulting from those estimations reflect both differences in the reduction of working time per participant and differences in the effectiveness of STW across countries. Therefore, we also conduct the same analyses with STW take-up measured in FTE's. We would like to stress that the use of dummies implies that the effect of STW in countries with a given characteristic is estimated on the basis of a very small sample.

We crossed different STW characteristics with output, crisis and STW take-up rate. The results we obtained are summarized in table 5.11 below.

Table 5.11 Effect of STW on permanent employment when crossed with different characteristics of the STW scheme

STW characteristic controlled for	STW characteristic measured as	STW share measured in n of employees		STW share measured in FTE's	
		Coeff. on output * crisis * STW take-up	Coeff. on output * cri- sis * STW take-up * STW charac- teristic	Coeff. on output * crisis * STW take-up	Coeff. on output * cri- sis * STW take-up * STW charac- teristic
Eligibility requirements					
economic need requested	dummy per country (OECD 2010) 19 countries have this requirement	-	+	-***	+***
collective agreement requested	index per country (OECD 2010, Cahuc & Carcillo 2011)	-	-*	-	-**
UB eligibility requested	Dummy per country (OECD 2010)	-**	-**	-***	-
Total requirements for eligibility	Sum of 3 variables above (Cahuc & Carcillo 2011)	+	-**	-	-
Eligibility index	index measuring whether collective agreement, UB eligibility of beneficiaries, a minimum number of hours or justification of economic need are required (Boeri & Bruecker 2011)	-	-	-***	+
Other conditions					
Conditional on training	Dummy per country (OECD 2010)	-**	+	-***	-***
Conditional on recovery plan	index per country (OECD 2010, Cahuc & Carcillo 2011)	-**	+	-*	+
Conditional on no dismissal	Dummy per country (OECD 2010)	-**	-	-**	-**
Conditional on job search	index per country (OECD 2010, Cahuc & Carcillo 2011)	-***	-	-**	+
Total conditions	Sum of 4 variables above (Cahuc & Carcillo 2011)	-**	+	-**	+**
Entitlement index	index measuring whether training workers, a restructuring plan, the absence of dismissals, or job search by employees are required to continue to be eligible for STW (Boeri & Bruecker 2011)	-**	+	-**	+**
Total constraints	Sum of total requirements and total conditions (Cahuc & Carcillo 2011)	+	-**	-*	+
Costs to employers and employees					
Costs index	Index based on the share of the running costs of STW which are paid by the employer (Boeri & Bruecker 2011)	-**	-	-**	+
Elasticity index	Index measuring the responsiveness of STW replacement rates to the extent of hours reductions (Boeri & Bruecker 2011)	-	+	+	-

We see that the cross-term of output, crisis, STW and STW characteristic is negative and significant in a number of cases. This is the case for: the requirement for a collective agreement (valid for both measures of STW); the requirement for UB eligibility, the sum of eligibility requirements, and the sum of constraints (when STW take-up is measured in number of employees); the use of STW being conditional on training and the use of STW being conditional on no dismissal (when STW take-up is measured in fte's). This negative and significant coefficient indicates that the presence of the specific requirement reinforces the indirect effect of STW on employment, i.e. it increases the power of STW to temperate the impact of output shocks on employment.

In the case of the requirement of a collective agreement, the results obtained suggest that STW schemes only have effect in countries in which this requirement exists. We have to stress that the number of countries in which no collective agreement is required is limited. These are: Hungary, Ireland (not included in the sample), Norway, Portugal and Spain.

The significant results found for the total number of requirements and the total number of constraints (when STW take-up is measured in number of employees) can probably be explained by the fact that those variables also measure whether a collective agreement or eligibility for unemployment benefits are required, or whether training of employees or no dismissal are conditions for STW use. For these two variables, only the term crossed with the STW characteristic is significant, while the cross term of output, crisis and STW loses its significance. This is consistent with the argument by Hijzen & Venn (2011) that when estimating a model in first differences, the average take-up rate of STW in the crisis can be considered as a proxy for the attractiveness of STW, and therefore as exogenous. If both the cross-term of output, crisis and STW and the cross-term of this variable with STW characteristics measure STW attractiveness, it is logical that only one of both remains significant in a model where they are taken up jointly.

However, one should also be cautious with these results: it is surprising that the aggregate measures of requirements and conditionality are only significant when STW is measured in number of employees. Even in this case, the total number of eligibility requirements as measured by Cahuc & Carcillo (2011) is significant, whereas the index computed by Boeri & Bruecker (2011), which measures almost the same, is not.

When STW take-up is measured in fte's, the cross-terms containing the measures of conditionality computed by Cahuc & Carcillo (2011) and Boeri & Bruecker (2011) even turn out to be positive and significant. This suggests that the number of conditions put on the use of STW weakens the capacity of STW to temperate the effects on employment of output shocks. However, we also found that making STW conditional on training or on no dismissal has got rather reinforcing effects for the temperating capacity of STW. This may suggest that those two conditions have good effects, while too many conditions have perverse effects. However, this is a tentative conclusion which would need to be further checked.

When the cross-term of output, crisis and STW is crossed with the requirement of proof of economic need, both cross-terms containing STW become insignificant if STW is measured in number of employees. If STW take-up is measured in fte's, the new cross term containing the requirement of economic needs has got a positive effect, offsetting a bit of the power of STW to temperate negative output shocks. This result is probably due to the fact that almost all countries which have a STW scheme also do require proof of economic need

(except for Denmark, Ireland, the Netherlands and Portugal). As a result, both cross-terms measure essentially the same thing and become insignificant or take opposite signs.

In the end, our results suggest that the requirement for a collective agreement to use STW is a crucial factor for the success of the measure, and that some other requirements may help to reinforce its effects, such as requiring UB eligibility of beneficiaries, or making STW use conditional on training or on no dismissal. The results about the other requirements are, however, not robust across different measurements of STW take-up.

We also use data about the costs of STW to employers and employees. However, the cross-terms of output, crisis and STW and those two index variables are not significant. In the case of the index measuring the responsiveness of STW replacement rates to the extent of hours reductions, both cross-terms become insignificant, which is a puzzling result.

5.2.7 Conclusions of the macro-econometric analysis

The literature which examines the effect of STWA on employment during the crisis concludes that STWA have helped to preserve jobs. However, there is no unanimous picture of the way this effect is brought about. It is unclear whether STWA have an effect of themselves or only through moderating the effect of a drop in output. It is also unclear whether STWA only mitigates the effect of output drops, or of any kind of change in output. So far, the literature mainly concentrated on short-term effects of STWA, but less is known about potential long-term effects of such measures.

Our own estimation results suggest that STWA have no direct effect on the level of employment, but that they temperate the effect on employment of output shocks. This effect, however, seems to appear both in crisis times (which is desirable) and in growth times (which is less desirable, as it keeps the employment level down).

It is difficult to obtain a precise estimate of the size of the effect of STWA on employment. Reproducing some of the results of the existing literature shows that the estimated size of the effect is quite sensitive to the specification of the model and to data issues. We also find some indications that the effect of STWA varies across sectors. The variations observed in the estimated coefficients correspond to important variations in the estimation of the number of jobs saved by STWA. The range of the possible number of jobs saved is therefore very broad. The total of jobs saved could range from 125 000 to 850 000 in the 10 countries for which we have evidence from our own estimations, Boeri & Bruecker (2011), OECD (2010) and Hijzen & Venn (2011).

We also examine the role of different characteristics of the STW schemes for the effect of STW on employment. We find some evidence that the requirement for a collective agreement is essential for STW to have effect. We also find and that the conditions that beneficiaries are eligible for unemployment benefits may matter, as well as putting the use of STWA on condition of training or of no dismissal. These latter results are however not robust and would require further examination. We do not find evidence that other characteristics of STW schemes, such as the requirement to set up a recovery plan, reinforce the effect of STW on employment.

5.3 Lessons Learned

Judging from the information presented above, we can already come to some conclusions on what the recent experience of STWA in the countries under examination tells us. We have seen that the effects of STWA are not easy to isolate from the general development within the economy and within a specific company. In general, countries see STWA as successful and effective interventions, but this perception is only rarely based on comprehensive evaluations. This also has to do with the difficulty in constructing the counterfactual, i.e. understanding what would have happened in the absence of STWA. Reconstructing the results of earlier macro-econometric analyses has shown that the effects of STWA on employment and the associated deadweight losses and displacement effects are very sensitive to specific factors. These factors are connected to the context within which the STWA are implemented and to the design of the measures themselves. While the analyses confirm that the measures have had effect, it remains unclear how exactly this effect has been achieved.

Earlier studies have identified specific aspects of the design and implementation of STWA that can determine the effectiveness of the measures. Thus, Vroman and Brusentsev (2009) recommended allowing more flexibility into STWA. Mandl et al (2010) suggested that STWA should only be targeted at companies which are in difficulties beyond the control of management to avoid displacement effects. Including social partners in the scheme, letting employers pay part of the benefits and making use of all the possibilities for internal flexibility were recommended to achieve this goal. Based on our qualitative research, these recommendations can be confirmed. The requirement of economic need and the costs to employers are however no significant factors in our own macro-econometric analysis.

Thus, most countries emphasise the importance of residual costs to employers which makes sure that companies do not rush into short-time work. Participation within STWA has to be based on a sound calculation of benefits and costs and by committing employers to pay a part of the costs, ineffective interventions can be prevented. Especially the experience in Germany, but also for example in Austria emphasise this point. The views on conditionality requirements, such as dismissal protection for participating employees however differ. These may be too restrictive and prevent companies from participating due to the insecurity of the situation, when STWA may actually help provide more security. The macro-econometric analysis indicates that the use of social partner agreements is essential in determining the effectiveness of STWA. In addition, most commentators recommend the use of training in the context of the measures. This is also confirmed by at least some of our estimation results. In fact, most arrangements have a training element to them, some more intense than others. Again, there are different approaches to maximising the efficiency of training. Compulsory participation can be one of them, but it might also discourage companies from taking part. The inclusion of transversal skills training remains a question to be solved.

Nonetheless, it seems that, depending on the country in question, the STWA had a considerable effect on the companies involved. Whether this effect is only short-term or also long-term in nature remains to be seen. The key question that remains is *how* these different aspects are of influence. Most present evaluations do not provide clear answers as to how the different aspects interact with one another in practice and what the experiences of the different stakeholders are. When looking at these experiences, it also becomes obvious

how important contextual factors are in determining the success of STWA. The development of the economy in the years before the crisis, and the development of the crisis itself are factors that are of crucial influence. Thus it is not surprising that the STWA in Germany experienced a completely different evolution than the scheme in Latvia. These dynamic mechanisms that determine the influence of the different factors both on the implementation of STWA as well as on the effects and impacts will be explored in-depth in the following part C of this report.

Part C: In-depth analysis of STWA in three countries

In this part of the report we present the results of in-depth research we carried out in a sample of three countries: Germany, France and Austria. We selected these countries in order to delve more deeply into the way in which STWA work at country level and in individual companies in order to identify the working mechanisms and key features of specific STW models. The selection of the three countries was based on the availability of necessary data on the one hand and on the intensity of use of STWA on the other hand. Especially Germany but also France are countries where STWA was used very extensively. While the use of STWA in Austria was less intense, it provides a good case of STWA in a smaller country.

In all of the three countries we carried out micro-econometric analyses of establishment level or individual level micro data in order to measure the effectiveness of the arrangements. To understand the context within which the STWA were implemented, we also carried out in-depth interview with stakeholders at the responsible ministries, employment agencies and social partner organizations at national and sectoral level. To get a good idea of how the specific STWA were really applied within companies, we carried out qualitative interviews with some exemplary cases of STWA use, both in very large companies as well as in SMEs. This gives us a good understanding of the context and mechanisms which lead to the results identified by our econometric analysis.

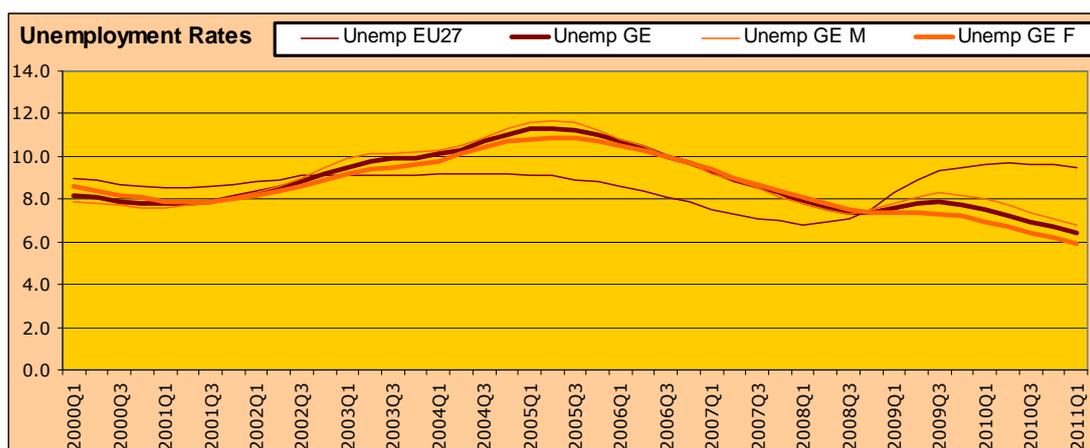
6 Country case: Germany

The German case of STW, called *Kurzarbeit*, has already been referred to repeatedly in this report. It represents the most extensively used STWA in Europe during the recent crisis. At its highest point, the Germany system catered for 1,422,667 employees. In this section we describe the origins of the German system, the context and manner in which it was implemented throughout the crisis, the mechanisms that are at work at company level and how these factors relate to the effectiveness of the instrument.

6.1 The impact of the 2008-2009 crisis in Germany

We start by taking a look at the economic context and the impact the recent crisis had on the German economy. In the beginning of the last decade, the growth of the German economy was weaker than the EU27 average. In the year 2002 the German economy stagnated with 0% growth, which was followed by a shrink of 0.2% in 2003. The growth in the years 2006 – 2009 was comparable with the EU27 average. In the crisis year 2009 the German economy shrank with 4.7%. In the year 2010 it experienced a strong recovery with GDP growing by 3.6%.

The unemployment rate was about 8% in the early 2000's but it started to grow since late 2001. The peak unemployment rate levels in 2005 were exceeding 11.5% and were considerably higher than EU27 average. After 2005 the unemployment rate was gradually decreasing until mid 2008 when it was as low as 7.3%. The effect of the 2008-09 economic crisis on the German unemployment rates was relatively mild. Between the third quarter of 2008 and 2009 the unemployment rate rose by 1% and started to decline afterwards. The current German unemployment rate is significantly lower than the EU27 average.



Source: Eurostat (2011)

Germany has had a relatively high proportion (between 45% and 60%) of long-term unemployed in the last decade. By the end of 2010 almost every second German unemployed could be classified as long-term unemployed. Throughout the decade, the German employment rate has been higher and increasing quicker than the EU27 average. Since late 2007, the German employment rate exceeded 70% and has not significantly dropped as a consequence of the 2008-09 crisis.

Both men's and women's employment rates increased in the last decade. However, women's labour market participation increased at a somewhat higher pace from around 58% in 2000 to about 66% in 2010. It is relatively approximately 8 percentage points higher than the EU27 average. Men's employment rate exceeded 76% in late 2010 compared with about 71% in EU27. The German employment rate of the age group 55-64 was in the first half of the decade comparable with the EU27 average (40%). However, in the second half of the decade employment rates of Germans aged 55-64 increased rapidly and reached 58% in the late 2010. Part-time working is in Germany relatively popular with one out of four working part-time (less than 20% in EU27). The share of part-time employees has been increasing during the decade. The proportion of temporary-contract employees in Germany has been almost identical with the EU27 average. It has shown a slightly increasing trend in the last decade when increasing from about 12% in 2000 to approximately 14% in 2010.

These statistics portray a picture of the German economy that was of central importance to the German response to the crisis, including the use of STWA. Whereas in the early 2000s, the German economy was lagging behind comparable EU member states, throughout the decade it went through a process of restructuring which was also connected to a reorganisation of the social security system including the unemployment insurance and the position of the employment agency. In the years before the crisis, German businesses were reaping the benefits of the restructuring and the economy was seen to be in good shape. Though the recession hit the German economy hard, it was therefore clearly seen as an external shock which was caused mainly by a collapse in exports.

Regarding employment, the main issue before the crisis was rather a shortage of skilled personnel than rising unemployment. Companies were eager to keep their employees on board and often had more work than they could carry out. This also led to a situation where working time accounts were filled to a high level and employees were working overtime as far as possible within the flexibility provided by collective agreements. All in all, this can be interpreted as a rather favorable starting point for the use of short-time work during the crisis.

6.2 The German STWA system and its evolution during the crisis

The German short-time working arrangement *Kurzarbeit* has already been in existence for some time. Its origins go back to a law in 1910 and since the 1950s it has been in use in a recognizable form. The German system is actually made up of three different measures of which only one is relevant for this study. The system consists of:

- Seasonal short-time work (*Saison-KUG*): targeted at the construction sector and agriculture, seasonal short-time work allows for temporary reduction of working time due to adverse weather conditions
- Transfer short-time work (*Transfer-KUG*): this measure allows for a reduction in working time in companies/sectors with a permanent decline in the volume of work or even in insolvency situation, and is usually combined with retraining measures and other programmes to support employees in finding alternative employment
- Cyclical short-time work (*Konjunkturelles KUG*): this measure allows for a temporary reduction in working time in cases where external causes have led to a considerable but temporary decline in business activity.

It is this last kind of short-time work which is of most interest for this study. In the following, by referring to *Kurzarbeit* we therefore mean the cyclical STW, unless specified differently.

In its original form, the German *Kurzarbeit* system can be seen as a relatively typical system of short-time work. There are participation requirements and conditions in place. Only companies who experience an unavoidable and temporary reduction in normal working hours affecting at least one third of staff and resulting in a loss of income from work of more than 10 per cent of the monthly gross salary can apply for use of the STWA. Companies first have to exhaust all their internal capacity for working time adjustments, such as savings in working time accounts and other instruments aimed at internal flexibility.

An important aspect of the German system is the need for agreement between the work council and the employer for starting and continuing the use of STW. For the first application the work council and the employer need to set up a company agreement (*Betriebsvereinbarung*) in which they specify the plans and extent of the use of STW. Where this is not possible or where no work council exists, the employer would in theory have to agree with every single employee on a contractual change decreasing the working time. The cooperation with the work council works as a collectivized substitute for individual negotiations.

In its original form, the duration of the German *Kurzarbeit* is limited to six months. The extent of work reduction can vary and can reach 100 per cent. Employees are reimbursed 60 per cent of the net salary for the reduced working time (67 per cent for employees with children). The subsidy is paid out of the funds of the unemployment insurance, but not connected to unemployment entitlements of the participating employees. In company or sector agreements, social partners can decide to top up this compensation. Furthermore, in the usual model of *Kurzarbeit* employers have to pay the full social security contributions for the hours not worked. In addition, they continue paying full labour-on-costs for holiday pay, public holidays and sick pay. Both employees and employers therefore have to accept financial draw-backs in the system.

When the crisis hit the German economy in the last quarter of 2008, most actors were surprised by the intensity of the economic decline. It was not unusual that companies experienced a sudden drop in demand by 60 per cent or more. According to most respondents, it was obvious to the stakeholders involved that *Kurzarbeit* was to play an important role in tackling the crisis. This had to do with a number of factors:

- *Kurzarbeit* was certainly a well-known instrument from the past, though the experience varied between different sectors
- Social partners and the government were united in their desire to prevent mass unemployment. This was also connected to the memory of high unemployment in earlier parts of the decade. Furthermore, general elections were planned for 2009, increasing the importance of low unemployment for the political actors.
- It was clear to all actors that the crisis was mainly due to external developments, hitting the entire economy with a decisive drop in world trade. The German economy had just undergone a period of sometimes painful restructuring and was therefore principally in good shape.
- Due to the decreasing levels of unemployment and the general positive economic situation in the years preceding the crisis, the financial reserves of the employment agency were relatively high, justifying active involvement in unemployment prevention

Though STWA was one of the obvious responses to the crisis situation, it also quickly became clear that in its original form it was not only characterized by a rather complicated application procedure, but also not as attractive as it could be for allowing companies to make extensive use of it. In policy debates at national level where the German response to the crisis was discussed, social partners and companies therefore pressured the government to ease not just the administrative, but also the remaining financial burden on companies making use of STWA. This led to the following adjustments in the regulation of the German short-time work arrangement which came into force in January 2009:

- the conditional criterion that at least one third of all employees are affected by reduced working hours of more than 10% of the monthly gross wage is no longer applied;
- the duration of short-time work was extended from a maximum of six to a maximum of 18 months to allow for more intensive use and flexibility;
- the requirement to build up negative credit hours within working time accounts was waived;
- the obligation of employers to pay for the social security contributions of employees in STW was relaxed: 50% of the contributions were reimbursed; in cases where training measures were implemented, 100% of the social security contributions were reimbursed;

By building incentives into the system related to training, the government aimed to encourage employers and employees to use the time in STW that could not be used for productive activities. This did not only refer to the reimbursement of social security contributions, but also to a subsidy for the costs of training programmes. For this purpose, a special priority was introduced in the German operational programme of the European Social Fund. Depending on the type of training (transversal or specific skills), between 40 and 80 percent of training costs could be covered by ESF subsidy. The money that short time workers received as STW subsidy was hereby counted as national co-financing, so that all of the training subsidy could be drawn from the ESF.

Especially the reimbursement of all or part of the social security contributions was seen as an important step. The representatives of employers were however arguing that the reimbursement should be extended even further and cover 100 per cent of social security contributions regardless of the use of training measures.¹ In fact, from 1 July 2009 onwards new regulation was adopted under which 100% of contributions were reimbursed from the seventh month of STW onwards. Since a lot of companies were already using STW since the beginning of 2009, this in fact led to a total waiver of the obligation to pay contributions for these companies.

These changes (*Sonderregelungen*) in the German system of *Kurzarbeit* were clearly directed at the crisis situation and therefore temporary in nature. Most of the changes, including the reimbursement of contributions, were withdrawn by January 2012, despite some opposition of social partner organizations. The government has assured social partners that the changes in the regulation can be reactivated swiftly in case a new crisis situation is encountered. For some social partner organization, this does not provide sufficient security as it is not clear when such a crisis situation actually arises. They therefore advocate a more permanent enshrining of the new regulations within the German STWA.

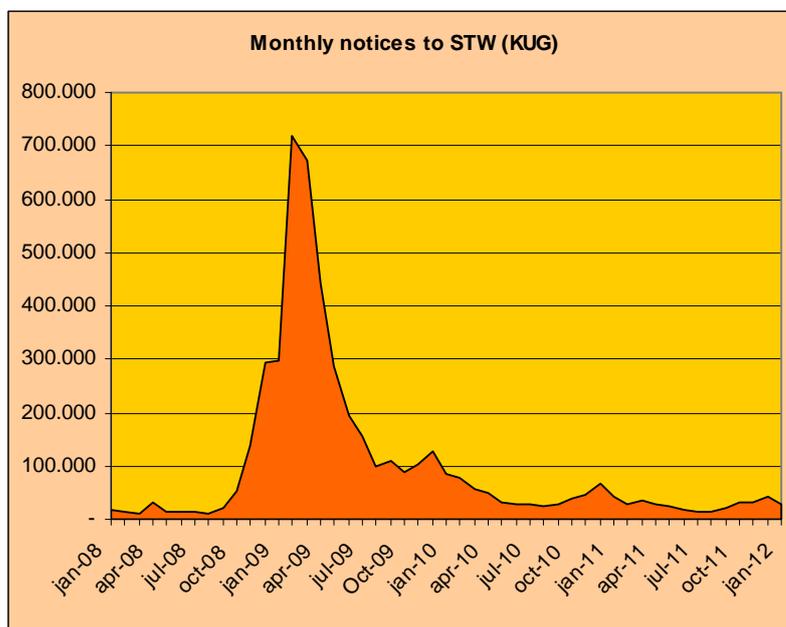
¹ See Bundesvereinigung der Arbeitgeberverbände (BDA) 2009: *Kurzfristig Beschäftigung in Unternehmen durch Kurzarbeit sichern!*

6.3 Implementation of the German STWA

For the implementation of short-time work in Germany during the crisis, the work of the employment agency as well as the cooperation between social partners and the government was of utmost importance. Furthermore, this all took place within the context of societal consensus on the priority of employment protection. As has been described, social partners, government and the employment agency came together in late 2008 to agree on the approach to the crisis and the changes to the instrument. Some very large companies were also involved in these discussions. Since the discussions resulted in the adapted measure as described, all the stakeholder involved from then on felt responsible for the success of the measures, respondents at several levels report. This involvement fed through to the company level where employers and work councils had to agree on the use of STWA.

The German system was used very intensively. Starting in late 2008, companies from all sectors and regions started using *Kurzarbeit*. This included some of the largest companies from the core of the German economy, such as Volkswagen, BMW, Daimler and other industrial businesses. The graph below shows the number of new incoming notices that were registered at employment agencies. These notices do not cover the exact number of actual short time workers, as they concern a projection rather than the actual use, but they give an impression of the demand nonetheless.

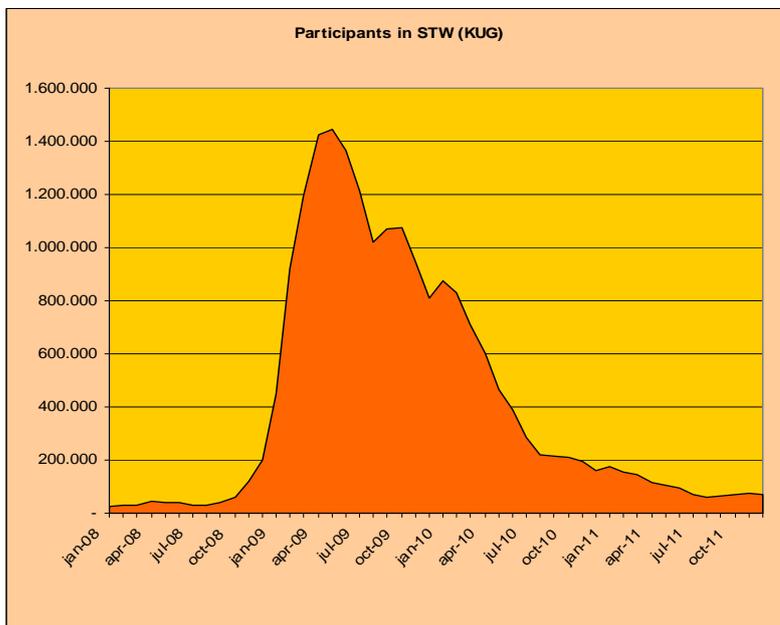
Figure 6.1 Monthly notices to STW (KUG)



Source: Bundesagentur für Arbeit (2012)

The total number of approved participants (again on the basis of notices) reached the top in May 2009 (1,442,667 people). Afterwards, the total number of participants was gradually decreasing (with exception of January 2010). Since May 2010, less than half a million people were taking part in STWA. During the entire period, western Germany accounted for the largest share of STWA participants (BA, 2011).

Figure 6.2 Number of participants in STW (KUG)



Source: Bundesagentur für Arbeit (2012)

When the changes to the measure were agreed, it was expected that companies would make great use of the possibilities offered. It was the intention of the policy makers that the measure should be used very intensively and according to respondents, the very quick increase in short-time work notices in the first months of 2009 did not catch the authorities off guard. Nonetheless, all actors involved, from the employment agencies to employer associations and trade unions, were dedicating almost all their time to the management and support of short-time work. To deal with the work load, the organizations involved worked closely together. As an example of this cooperation, the employment agencies adopted a new, less complicated application form which was designed by the national federation of employers in order to streamline the process of short-time work application.

The employment agencies were praised for the efforts they put into facilitating the use of STWA by stakeholders and companies interviewed for this study. Many agencies reallocated staff to the administration of short-time work as the work load was clearly very intense. They adopted a flexible approach to the applications and to the testing of the economic need or in other words, did not check as rigorously due to the high work load. It is said that in non-crisis time, the economic needs test would be more rigorous than in the times of crisis. All in all, the employment agencies acted as a partner of companies and stakeholders and supported them in making use of the measure. In this context it is useful to mention the fact that the federal employment agency (*Bundesagentur für Arbeit*) was reorganized in the early years of the decade and had changed its status from being a purely administrative state agency to becoming an independent service provider. In this process, the agency also gained financial autonomy from the government to a certain degree. This made it easy for the agency to see that at the beginning of the crisis sufficient funds were available for financing a large-scale use of short-time work. During the implementation, the agency acted according to its intention to make use of the available funds. Of course, the flexibility of the employment agency could increase the risk of deadweight losses.

Employer associations and trade unions supported companies and work councils by providing extensive information and consultations. This could vary from the organization of information events to the provision of application packages which companies could use for their STW planning to legal and financial advice. For the social partner organizations, short-time work was clearly the most pressing issue in the most critical time of the crisis. Some social partner organizations played a role in the training dimension of short-time work by developing specific training programmes which fitted within the conditions set by the ESF subsidy. As certification of training programmes was required, this process sometimes took longer than desired. Training providers and companies had to follow the ESF application procedures and prove that they were eligible for support. Only some sorts of training courses were eligible under the ESF rules, and different conditions applied to different kinds of training (i.e. transversal vs. specific training), making the administrative procedure rather cumbersome. Furthermore, it was difficult to design programmes that were flexible enough to fit into all the different company situations (regarding extent of STW and number of employees for training).

In 2009, around 110,000 employees made use of training financed by the ESF measure. In 2010 this number decreased to 66,000 and it decreased again in 2011.¹ Most respondents see these numbers as disappointing, though others interpret them as a success under the difficult circumstances. The core of the German STWA remains the protection of employment and the use of training does not always fit the use of short-time work. More attention is paid to this issue in the following section about the company level.

Overall, according to the respondents, the cooperation between the stakeholders involved led to a situation in which high demand for the measure was created and in which this high demand could also be satisfied. It is important to note that all these activities had to take place under high time pressure and the actors involved had to work swiftly to prepare the ground for company use of STWA. The general impression is that this was indeed achieved.

6.4 The workings of the German STWA at company level

In order to be able to assess the effectiveness of the German STWA, we need to take a look at the way that *Kurzarbeit* works within a company. For this purpose we can make use of the information provided by social partner representatives and the information provided by companies who have made use of short-time work during the recent crisis. We hereby describe the way that short-time work was treated during the recent crisis.

Most companies, especially in the manufacturing industry, were confronted with the crisis in the last quarter of 2008 when their orders started collapsing, from clients within but especially outside of Germany. A sudden decrease in orders by 50 per cent or more was not unusual and companies were surprised by the scale and intensity of this development. In comparison to previous crises it was especially the sudden but intense nature of the impact of the crisis that was unexpected. Furthermore, the companies realized that the problems they encountered were of an international nature and – mainly – not grounded in their own industry or organization. They also realized that the crisis would not be over quickly.

¹ These figures are coming from the Managing Authority of the ESF.

In this situation, most companies had to decide on measures to face the immediate crisis. In such a situation, immediate steps to reduce costs are taken. This can include the cancellation of maintenance orders, pausing or abandoning innovation projects and retracting investment where possible. In the area of staff, the internal flexibility of a company is used to reduce working time as far as possible. Companies could reduce their use of temporary workers, terminate flexible contracts, use up the credit hours saved within working time accounts, build up negative credit hours, reduce overwork where possible and introduce mandatory holidays. The availability of these options depended on the economic sector and the situation of the company itself. Collective labour agreements play a role, just as the financial buffer that a company has built up in the years preceding the crisis.

Even in situations where the company has fully filled working time accounts and a lot of options for internal flexibility of working time, a decrease in orders of 50 per cent or more can only be bridged for a limited amount of time, i.e. a few months. Where the employer has the impression that recovery cannot be expected in the short term, more extensive measures will have to be taken. At this point then a decision has to be made whether the company wishes to bridge the period of crisis in its present form by means of measures including short-time work or whether the company needs to decrease its size permanently and/or find a new organizational structure and new markets. In the German case, the following considerations played a role in this context:

- Before the crisis, companies were finding it difficult to find skilled staff. They therefore had a preference for preventing dismissals.
- The financial costs of STW were considered as relatively high. However, the costs of dismissals and restructuring are also considered as high and probably higher than STWA.
- Depending on the sector and size of the company, STWA was a well-known instrument for both employers and employees. It was seen as a common response of employees and employers to the crisis.

The most difficult consideration however was the estimation of how the crisis would develop. It was clear to companies that the recession was due to a collapse in international trade, i.e. external causes. However, it could not be said for sure when and whether the demand for German products would return. The companies that made use of STWA took a reasonable risk by assuming that the crisis is of a temporary nature, implying that no substantial organizational reform or shrinkage was necessary.

The employers then had to enter into discussions with the work council, or with individual employees where no work council existed in a small enterprise. The experiences differed, but the general impression is that the work councils were cooperative and regarded short-time work as a useful instrument to prevent dismissals. However, work councils may have argued to limit the extent of short-time work in order to prevent employees from having to endure income losses. Furthermore, they may have asked the employer to reimburse a part of the loss of income. In some cases, work councils tried to persuade the employer to organise training activities in the time not worked. Taking all these issues into account, the employer and the work council or individual employees drew up a company agreement in which they announced their intention to make use of short-time work and to what extent. This agreement legally exempted the employer from the basic obligation to pay the full wages of the employees regardless of the amount of work carried out.

A company agreement had to be drawn up by every company using STW. In some companies, the agreement was re-negotiated on a monthly basis. Thus every month an estimation

was made of the expected loss of production and following that the STW need was determined. Together with the work council it was decided which areas of production were in need of STW and therefore which employees would be asked to bear the burden. Many companies thereby tried to distribute the use of STW and the related income loss evenly across different groups of staff, though the first priority in the allocation was clearly the place where the production loss was identified. In general, the negotiations with the work councils formed a check on the STW ambitions of the employer by leading to a limitation of STW according to the needs of the companies and the capacity of the employees. Where a company did not have a work council, individual agreements had to be made with every employee participating in STW.

The company then had to step to the employment agency to announce its intention to make use of STWA and to give an indication of the scope of its use. The employment agency checks the company agreement and makes sure that the economic need is due to external reasons (crisis) and not a result of mismanagement or structural difficulties. According to most of the stakeholders and companies interviews, the employment agencies facilitated the use of *Kurzarbeit* during the crisis to a high degree. The administrative burden, which was a concern for companies, was kept as low as possible and it was not difficult to prove the economic need, since the entire economy was in fact struck by the economic crisis. The employment agencies acted as a service provider and supported companies where necessary.

When the notice (*Anzeige*) at the employment agency has been approved, companies can start their short-time work. At the end of each month they report to the employment agency how much of the estimated amount of short-time work they actually implemented. The workers who are making use of short-time work either stayed at home or were offered training courses. Often the employees in the production departments were most affected by short-time work. These are after all most directly connected to the loss in demand. Some companies decided to also downscale their research and development activities in order to save costs, whereas others invested even more in these areas to find a way out of the recession. Employees in the administrative departments were often even busier than before the crisis, paradoxically because of the use of STWA, since the entire personnel and financial management became more complex.

The use of STWA obviously has some undesirable effects on the situation of the company, both internal as well as external. Internally, employees may be worried about their job, there may be discussions about the distribution of short-time work within the company and the work morale may be affected. Externally, the reputation of the company may suffer. While some companies did experience an impact on their external situation, the internal problems seem to have remained limited. Thus, in some sectors, recourse to STWA resulted in increased pressure on the market, by clients and competitors, and in a lower income price for products. However, increasing pressure on prices is not unusual in a crisis situation. Furthermore, a very important point during the recent crisis was the scope of the recession which covered the entire economy. In a situation where competitors and clients also have to make use of STWA and similar measures, the negative effects (internal and external) remain manageable.

If the company intended or had agreed to provide training, it had to overcome a number of difficulties. Firstly, the organisation of training in the context of STW was not an easy task. Some companies found the funding mechanisms for training measures difficult to under-

stand and difficult to comply with. Training courses had to be certified, focusing on transversal activities for the highest degree of funding and be additional to already planned, compulsory training activities. Furthermore, even where there was a clear need for training (which is not always the case), employees might be in need of different kinds of courses which made it difficult to fill the groups of training service providers. Larger companies that can organize their own internal training activities were at an advantage here as they often did not apply for additional funding but let their internal training providers organize the training themselves. Smaller companies had to pool their workers in need of training with those from other companies in order to increase the efficiency of the training provision. This however meant that the participating employees had to have the same day and time off work to take part in the training which was not always the case. Companies were supported by federations and training providers in order to overcome these issues.

In addition, companies sometimes faced unwillingness on the side of employees to participate in training where the alternative was a free day at home. In some corporate agreements at sector level as well as in agreements at company level employees were therefore obliged to participate in the training provided. Other companies increased the attractiveness for employees by for example providing free lunch at the work and training place. When employees were needed in their ordinary workplace in the production again, the training sometimes had to be interrupted. However, for some training programmes leading to specific qualifications it was possible for companies to continue receiving subsidies from the employment agency by switching to the regular training support. Again, companies were positive about the cooperation with the employment agencies in this regard.

For most companies in Germany, the demand for their products started recovering again in late 2009 to early 2010. However, there were also companies that only started feeling the crisis at that point. Especially companies with public clients, for example in the defense industry, felt a delayed impact on their order numbers when governments started to cut back on their expenditures. Those companies experiencing the recovery slowly started increasing their levels of production again. Employees in short-time work are in principle immediately available, though the usual agreement is a notice period of around two days before they are required to go back to work. The experience of companies was that employees were eager to get back to work, since this also implied a return to the previous salary level.

While some companies also report that employees need some time to get back into the work pace, the ability to restart the work with a full staff composition helped the companies to react swiftly and efficiently to the recovery. Some companies were even in better shape after the crisis due to the qualification and training measures carried out. In accordance with the *Kurzarbeit* regulations, companies and stakeholders report that there were no dismissals carried out due to economic reasons. The only dismissals carried out despite the use of STWA were connected to specific personal or professional reasons. For the companies, the risk they took in expecting the demand for their products to return after a period bridged by STWA paid off. Since the German economy experience a swift recovery after the crisis, neither companies nor employees seem to regret making use of the measures. The general sentiment about the system of short-time work is very positive, also regarding its use in future crisis situations.

6.5 Effectiveness of German Kurzarbeit

6.5.1 Perceived effectiveness

In Germany itself, the use of STW during the recent crisis is seen as one of the key elements of the response strategy to the economic downturn. Furthermore, it is also seen as one of the crucial factors that contributed to German recovery and to the current relative success of the German economy. The judgment of the entire measure is very positive, as stakeholders think that in the absence of STWA, companies would have had to dismiss workers on a large scale. Thus, it is calculated that STWA covered in total up to 285,000 full time positions in 2009, distributed across 1.1 million participants, which would have been at risk of losing their job.

Companies and work councils confirm this picture, as respondents are grateful for the support that was provided by STWA. It is said that companies would have had to certainly dismiss more employees if the recourse to STWA had not been available. The alternatives that existed were fully exploited according to employers, and STWA was only used in situations where it was actually needed. More importantly perhaps, respondents note that STWA helped sustain the internal harmony in businesses but also in society at large, as people were kept in employment and did not have to be concerned about their relative position. Moreover, it provided businesses with financial relief they sought after, therefore preventing them from getting caught in a downward spiral of decreasing demand and decreasing productivity. There thus seem to be few companies that regret taking part in STWA or that see STWA as a non-effective measure.

Of course, these judgments are strongly influenced by hindsight bias, as the situation in Germany has improved since the crisis and companies' outlook is increasingly optimistic. As companies and employees benefited from the measure in terms of subsidies, it would be surprising indeed if they had a very negative view on the measure. Nonetheless, it is noticeable how positive all stakeholders involved are about the effectiveness of the measure, the only criticism directed at specific aspects such as the training scheme and the discussion about the social security contributions. In the section below, it will be tested whether the positive perception of those involved can be confirmed by the available micro data on the level of German businesses.

6.5.2 Effectiveness according to micro-econometric analysis

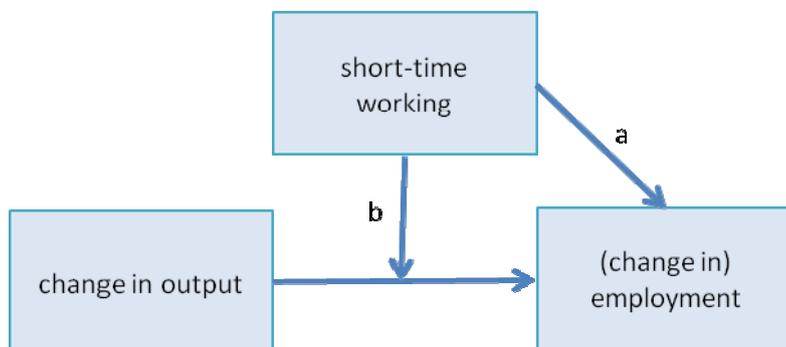
In order to measure the effects of the German Kurzarbeit on employment, we conducted econometric analyses based on establishment-level data. The aim of the analysis is to determine whether establishments which used more Kurzarbeit in Germany experienced, all other things being equal, higher levels of employment or less decrease in employment than others. In this paragraph, we first present the hypotheses we want to test, then the data we use, our estimation method, and finally we discuss the estimation results and the conclusions we draw from them.

Hypotheses and models

In the following, we test two different hypotheses. First, we would like to know whether establishments which use more Kurzarbeit experience less decrease in employment than others, in particular when their output decreases. The hypothesis is that establishments which use Kurzarbeit lose fewer employees when output decreases than establishments which do not, other things being equal. To test this hypothesis, we estimate models in which the change in employment is the variable to be explained. Second, we also want to know whether the use of Kurzarbeit has got a positive impact not only on changes in employment, but more generally on the level of employment in an establishment. The hypothesis is that establishments which use more Kurzarbeit have higher levels of employment, all other things being equal. To test this hypothesis, we estimate models in which the level of employment is the dependent variable.

We measure the effect of Kurzarbeit in two ways in our model. First, we include the share of employees in an establishment who benefited from Kurzarbeit, to examine the direct effect of this variable on employment (arrow *a* in the figure below). Second, we also include a cross-term of the share of employees who benefited from Kurzarbeit with the change in output compared to the preceding year. The latter variable makes it possible to measure in how far the use of Kurzarbeit enables establishments to moderate the impact of output shocks on employment (arrow *b* in the figure below). The combination of those two possible types of effects has not been tested in the literature based on establishment-level data so far (see Annex).

Figure 6.3 Two effects of short-time working on employment



Data

The data we used is from the 'IAB Betriebspanel', a representative panel survey held yearly among German establishments. It has been running since 1993 in Western Germany and 1996 in Eastern Germany. The IAB Betriebspanel is a very valuable data source, because it contains not only information on the use of Kurzarbeit, but also a lot of information on other characteristics of the establishment. We can only make use of data from 2000, because of a break in series in the classification of industries in that year. From 2000, data about the use of Kurzarbeit has been collected in 2003, 2006, 2009 and 2010. Our analysis is therefore based on these years. We include only the market sector in the analysis, and exclude education, health and public services because output is much more difficult to measure in those sectors. This results in an estimation sample containing more than 15,000 establishments and more than 30,000 observations.

Method

We estimate panel models with establishment fixed-effects. This means that we follow establishments in time and include an establishment-specific constant in the model. This constant is meant to capture establishment-specific effects which influence the level of employment or the change in employment but are not being captured by the variables included in the model. In other words, it is meant to correct for unobserved heterogeneity among establishments.

An important methodological problem when dealing with the effect of Kurzarbeit on employment at establishment level is that in general, firms which will make use of Kurzarbeit will be firms which are likely to have less favourable developments in employment than others. Kurzarbeit is said to be endogenous in such a case. In the estimations presented below, the hypothesis of exogeneity of the use of Kurzarbeit is rejected often enough to confirm that endogeneity does constitute a problem in the models estimated. If we do not correct for this problem, we will probably underestimate the effects of Kurzarbeit on employment. To solve this problem, we need to find so-called instruments for the use of Kurzarbeit, i.e. variables which are strongly related with the use of Kurzarbeit, but weakly related to developments in employment in the firm. Here, we use as instrument a 'learning effect' by firms after the rules for Kurzarbeit in Germany at the end of 2008 and the beginning of 2009. We define a variable which is 0 before 2009, 1 in 2009 and 2 in 2010. The idea is that as time passes, firms become better aware of and better acquainted with the new rules, and therefore make more use of Kurzarbeit. This is independent of the firm situation and therefore also of employment in the firm. Boeri and Bruecker also use such 'learning effects' as instruments in their 2011 paper. Box 6.1 gives more details about how we use this instrumental variable in our estimations.

Box 6.1. Non-linear two-stage least squares method

The standard instrumental variables approach (or two-stage least squares approach) would be as follows: (1) predict the use of STW by an establishment on the basis of the instruments and of the other regressors in the model; (2) plug the predicted value of STW from the first step in the model explaining the level of (or change in) employment.

Here, this standard approach cannot be used. The equation for $\Delta \ln e$ is non-linear in STW since STW enters the equation both as a separate variable and as a cross-term with $\Delta \ln y$. Hence, standard 2SLS is not applicable. We apply a method as described in Greene (2003). In this case the reduced form equation for STW can be derived explicitly. It is of the following form:

$$STW = \frac{\alpha_1 z + \alpha_2 \Delta \ln y}{1 - \alpha_2 \Delta \ln y}$$

where z includes all the regressors other than STW, the instruments and the error terms. Linearization of this equation in $\Delta \ln y$ gives:

$$STW = \beta_1 z + \beta_2 \Delta \ln y + \beta_2' z \Delta \ln y$$

This means that in addition to z and $\Delta \ln y$ the cross-products of z and $\Delta \ln y$ enter the equation. This equation is used as the first-round equation in the 2SLS procedure. In the second round the structural equation for $\Delta \ln e$ is then estimated with STW substituted by the predicted values of the first-round equation for STW.

To test for endogeneity of STW in such a model, we use the residuals of the first-round equation as additional regressors in the standard fixed-effects model without instrumental variables. If these residuals have a significant effect on employment, STW cannot be considered to be exogenous (Wooldridge 2003). Because the model is just identified, we cannot directly test the adequacy of the instruments themselves.

Effect of Kurzarbeit on the change in employment

First of all, we estimated the effect of Kurzarbeit on the change of employment in an establishment. The dependent variable in the model is the change in the logarithm of the number of dependent employees. The regressors are: the change in the logarithm of the output of the establishment, the share of employees making use of Kurzarbeit and a cross-term of the share of employees making use of Kurzarbeit on the one hand and the change in output on the other hand. Estimation results are presented in table 6.1 to 6.4. The first two tables present the estimation results without correction for the endogeneity of Kurzarbeit, for the period 2003-2010 and 2009-2010. The following two tables present the results when a non-linear two-stage least squares model is estimated, again for the whole period since 2003 and for the crisis period only.

The results show that both the share of employees benefiting from Kurzarbeit in an establishment and the cross-term of the Kurzarbeit percentage with the change in output have a negative and significant effect on the change in employment. We therefore observe two effects working in opposite directions. The higher the share of employees benefiting from Kurzarbeit, the smaller the increase or the bigger the decrease in employment in an establishment. However, the negative sign on the cross-term indicates that if output decreases, the use of Kurzarbeit will help to reduce the corresponding decrease in employment.

The size of the coefficients in the first three tables indicates that the use of Kurzarbeit has got a negative effect on the change in employment on average, all other things being equal (between -0.5 and -0.9 percent) (see Box 6.2 for more details about the rules for interpretation of the estimated coefficients on Kurzarbeit). The results of the fourth table, i.e. the estimation results for the crisis period using instrumental variables, are more surprising, as they imply a much stronger negative effect of Kurzarbeit on employment. We note that the use of instrumental variables does not have a very big influence on the results for the estimation period 2003-2010, but does lead to important changes, which are not in the expected direction, for the crisis period.

Further, we can see that in all models, a positive change in output has got a positive and significant effect on the change in employment, which is what one would expect. The coefficient on the output variable is, however, much smaller than one would expect.

Box 6.2. Interpretation of the estimated coefficients

This box shows how the regression equation that was applied to data for Germany (and France) can be used to compute the share of jobs saved by short-time working. If no short-time working were applied, the number of jobs would be e^* ; when short-time working is applied the number of jobs equals e . The share of saved jobs as a result of short-time working is $(e-e^*)/e^*$. This box shows how this share can be derived from the equation used. On average it depends (approximately) on the average level of short-time working applied and on average output growth. For values of average output growth below a certain threshold the average share of jobs saved is positive.

The model we estimate is as follows:

$$\Delta \ln emp = \ln e - \ln e(-1) = \gamma_0 + \gamma_1 \Delta \ln output + \gamma_2 STW + \gamma_3 STW * \Delta \ln output$$

In case STW is zero, we would have:

$$\ln emp^* - \ln emp(-1) = \gamma_0 + \gamma_1 \Delta \ln output$$

Hence,

$$\ln emp - \ln emp^* \approx \frac{e - e^*}{e^*} = \gamma_2 STW + \gamma_3 STW * \Delta \ln output$$

denotes the share of jobs saved by short-time working. This means that the average share of jobs saved is approximately equal to:

$$\gamma_2 * m(STW) + \gamma_3 * m(STW) * m(\Delta \ln output)$$

Where $m(\cdot)$ is the sample mean of the corresponding variable.

Clearly the share of jobs saved is positive if and only if:

$$m(\Delta \ln output) < \frac{-\gamma_2}{\gamma_3}$$

Table 6.1 Fixed-effects model in changes for 2003-2010

n observations	31403		
n establishments	15471		
R ²	0.02		
	Coef.	t	P> t
Δln output	0.0493	9.61	0.000
STW	-0.1125	-9.18	0.000
STW*Δln output	-0.0956	-3.21	0.001
constant	-0.0070	-4.90	0.000
rho	0.4914		

Table 6.2 Fixed-effects model in changes for 2009-2010

n observations	15631		
n establishments	9370		
R ²	0.01		
	Coef.	t	P> t
Δln output	0.0102	1.22	0.222
STW	-0.1112	-5.41	0.000
STW*Δln output	-0.0943	-2.28	0.022
constant	-0.0013	-0.51	0.609
rho	0.4347		

Table 6.3 Fixed-effects non-linear two-stage least squares for 2003-2010

n observations	31403		
n establishments	15471		
R ²	0.01		
	Coef.	t	P> t
Δln output	0.0484	8.98	0.000
STW	-0.1289	-2.26	0.024
STW*Δln output	-0.0877	-2.37	0.018
Constant	-0.0061	-2.04	0.042
Rho	0.4905		
H0 : STW is exogeneous			0.717

Table 6.4 Fixed-effects non-linear two-stage least squares for 2009-2010

n observations	15631		
n establishments	9370		
R ²	0.01		
	Coef.	t	P> t
Δln output	0.0375	4.26	0.000
STW	-2.7693	-9.15	0.000
STW*Δln output	-0.0823	-1.93	0.054
Constant	0.2049	8.69	0.000
Rho	0.8551		
H0 : STW is exogeneous			0.000

Effect of Kurzarbeit on the level of employment

The second model we estimate measures the effect of Kurzarbeit on the level of employment in an establishment. The regressors are similar to those included in the first model, but the log of output replaces the change in the log of output, and we also included a linear trend, which is meant to capture the influence of technological development. Estimation results are presented in tables 6.5 to 6.8. Here again, the first two tables present the results of the estimations without instrumental variables, for the period 2003-2010 and 2009-2010. The last two tables present the results for both periods of estimations in which we used instrumental variables.

For the estimation period 2003-2010, we find that Kurzarbeit has got a negative average effect on employment (-0.3 percent), and turns out to have a positive effect on employment only if output drops exceed 30 percent, if we do not control for its endogeneity. When we estimate a non-linear two-stage least squares model, so as to control for the endogeneity of Kurzarbeit, we however find a double positive effect of Kurzarbeit on the level of employment: Kurzarbeit itself has a direct positive and significant effect on the employment level, and the negative sign on the cross-term of Kurzarbeit and change in output indicates that Kurzarbeit at least partly offsets the negative effects of a negative output shock on employment. The size of the coefficients indicates that the average positive effect on employment could be about 5 percent. Here, correcting for the endogeneity of Kurzarbeit leads to different results.

When estimating the same models for the crisis period (2009-2010) only, we find only a negative and significant direct effect of Kurzarbeit on the level of employment when we do not use instrumental variables. When trying to control for the endogeneity of Kurzarbeit, we no longer find any significant effect of Kurzarbeit on the level of employment.

In all models, we find a positive and significant effect of output on the level of employment. The coefficients on the level of output for the period 2003-2010 are closer to usual values in this kind of models than those for the period 2009-2010. The same is true of the values of the coefficients on the time trend included in the model. The negative effect on employment is a logical result, as technological progress leads to a decrease in firms' need of labour, other things (and in particular output) being equal. However, the values for the period 2003-2010, suggesting a yearly productivity increase between 1 and 2 percent are much more credible than the smaller values estimated for the period 2009-2010. This leads us to consider the estimations for the period 2003-2010 as more reliable.

Table 6.5 Fixed-effects model in levels for 2003-2010

n observations	31403		
n establishments	15471		
R ²	0.83		
	Coef.	t	P> t
ln output	0.2314	45.63	0.000
Time	-0.0071	-10.23	0.000
STW	-0.0601	-4.82	0.000
STW*Δln output	-0.2003	-6.83	0.000
Constant	13.9448	10.01	0.000
Rho	0.9698		

Table 6.6 Fixed-effects model in levels for 2009-2010

n observations	15631		
n establishments	9370		
R ²	0.83		
	Coef.	t	P> t
ln output	0.0673	8.64	0.000
Time	0.0049	1.76	0.079
STW	-0.0364	-2.71	0.007
STW*Δln output	-0.0106	-0.39	0.696
constant	-7.9062	-1.40	0.161
Rho	0.9909		

Table 6.7 Fixed-effects non-linear two-stage least squares for 2003-2010

n observations	31403		
n establishments	15471		
R ²	0.79		
	Coef.	t	P> t
ln output	0.2250	43.18	0.000
time	-0.0187	-14.51	0.000
STW	1.0421	10.06	0.000
STW*Δln output	-0.1455	-3.92	0.000
constant	37.3668	14.37	0.000
Rho	0.9698		
H0 : STW is exogeneous			0.000

Table 6.8 Fixed-effects non-linear two-stage least squares for 2009-2010

n observations	15631		
n establishments	9370		
R ²	0.81		
	Coef.	t	P> t
ln output	0.0671	5.90	0.000
time	0.0050	1.68	0.094
STW	-0.0789	-0.30	0.767
STW*Δln output	0.0090	0.33	0.744
constant	-8.0365	-1.35	0.178
Rho	0.9909		
H0 : STW is exogenous			0.846

Conclusions

In the above, we have presented the estimation results of 8 models, which differed along three lines: change in employment vs. level of employment as dependent variable, estimation period 2003-2010 vs. 2009-2010, use of instrumental variables or not. The estimated coefficients for the variables other than Kurzarbeit suggest that the models in which the level of employment is the dependent variable, and which have been estimated for the period 2003-2010 present the most credible results. These results suggest that, when the endogeneity of Kurzarbeit is corrected for, Kurzarbeit could have increased employment in German establishments by 5 percent. It is important to note, however, that this result is not very robust as it does not come back in the other models. Especially as the influence of Kurzarbeit on the change in employment is concerned, we rather find that Kurzarbeit had on average a negative effect.

6.5.3 Overall effectiveness

While the stakeholders, employers and employees involved are very positive about the effectiveness of the German system of short-time work, the micro-econometric analysis provides a more nuanced picture. This can firstly be explained by the issues surrounding the endogeneity of short-time work within the econometric analysis, which is opposed to the positive bias of those involved in the management and use of the system. Secondly, it seems that those involved in the programme have a broader perception of the effects of STWA than the simple protection of jobs, as in this view it contributes to the general stability of the economy. So how can we combine these different perspectives?

The results of the micro-econometric analysis point to a 5 percentage gain in the level of employment in the enterprises taking part in STWA. This means that the employment level in those enterprises turns out 5 percent higher than what could reasonably be expected when looking at the developments in output of these enterprises. Taking into account the problem of filtering out the endogeneity of STWA and the rather negative results of previous research on STWA at micro level, it can be seen as encouraging that some positive results can be recorded after all. It is however difficult to say whether the 5 percent should be seen as a reasonably high achievement or a rather low achievement.

Considering the fact that in most participating enterprises the share of participating employees was greater than five percent, the results of the micro-econometric analysis could point to substantial deadweight losses, as the level of employment would have dropped to a lesser degree than the level of participation in STWA. However, it seems obvious that companies would not only use STWA for exactly the number of employees that would need to be dismissed. Employers clearly state that they would have had to dismiss at least some more employees if the STWA had not been available, although this may not have concerned the entire group of short-time workers. In this way, the results of the calculations seem to confirm the picture on the ground after all.

Finally, this discussion reveals a certain discrepancy in the way that the effects of STWA can be described. Of course, the core objective of *Kurzarbeit* is the preservation of jobs, and this is the effect that is measured through the micro-econometric analyses. However, in practice STWA is experienced not only as a support for the specific employees to keep them in employment, but also as an instrument supporting companies during a difficult period. The interesting issue here is that companies might not be able to dismiss workers easily in any case, due to employment protection and the costs associated with dismissals. Serious cash flow problems would result in a very difficult situation for the company, including cessation of activity. In this scenario, STWA does not so much protect specific jobs, but eases the position of companies that are caught between employment protection dynamics and the economic downturn. This can in turn explain the very positive appraisal of the measure by companies and stakeholders and the importance it is ascribed in the general approach to the crisis.

Overall, we can draw a positive conclusion on the effectiveness of the measure. Even though the micro-level analysis provides a more ambiguous picture than the general sentiment in Germany would lead us to expect, we can still measure positive effects which is an important result in itself given the difficulty of filtering out the endogeneity of STWA. The actors involved in the STWA tend to take a broader perspective at the effectiveness of the measure than the pure protection of jobs, entailing aspects such as the stabilization of the economic climate, the support of enterprises and the general maintenance of social and economic stability.

6.6 Conclusions and lessons learned

The Germany system of *Kurzarbeit* can be seen as a classic system of short-time work and is in fact often seen as a model for other countries, as it has been in existence for a long period of time. In the context of the recent crisis it has caught the attention of policy makers in other countries as well, as the extent of STW usage in Germany was unprecedented and it was seen as one of the key elements of the German approach to the economic situation. The German economy managed to recover comparatively well despite a strong recession in 2009. Some stakeholders even feel that Germany came stronger out of the recession, with positive developments on the labour market and in the economy at large. German *Kurzarbeit* is judged to have played an important role in facilitating this recovery. It is therefore certainly interesting to look for general conclusions we can draw from the German example.

One of the main factors that seem to have contributed to the success of the German system of STW was the context. In a sense, the recent crisis seems to have been the perfect crisis for STWA to have effect. This was mainly a result of the following factors:

- The German economy was generally in good shape before the crisis. The recession was fully caused by external events leading to a drop in demand.
- The years before the crisis were characterized by a shortage of skilled personnel rather than unemployment. Attention was paid to sustainable employment relationships.
- The crisis mainly hit sectors that had had some experience with STW in the past.
- The economy picked up again just at the point when companies were reaching the point at which they had to start taking further measures, including dismissals.
- The recovery was quick and strong.

As a result of these factors, the recession represented a relatively clear-cut, temporary drop in economic activity, which is exactly the kind of recession that can be bridged by STWA. As a result of this nature of the recession, i.e. the external origin and the unexpected yet strong impact it had, all stakeholders involved decided to make use of the necessary resources to tackle this crisis and preserve employment.

Regarding the design of the German scheme, we can also draw some conclusions, especially on the basis of the changes that were temporarily introduced. Thus it remains difficult to strike the right balance of residual costs and subsidies for businesses. During the crisis it seemed important to open up the system by reimbursing the social security contributions, as businesses would not have used it to the same extent in its previous form. Now however it is the questions whether the measure was maybe made even too attractive as a result, also resulting in higher costs for the public purse. For the time of the crisis, the stakeholders seem to have found a suitable balance, which was also facilitated by the high level of financial reserves of the employment agency. Thus the residual costs, including social security contributions seem to be an effective instrument for policy makers to regulate the extent of STWA use.

In this context, the mandatory role of the work councils should also be emphasized again. On the one hand, the work councils also prevent excessive use of the measure, as they usually call for as little STW as possible. At the same time, they contribute to the efficiency of the implementation, as they can collectively agree on the suspension of working contracts, which the use of STWA legally entails. The use of this internal bargaining structure can therefore have both tempering and facilitating effect.

The only aspect of the system that did not work according to plan was the training support which only attracted modest participation rates, though some might say that given the circumstances these rates should be seen satisfactory after all. The experience shows that companies are able to incorporate training within their STWA use if they are provided with suitable training solutions and assisted in the administration, but both aspects were not always in place during the crisis. While the financial support, backed up by the ESF, is certainly a crucial incentives for companies to take part in training measures, training is not always a priority in a crisis situation and organizational or bureaucratic obstacles can easily prevent companies from taking steps to provide the training. More facilitation and better preparation may improve the success of this aspect of the German STWA in future crisis situation.

In a nutshell, the context and nature of the recession in Germany, the proven design of the system and the generally successful implementation of *Kurzarbeit* with mutual investments of all actors involved led to a situation where the system could have a strong buffering effect for the companies that made use of it. While the micro-econometric analysis provides a nuanced picture of limited positive effects on the employment level, the actors involved see the system as an overall success contributing to the strong recovery of the German economy after 2009.

7 Country case: France

The case of France differs considerably from the German example, both in the way STWA are designed and implemented and in the general context of this implementation. In order to understand how the French measures worked in the specific circumstances we describe the same aspects as examined in the German case.

7.1 The impact of the 2008-2009 crisis in France

Between the years 2000 and 2007 the French economy was growing continuously. However, the growth rates were below the EU27 average, ranging from 0.9% in 2002 and 2003 to 3.7% in 2000. In 2008, when the EU27 was still growing by 0.5%, the French economy shrank by 0.1%. On the other hand, in 2009, the French economy shrank relatively less (2.7%) compared to the EU27 (4.3%). In 2010, the French GDP grew by 1.5%. Excepting for 2003 and 2004, the inflation rate is lower in France over the decade in comparison with the EU. In 2009, the worst year of the crisis, the inflation rate was 0.1 against 1 in the EU27.

From the first half of the decade, the French unemployment rate was almost identical to the EU27 average. As the EU27 unemployment rate started to decrease in late 2005 (3rd quarter), the French rate followed this trend almost one year later. As a consequence, since late 2005 (3rd quarter), the French unemployment rate was higher than the EU27 average. From the beginning of the crisis until the end of 2009, the growth of the French unemployment rate was milder than the growth in the EU27. Thus, the French quarterly unemployment rate has been converging with the EU27 average since 2008 and the gap between these two virtually faded out in 2010. In 2009, the unemployment rate was 9.5% in France against 9% in the EU27.

The French employment rate did not show any growing tendency over the last decade, when fluctuating between 62% and 64%. In the first half of the 2000's, the French employment rate was slightly higher than the EU27 average (on average, between 2000 and 2005, the French employment rate was 63.2% against 62.7% in the EU27). However, in the second half of the decade, the EU27 average exceeded the French employment rate (64.2% against 64.9% in the EU27).

Beginning with the second quarter of 2008, the temporary work sector was the first sector affected by the crisis (between Q42008 and Q42009, the number of jobs decreased by 35% in this sector). During 2009, its evolution is stable and the number of jobs in this sector begins to increase. The shock then spread to permanent jobs. In 2010, more flexible jobs are the origin of the restarting of employment. In 2009, the French labour market faced the strongest reductions in the salaried employment since 1950: 248 000 jobs were lost, most of them during the first semester of 2009 (Amar et al., 2011¹). At the end of 2009, the situation got better and globally, during 2010, commercial employment increases by

¹ Amar M., Dalibard E., Debauche E. (2011), « La crise de 2008-2009 et ses suites : recul marqué de l'emploi et ralentissement des salaires, puis reprise en 2010 », Vue d'ensemble, Emploi et salaires.

125 000 jobs. Even if the loss of employment is quite strong during the 2008-09 crisis, it seems moderate in comparison with the fall in the activity (Argouach et al., 2010).

In conclusion, the French experience of the crisis was somewhat milder in terms of GDP and unemployment statistics than in other countries. However, before the crisis the growth of the French economy was also more subtle than in other countries. In 2010, the economy recovered again, in line with other EU countries.

7.2 The French STWA system and its evolution during the crisis

The French system of short-time work differs considerably from other systems and is in some places rather fragmented in nature. This is the result of a great number of changes that have been implemented throughout the years, including during the most recent crisis. During the recent crisis an additional measure was added to the existing STWA which represented a new, more attractive version of short-time work, called the *Indemnisation de l'activité partielle de longue durée* (Compensation for reduced activity of long duration). Demands to integrate the new measure with the previously existing system have not been followed up on yet. STW remains a sensitive topic and is still a topic of intense policy discussions. The last changes to the legislative framework regarding STW were introduced in the beginning of 2012. This section describes the origins of the French STWA and its evolution during the most recent crisis.

The original French STWA, the partial compensation for earning losses due to working time reductions for reason of economic downturns (*chômage partiel*), dates back to 1931. The rationale of this provision was to provide a state funded minimum subsistence allowance to workers suffering from a decrease in their wages after the reduction of their working time. This measure was adapted in 1968 by the social partners within a national inter-sectoral agreement (the tripartite national agreement from February 21, 1968) which led to the introduction of a STW allowance paid by the employer which was partly reimbursed by the state. In exceptional situations, if there are strong threats to employment, government funding could be increased. In this case, specific STW conventions (or STW agreements) between economic sectors and the state could be set up which companies can subscribe to.

In 2001, there was an important change in the regulation of STW (the binding command of June 28th, 2001) which was triggered by the implementation of the working time reduction policy which reduced the standard or contractual hours worked per week to 35 hours¹. In this context, enterprises were obliged to prioritize the use of flexible working hours associated with work sharing instead of making use of STWA. Within the French framework of a 35-hour working week, companies can use so-called modulation or annualisation measures and connected instruments to change between periods of high activity and longer working hours and periods of lower activities and shorter working hours, as long as the annual average working time per week stays at 35 hours.

In this policy environment, the binding command of 2001 established a variable rate for the state funding of short-time work, whereby smaller companies (under 250 employees) re-

¹ see Askenazy (2008) for a description of this measure.

ceived a more generous contribution than larger firms. The decision of providing a lower STW compensation rate for larger firms with at least 250 employees was motivated by the consideration that larger firms can more easily allocate flexible working hours in their staff composition. The idea at that time was however that short-time work would only be used for emergency situations, as usual fluctuations in demand and production should be buffered by the flexible working time. As a result of the prioritization of working time reduction over short-time work, the use of short-time work decreased strongly, leading to a situation before the crisis where it was used only very sporadically.

While these changes took place before the most recent crisis, the legal framework of STW also changed several times between 2008 and 2010, and a new scheme of STW was implemented¹. The modifications in the scheme came into effect in January 2009, March 2009 and in May 2009².

The main changes consisted of increasing the maximum number of STW hours, increasing the maximum consecutive duration of STW and improving the level of compensation for employees resulting in higher state funding and the extension of eligibility criteria. The conditions that applied from January 2009 onwards were the following:

- The employer could decide to use short-time work for the employees, but had to pay 60% of the gross salary for the hours not worked, and at least €6.84 per hour.
- Of this short-time salary, the state reimbursed €3.84 per hour and worker in companies with a maximum of 250 employees, and €3.33 for companies larger than that.
- For the hours worked, employers keep paying unemployment and pension insurance contributions; the state pays the full contributions for the sickness and care insurance.
- STW can be used for a maximum of 800 hours per year, for a maximum of 6 consecutive weeks. Higher limits apply for the textile and automobile industries.

The main objective of the changes was to protect employment by increasing firms' internal flexibility in order to better respond to the volatility of the economic situation. In comparison with other countries in the EU where the measures were modified only for the duration of the crisis, most of the legislative changes were permanent in France. The idea behind these changes was to consolidate the measure and to encourage firms to use it intensively. This can be seen as a change in direction after the 2001 legislative changes actually discouraged the use of STWA.

While these changes to the *chômage partiel* already aimed at making the system more attractive, it was seen as insufficient to really stimulate its use, especially since the existing system was not aimed at a longer period of low production. Consequently, the newly introduced APLD system, which was based on the TRILD measure from 1993³, consists of a more advantageous allowance for employees on STW and for a longer period of time. So-called "framework contracts" (*conventions cadre*) could be signed at a national, regional or departmental level (in the sense of the territorial division), between a professional or inter-

¹ (Riso, 2010; Mandl et al., 2010). For a complete description of the STW regulation in France see Liaisons sociales, (2010) "Mode d'emploi du chômage partiel », n°146/2010, July.

² Arpaia et al., 2010.

³ During the French recession of 1993, a special STW convention was created: the short-time compensation of long duration (the TRILD). It was implemented in 1993 and was retracted in 1996 when the economic situation recovered. Firms could sign such a convention for a duration of 12 to 18 months. This type of STW convention played the role of a structural shock absorber especially for some big firms.

professional organisation or a large firm on the one side and the Ministry of Employment and the prefect or the director of the state employment services at the departmental (territorial) level of the Direccte¹ on the other side (regional department of firms, competition, consumption, work and employment). Firms could subscribe to the framework contract that applied to their area of activity easily by filling in an application form.

These conventions have exactly the same legal basis as "regular" STW schemes (participation conditions, maximum number of STW hours, etc.) but they cover a maximum period of compensation of 12 months (from 3 to 12 months). APLD agreements also permit a higher compensation for employees than "regular" STW, as under APLD, employers have to pay 75 per cent of the hourly gross salary in comparison with 60 per cent for *chômage partiel*. This higher compensation is made possible since the compensation of an APLD agreement is financed by the State and by the Unédic (the institution that pays unemployment benefits in France). For each hour covered by an APLD convention, the employer receives the basic STW specific allowance (€3.33 or €3.84 according to the firm size). In addition to that, the employer receives an additional contractual APLD allowance which depends on the duration of APLD use. The first 50 STW hours per employee are funded by the state, providing €1.90 per hour for the contractual APLD allowance. For hours going above the 50 hours per employee, the Unédic pays €3.90 per hour of additional contractual allowance.

When an APLD agreement is signed, firms commit to preserve the jobs of employees on STW during a period of time equal to the double of the period of the agreement. If firms do not respect this condition they have to reimburse STW and APLD allowances. Since November 2009, the French Labour Code has been making an explicit mention of the possibility of suspending the employment contract and of being trained during STW periods. In the STW regulation, the articulation between STW and training is not compulsory but only encouraged. Nevertheless, when signing an APLD agreement, an employer commits to proposing to each employee on STWA an individual interview in order to explore the possible training actions to develop.

Finally, at the beginning of 2012, several additional changes were made to the STW regulation. These changes were again aimed at making the system more attractive for companies as well as employees. The most recent changes included the following measures:

- A further increase of the STW specific subsidy by €1.00 per hour, resulting in the STW specific allocation of €4.84 per hour for firms with less than 250 employees and €4.33 per hour for firms with more than 250 employees.
- The additional APLD subsidy is exclusively paid by the Unédic instead of being co-financed by the state. For each hour of short-time work covered by an APLD agreement, the Unédic pays and additional APLD subsidy of €2.90.
- Within APLD agreements, training is possible during STW hours under the same conditions as under regular training plans (*plan de formation*). During this type of training periods, employees receive 100% of their net salary.
- APLD agreements can be set up for a minimum duration of two months, instead of three months as before.

¹ Direction régionale des entreprises, de la concurrence, de la consommation, du travail et de l'emploi.

In addition to these legislative changes, efforts are being made to lessen the administrative burden on companies using STW. Furthermore, the reimbursement of the salary costs by the state will be provided much more quickly than in the past, with the state aiming at a reimbursement time of maximum 8 days.

7.3 Implementation of the French STWA

Even though several respondents describe the French system of STW as “endangered” or “sleeping” before the recent crisis, both the intensity of the crisis as well as the legislative reforms led to a rediscovery of the measure. Thus, in the crisis years after 2008, the recourse to STWA strongly increased. Nonetheless, respondents also mention that policy actors as well as companies needed some time to really get to grips again with the old system and to adapt to the new system of APLD. In this section, we look at the use of STWA during the years 2007 to 2010.

The state and the social partners, both at national and sectoral or departmental level, were proactive during the crisis and worked together on a number of measures, including STWA. In general, the different changes in the regulation were joint initiatives of social partners. They were certainly the principal actors behind the APLD agreements, as these are based on a social partnership between state and industry actors. They discussed and agreed on both the financial aspects of the system and on the conditional aspects such as the obligation of employers to keep on their employees after using STW.

The debates between the actors were complicated by the complexity of working time regimes. Since working times may vary throughout the year and specific regulation applies to tax-exempted overtime, the application of short-time work is not always straightforward. Some respondents point out that the recent emphasis on STWA actually changed the policy direction since in the years preceding the crisis the emphasis was more and more placed on other forms of internal flexibility. As the crisis progressed, the implementation of the “double system” of *chômage partiel* on the one hand and APLD on the other hand led to discussion on the desirability of an integration of the two measures. These demands were not carried out by the most recent reforms in the end.

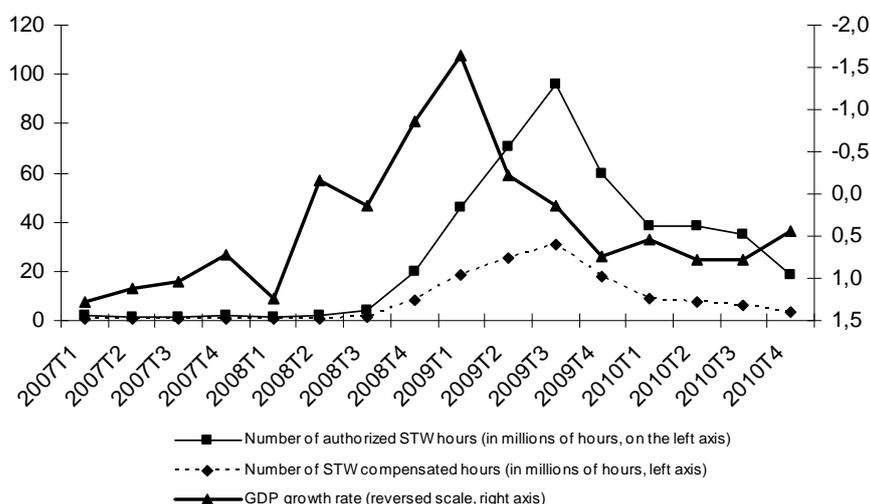
In general, the authorizations for STW were issued by the so-called *Direccte (Direction régionale des entreprises, de la concurrence, de la consommation, du travail et de l'emploi)*, administrative agencies at regional level. The *Direccte* judges the economic need of a firm, but also has a counselling role, supporting employers setting up the STW request and gathering the requested documents. During the crisis, the *Direcctes* were very active in communicating about the availability of the scheme. The administrative burden on companies wanting to participate in one of the STWA was seen as very high. It is interesting to see that the number of authorization nonetheless by far exceeds the level of actual usage. In fact, according to respondents only a small part of firm applications were rejected by the authorization departments. However, the authorizations often became available only after firms were already using STW, so that this might explain the rather careful approach of many firms.

If we want to estimate the extent of enterprises' use of STWA, administrative data are available (the data source is DGEFP-Aglæe *Chômage partiel*). This gives us information on

the number of STW authorizations but also on the actual recourse to the measure¹. In the past, only the information on STW authorization was used. Nevertheless, Calavrezo and Lodin (2011) analyzed the data and showed that information on STW recourse has a good quality for the metropolitan France area. It is important to look at both the authorisation statistics as well as at the actual usage, since on average, over the period 2007-2010, STW hours represent only 30% of the STW authorized hours.

The rise in STWA usage began in the second half of 2008. In 2007 and during the first three quarters of 2008, the number of STW compensated hours was at the most 1.6 million per quarter in metropolitan France. Since the fourth quarter of 2008 however, the number of STW compensated hours strongly increased by reaching 31 million hours during the third quarter of 2009. The number of STW compensated hours decreased rapidly after until the first quarter of 2010 and further on it decreased in a less drastic way (see figure below).

Figure 7.1 The evolution of STWA use, 2007-2010



Source: Calavrezo and Lodin (2011); data sources: DGEFP-Aglae Chômage partiel and INSEE, National Account for the GDP. For the STWA, quarterly seasonally-adjusted data. Field: Metropolitan France.

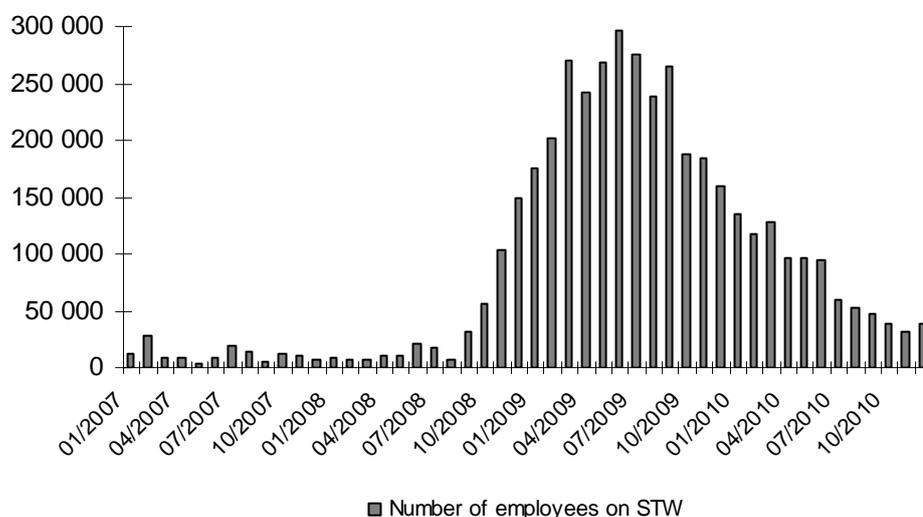
The annual number of employees using STWA can only be estimated, since the available statistics are based on monthly information². When looking at this indicator, the same picture emerges as above: from January 2007 until September 2008, the number of employees on STW was only 12.300 per month, compared to up to 150.000 per month since the fourth quarter of 2008. On average, each month, 103.000 employees were on STW during the fourth quarter of 2008, 220.000 during the first quarter of 2009 and 270.000 during the second quarter of 2009.

Calavrezo and Lodin (2011) estimated the annual number of STW employees: 74.000 employees were on STW in 2007, 216.000 in 2008, 673.000 in 2009 and 277.000 in 2010 (see chart below).

¹ see Calavrezo and Lodin, 2011.

² see Calavrezo and Lodin, 2011 for a complete description of the construction of this indicator.

Figure 7.2 Evolution of the monthly number of employees on STW



Source: Source: Calavrezo et Lodin, 2011; data sources: DGEFP-Aglae Chômage partiel ; monthly seasonally-adjusted data. Field: Metropolitan France

Between 2007 and 2010, 35 000 different establishments used STWA. 82% of them used the measure only once during this time period, 14% had two STW episodes and 4% at least three different STW episodes (see Calavrezo and Lodin, 2011 for more details). On average, an establishment used short-time work for 4.5 months.

7.4 The workings of the French STWA at company level

The basic condition of companies using STWA in France during the recent crisis was similar to the situation in other EU countries. However, the impact of the crisis was felt even earlier but also more gradual than in other countries. Thus from the start of 2008, companies started experiencing a slow-down in economic activity. This became more clear and widespread in the last quarter of 2008 when the demand for goods fell strongly. It was not clear to companies how long the crisis would go on and how intense its impact would be. The companies were coming out of a period of reasonable stability, but not of high growth rates.

As a result of a fall in goods and production in combination with a rather high dismissal protection of employees, companies had to look for measures to reduce activity without facing financial problems. First of all, firms started to use other internal flexibility measures available, such as working time accounts, imposed holidays and similar instruments. Some employers who were interviewed for the purpose of this study decided to draw up an employment saving plan (*plan de sauvegarde de l'emploi*, PSE) in which they set out the measures they wished to take to avoid dismissals or minimise their number and to increase the possibilities of laid-off staff to find alternative employment. After implementing a PSE, they then started using the short-time working arrangements.

As mentioned before, not all employers knew of the existence of short-time work at the start of the crisis as the preceding years more attention was paid to internal flexibility measures. Where they did not know about the measures, employers could get information through the social partners and through the information provided by the Direccte. When planning to make use of short-time work, the employer had to notify and consult with the works council or staff representatives about the plans. The employer had to specify the motivation underlying the desire to impose STW and also specify the expected duration of usage. According to respondents, during the recent crisis there were work councils that supported the use of STWA as a means of preventing dismissals, but also work councils who saw STWA as a means of adjusting the payroll without solving basic problems. Work councils also tried to limit the duration of STW in order to prevent a negative effect on work morale, as some respondents pointed out.

On the basis of the communication with the work council, the employer could then ask for the authorisation of short-time work in order to receive the respective short-time work allowances. For this purpose, the employer submitted the necessary forms to the territorial division of the Direccte, detailing the reasons for STW (fall in production), the projected duration of STW, the number of employees concerned and the regular working time. If a firm had units at several locations, every unit had to submit a separate request in the corresponding Direccte. As mentioned before, the administrative effort that had to be put into such an application was seen as rather high. Nonetheless, companies applied for many short-time work hours than they ended up using. If they were using the short-time work on the basis of an ALPD agreement, employers first had to find out which ALPD agreement applied to them. Some very large firms that are made up of several independent units or companies themselves, even set up their own ALPD agreements with the responsible authorities. Of course, these large firms also have the administrative capacity to take on such a task. Smaller firms simply had to subscribe to the ALPD agreements at sector or branch level.

The financial considerations of employers considering use of STWA in France were rather intricate, as the attractiveness of the measures depends strongly on the choice (and costs) of employees to be sent into short-time work. Whereas in other countries, the reduced STW salary is paid by public funds proportional to the salary level of the employee, the dynamic in the French case is different. Employers in France definitely have to take into account their obligation to pay 60% or even 75% of the gross salary, depending on the measure used. The compensation they receive is however not proportional to the salary level of the employees, but fixed at the level determined by the measure. In the best case for the employer, the compensation provided by the STWA during the crisis covered €7.74 per hour (in the case of APLD in a small firm continuing longer than 50 hours). The salary costs above this level remained as extra costs for the employer. Especially where more expensive employees, i.e. employees with higher salaries, are using short-time work, and where the maximum amount of subsidy cannot be claimed, the measures could therefore still be rather expensive for employers during the crisis, despite the improvements in the subsidy levels already implemented.

When using short-time work, the employer had to advance the STW salary to the employees. When the actual extent of STWA usage was reported to the administrative authorities, the subsidy in question was reimbursed. In fact, a lot of employers decided to use significantly lower amounts of short-time work than they were authorised to do. This could be

due to the financial considerations presented above which would mean that they decided to keep staff in full-time employment. On the other hand, they might not have found the measures attractive enough and have chosen for dismissals instead. This would be an undesirable outcome of the design of the measure. Judging from the interviews carried out with employers and stakeholders involved, it seems that employers see short-time work as an instrument that is to be used with utmost care.

In the reporting of the amount of short-time work compensation used, another complicating factor was the combination with other flexibility measures such as modulation or annualisation of working time. Where companies varied the weekly working time of their employees throughout the year, it was obviously difficult to assess how much of the idle working time was in fact covered by STW and how much was due to general flexibility. This problem could only be solved by drawing up detailed working time plans for the entire year for every employee, in order to show what the standard working time at the moment of STWA use should have been. Needless to say, for some companies this resulted in a very heavy administrative burden.

After reporting the extent of STW use, employers were refunded part of the salary for the hours not worked, according to the fixed rates per measure. Several employers faced difficulties in this context, as the payment of the compensation funds seems to have taken very long in many cases, from about a month to the most extreme case of an entire year. This delay could lead to serious problems for companies, since they are using STWA first and foremost to deal with cash flow problems. Due to the lack of orders, they are receiving not enough money and therefore need to cut back on the money they need to pay immediately. If then the STW subsidy is only paid much later, it has no easing effect at the time when it is needed the most.

In addition to the financial considerations which determine whether an employer actually decides to use STW, the firm may decide to encourage employees to follow a course of training during their time of short-time work. Generally, firms are responsible for the training of their employees, and they can make use of a variety of support mechanisms to finance this training. There are several joint funds to finance training of employees and the unemployed in which resources contributed by employers, the state, and the ESF are brought together. In the context of STWA, employers could apply to the Joint Fund for securing career paths (*Fonds paritaire de sécurisation des parcours professionnels*, FPSPP) for additional funding of training activities which only came into existence in 2010, but had a predecessor in the form of a fund of €360 million based on a framework agreement in 2009.

For most companies it was however not easy to organise the training, as they faced similar problems as in other countries. Firstly, in most cases the employees on STW were only partially put on hold, i.e. for a few hours per week. To find a training programme that fits this time schedule can be difficult. Especially within APLD agreements, respondents report that it could be difficult to motivate employees, as they are actually reasonably well-paid for their period of inactivity and do not feel the need to undertake training activities. For small and medium-sized enterprises, it was not easy to plan ahead far enough in advance to organise training successfully. This was less complicated for larger enterprises, but could also be an issue. Respondents also report that it was difficult to find trainers who could organise training in a way that it fit the criteria of the training fund. All these aspects resulted in a

situation in which training within STWA was rather an exception than a rule amongst participating enterprises.

Where companies used short-time work on the basis of an ALPD agreement, they could use the measure for up to twelve months. Employers decide to terminate their use of STWA when the demand, and therefore production, picks up again. When employees return after a period of short-time work, they enjoyed dismissal protection for a period twice as long as their STW usage. According to our respondents, most firms followed up on this obligation and kept their employees. In cases where companies used the STWA to the maximum duration of 12 months and would have liked to use it even longer, the dismissal protection may have formed a problem, since at that point, there were no alternatives for further working time flexibility, but also no possibility to dismiss staff. However, in certain cases it was possible for a firm to ask for STW and, at the same time, to lay off some of its employees, in case groups of employees concerned by these two measures are different.

When the use of short-time work was not effective and employees were dismissed nonetheless, their entitlements to unemployment benefits and pension rights were not negatively affected by STWA. If an affected employee was laid off after the period of STW, his unemployment benefits were calculated on the basis of their full-time wage before STW. Under certain conditions, affected employees may also acquire free retirement credits (*points gratuits*) counting towards a complementary pension scheme¹. This meant that affected employees do not have to worry about adverse long-term effects for their income or benefit levels.

In conclusion, the mechanisms that were at play at company level can be characterised by the following aspects:

- Low initial awareness of the existence of the measures at company level
- Choice of measures, depending on the economic sector
- Involvement of work councils, often trying to limit extent of STW
- Intricate financial reasoning as a result of fixed contributions of the state and Unédic making STWA relatively expensive for employers
- High administrative burden, also related to other flexibility measures
- Maximum duration of 12 months may lead to difficulties in companies as all possibilities for flexibility have been exploited
- Employment protections strengthens position of employees on STW

In the section below, we will strive to calculate the effectiveness of the French STWA at company level in terms of jobs saved.

7.5 Effectiveness of French STWA

7.5.1 Perceived effectiveness

When compared to the situation in Germany, the stakeholders in France are not as unequivocally enthusiastic about the STWA as those in Germany. The measures are definitely not attributed as much importance in tackling the crisis. This is not surprising, as the

¹ Riso, 2010.

French system did not attract as many participants and thus did not play such an essential role in the discussions as it did in Germany. The policy makers involved therefore suggest that the French STWA did not have the effects they could have had, as the scope was simply too limited. Regarding the overall effectiveness in the cases where one of the available measures was used, stakeholders are however positive, seeing the French STWA as a system that works.

Addressing the question of whether STWA helped to preserve jobs, respondents point to the dismissal protection that applied to STW participants. As there are no specific cases known of this dismissal protection being disregarded, it is generally thought that STW participants kept their jobs. There are no statistics on the effectiveness of STWA however, and respondents are unsure about possible deadweight losses. Stakeholders emphasise the fact that the French forms of STWA are intended for short, dramatic period of economic crisis and that they lose effectiveness if used for the long-term. This is of crucial relevance now as the economic situation in France remains uncertain which makes it difficult to assess the long-term impact of measures like the STWA.

According to the participating firms that have provided information for this research study, their participation in one of the STWA reached the desired effects. In the absence of STWA, they would have had to dismiss more employees. Especially those firms that are experiencing more demand at the moment are positive about their use of STWA. Here again, the emphasis is placed on the short-term nature of the measure. If firms had to use it for longer periods of time, they would think twice about choosing this particular type of support.

While this gives us an impression of the way that the effectiveness of the French STWA is perceived, the following section will discuss what we can say about this effectiveness based on the micro-econometric analysis.

7.5.2 Effectiveness according to micro-econometric analysis

To measure the effects of the French short-time working arrangements on employment during the crisis, we conduct econometric analysis based on micro-data about STW use and employment at establishment level and economic performance at firm level. In the following, we first present the hypotheses we test and the data and methods we use. We then present the results of our regression analyses and formulate conclusions about the effectiveness of STWA in France.

Hypotheses and models

As in the German case, we test two different hypotheses. The first one is that the more an establishment makes use of STWA, the higher the employment *level* in that establishment, all other things being equal. The second hypothesis is that the higher the STW use in an establishment is, the more favourable the year-to-year *development* of employment in that establishment is, all other things being equal.

STW use and employment are measured in two different ways here. First, we measure employment as the number of employees in an establishment as of December, 31st. The corresponding measure of STW use is the share of employees in the establishment who benefited from STW. Second, the data we have also registers the number of hours worked in an establishment in a year, and the number of hours for which STW has been used. Therefore,

in a second specification, we define employment as the number of hours worked and STW use as the ratio of STW hours relative to the total number of paid hours in the establishment.

Like in the analysis we conducted for Germany, STW use is included in two ways in the models we estimate. First, we simply take up STW use itself (i.e. the share of employees benefiting from STW, or the ration of STW hours to hours worked in the establishment). Second, we also include in the model a cross-term of this STW variable with the change in output of the firm. This way, we do not only control for the direct effect of STW on employment, but also for its indirect effect, which occurs if STW moderates the impact of a negative output shock on employment (see Figure 6.1. in chapter about Germany).

Data

Our analyses for France are based on a combination of three different data sources: the 'fichier AGLAE chômage partiel', the 'Déclarations Annuelles de Données Sociales (DADS)' at establishment level and the 'fichiers Bénéfices Réels Normaux (BRN)'.

The 'AGLAE chômage partiel' dataset is an administrative source. All of the STW use in France between 2007 and 2010 is registered in this dataset at establishment level. On the basis of this data, STW use can be measured as a binary variable (use or not), as the number of employees who benefited from STW or as the number of STW hours consumed by an establishment. The dataset originally contains monthly data. It has been aggregated to obtain yearly figures (see Dares Analyses 2012) for more details about the method).

The DADS data is also an administrative source, although non-exhaustive, which contains information about the employees in an establishment, the structure of the workforce, the number of hours worked, aggregate figures on pay, etc. We use it to monitor the level and development of employment at establishment level. We have data for the period 2006-2009.

Finally, the BRN dataset contains information about economic and financial performance of firms, such as turnover, benefits, costs, etc. We use it to control for a firm's output in the models we estimate. We have data for the period 2006-2009. A drawback of this source is that, unlike the other two, it is not available at establishment level, but at firm level. This means that in our analyses, we use output at firm level as a proxy for output at establishment level. Conducting the analysis at firm level directly was not possible: because the DADS data are not exhaustive, one cannot be sure that all establishments of a given firm are included in the dataset. This approximation will mostly not be a problem, as most firms in France only consist of one establishment.

These three datasets have been matched on the basis of a unique identifier at establishment and enterprise level and of the year, to produce a combined panel dataset. The analyses have been conducted for the period 2007-2009, since this is the period for which data is available from the three sources mentioned above. It is important to note that information from the year 2006 from the BRN and DADS datasets is used also, for instance to compute year-on-year changes in employment or turnover. We include in the analyses only establishments with a commercial activity, and we exclude the State, public enterprises, local or regional administrations and hospitals. In the end, we have about 800,000 establishments and about 1,8 million observations in the estimation sample.

Method

As in the German case study, we estimate panel models with fixed-effects at the establishment level. This helps to ensure that the effects of STW we estimate really can be interpreted as 'all other things being equal'. Also like in the German case study, we attempt to correct for endogeneity of the use of STW (i.e. for the fact that firms which are in a worse situation are more likely to make use of STW) by estimating also models involving instrumental variables. The tests of exogeneity of STW presented in the estimations below indicate that there is indeed a problem with endogeneity here. We estimate a non-linear two-stage least squares as proposed by Greene (2003). (see box in chapter about Germany above for more details).

Effect of 'chômage partiel' on the change in employment

First, we estimate the effect of STW on the change in employment in an establishment. The dependent variable is either the change in the logarithm of the number of persons employed or the change in the logarithm of the total number of hours paid. The explanatory variables are: the change in the logarithm of the firm's turnover, either the share of employees making use of STW or the share of hours paid which are STW hours, and a cross-term of the latter variable with the change in the logarithm of turnover. The results are presented in tables 7.1 to 7.4 below.

When we look at employment measured in persons (tables 7.1 and 7.2), the effects of STW on the change in employment appear rather negative. The share of employees benefiting from STW has got itself a negative and significant effect, and the positive sign of the coefficient on the cross-term with the change in output indicates that STW tends to reinforce the effects on employment of an output shock. This is contrary to what one would expect. Using instrumental variables does not qualitatively change this result. Both models find a negative average effect of STW on employment, of -0.03 percent for the OLS estimations and -0.3 percent for the 2SLS estimations.

When employment is measured in hours (tables 7.3 and 7.4), the picture is similar. In the OLS estimations, the share of STW hours has got a negative effect itself, but STW appears to moderate the effects of a shock in output on employment. The overall resulting effect estimated is however a small negative one (-0.05 percent). Using instrumental variables does not lead to more positive results, on the contrary. In the model estimated by non-linear two-stage least squares, we find a negative direct effect of STW next to a reinforcement of output shocks (which, again, is not what one would expect). The coefficients indicate a negative average effect of STW on the change in employment (-0.75 percent).

In both models, the change in output has got a positive and significant effect on the change in employment, as one would expect. The coefficient on this variable is closer to usual values in the model in hours than in the model in persons.

Table 7.1 Fixed-effects in persons, OLS

n observations	1754622		
n establishments	777552		
R ²	0.03		
	Coef.	t	P> t
Δln turnover	0.1304	106.30	0.000
STW	-0.0762	-12.75	0.000
STW*Δln turnover	-0.0144	-0.87	0.383
constant	-0.0048	-25.56	0.000
rho	0.3647		

Table 7.2 Fixed-effects in persons, non-linear 2SLS

n observations	1754622		
n establishments	777552		
R ²	0.02		
	Coef.	t	P> t
Δln turnover	0.1124	73.20	0.000
STW	-0.5617	-18.30	0.000
STW*Δln turnover	0.1959	9.14	0.000
constant	-0.0018	-7.36	0.000
rho	0.3687		
H0 : STW is exogeneous			0.000

Table 7.3 Fixed-effects in hours, OLS

n observations	1830502		
n establishments	818968		
R ²	0.08		
	Coef.	t	P> t
Δln turnover	0.3014	232.57	0.000
STW	-0.9593	-17.79	0.000
STW*Δln turnover	-0.8166	-7.50	0.000
constant	-0.0026	-12.55	0.000
rho	0.5609		

Table 7.4 Fixed-effects in hours, non-linear 2SLS

n observations	1830502		
n establishments	818968		
R ²	0.03		
	Coef.	t	P> t
Δln turnover	0.2425	151.99	0.000
STW	-14.9829	-61.02	0.000
STW*Δln turnover	1.0816	7.84	0.000
constant	0.0053	22.04	0.000
rho	0.5839		
H0 : STW is exogeneous			0.000

Effect of 'chômage partiel' on the level of employment

In a second version of our model, we estimate the effect of STW on the level of employment in an establishment. The variables involved are similar to the preceding model, except that the change in employment is replaced by the level of employment and the change in turnover replaced by its level.

When looking at employment in terms of persons (tables 7.5 and 7.6), we again find a negative effect of STW on employment if we do not correct for the endogeneity of STW use. The estimation results of the OLS model indicate an average effect of STW on employment of -0.025 percent, and a positive effect of STW only for establishments which experience a drop in output greater than 55 percent. When we use instrumental variables to correct for the endogeneity of STW, we find no longer any significant effect of STW on the level of employment measured in persons.

When the level of employment is measured in hours rather than in persons (tables 7.7 and 7.8), results are similar. The OLS estimation results indicate a negative effect of STW on employment (-0.03 percent). According to these results, STW use only has a positive effect on employment in firms which experienced an output drop by more than 59 percent. The non-linear two-stage least squares estimations, which correct for the endogeneity of STW, indicate a negative average effect of STW as well (-0.05 percent). The moderating effect of STW on output shocks appears not to be significant in this model.

In all four models, the level of output has got a positive and significant effect on the level of employment. The coefficient is closest to values usually found in the literature for the model in hours. The negative coefficient on the time trend (which is included to capture technological progress) indicates, as one would expect, that firms need less labour as technology improves, all other things being equal.

Table 7.5 Fixed-effects in persons, OLS

n observations	1754622		
n establishments	777552		
R ²	0.15		
	Coef.	t	P> t
ln turnover	0.2690	239.83	0.000
year	-0.0089	-47.07	0.000
STW	-0.0500	-11.41	0.000
STW*Δln turnover	-0.0878	-7.26	0.000
constant	17.6676	46.25	0.000
rho	0.9752		

Table 7.6 Fixed-effects in persons, non-linear 2SLS

n observations	1754622		
n establishments	777552		
R ²	0.15		
	Coef.	t	P> t
ln turnover	0.2683	162.29	0.000
year	-0.0090	-36.68	0.000
STW	-0.0196	-0.65	0.518
STW*Δln turnover	0.0145	0.93	0.353
constant	17.7349	36.55	0.000
rho	0.9752		
H0 : STW is exogeneous			0.465

Table 7.7 Fixed-effects in hours, OLS

n observations	1830502		
n establishments	818968		
R ²	0.17		
	Coef.	t	P> t
ln turnover	0.4024	329.89	0.000
year	-0.0212	-96.67	0.000
STW	-0.5950	-14.38	0.000
STW*Δln turnover	-1.0028	-12.01	0.000
constant	48.5916	110.05	0.000
rho	0.9751		

Table 7.8 Fixed-effects in hours, non-linear 2SLS

n observations	1830502		
n establishments	818968		
R ²	0.17		
	Coef.	t	P> t
ln turnover	0.3971	217.12	0.000
year	-0.0208	-80.14	0.000
STW	-0.9993	-3.96	0.000
STW*Δln turnover	-0.0271	-0.26	0.798
constant	47.8369	92.64	0.000
rho	0.9748		
H0 : STW is exogenous			0.000

Conclusions

In the above, we presented eight different models, which differed along the following lines: change in employment vs. level of employment as the dependent variable; employment measured in persons vs. in hours; model estimated by OLS or by non-linear two-stage least squares.

We only find a positive effect of STW on employment for firms which experience very important drops in output (by more than 55 or 60 percent), in models where the level of employment (in employees or in hours) is the dependent variable, and which are estimated by OLS. But the average effects of STW estimated are in general negative, ranging from -0.025 percent to -0.75 percent.

We note that using instrumental variables to correct for the endogeneity of STW does not in most cases lead to a more positive effect of STW in our estimations. This is different from what one would expect. It may be interesting to look for better instrumental variables than the 'learning effect' following the reforms of end 2008 / begin 2009.

7.5.3 Overall effectiveness

The results of the econometric analysis of the firm level data in France do not lead us to firm conclusions. The results are not robust enough to firmly speak of a clear effect of STWA on the level or change of employment in the firms that participated in one of the measures. This clearly has to do with the endogeneity of STWA which remains difficult to correct for in the data. Furthermore, the frequent changes in the measures make it difficult to interpret the data exactly, as the situation of the companies concerned changed repeatedly. Even without the changes, the different options available for companies make the situation less straight-forward for data interpretation than for example in the case of Germany. This is also reflected in the more hesitant appraisal of the respondents, both stakeholders and firms.

Furthermore, the current situation of the French economy also makes the effectiveness more difficult to assess. While the economy recovered in 2010 with GDP growth of 1.5 per cent, following that the economic situation has deteriorated again, triggered by the European-wide sovereign debt crisis. This raises the question whether we can consider France to have come out of the crisis or whether this crisis is still ongoing. If this is the case, it

may be too early to measure effects or, alternatively, the effects may already be lost due to the second economic dip. It is clear that the development of the economic climate in this sense does not mirror the development in Germany, which was classified as the ideal situation for STWA to have effect. It may thus not be the French STWA as such, but more the economic context which leads to a blurry picture of the effectiveness of the system during the recent crisis.

7.6 Conclusions and lessons learned

The French system of STW clearly differs from other system in its design and implementation. It is firmly embedded within the French structure of social dialogue and it has to work within the framework of working times and internal flexibility of companies. Though the system of *chômage partiel* has existed for a long period of time, it has been changed repeatedly and the new system of APLD has been added to it. Though this can make the situation in France slightly complicated at times, it means that the system is tailored to the French situation and that a different system would probably not fit within the institutional and societal framework. Nonetheless, we can draw general conclusions from the French experience of STWA during recent years.

Firstly, regarding the context, it is clear that the situation in France was not as favourable to the use of STWA as in other countries. Firstly, the system of STWA was not well-known to the actors involved, as the years preceding the crisis the use of STW was discouraged. In addition, it was deemed necessary to change the system and adapt it to current conditions which created more uncertainty, as different changes and additions were carried out at policy level which had to feed through to the implementation level. As a result of this situation, there was more discussion about the use of the measures, as different ideas existed on the best way to preserve employment. This is in stark contrast to the situation in Germany, where for several reasons STWA was seen as the instrument of choice by most stakeholders.

The most distinguishing feature of the French system is the strong representation of the social partners at all stages of the implementation process. While in Germany and Austria the social partners are also represented via work councils and collective agreements, in France the sectoral and inter-professional level social partners, i.e. the trade unions, have a lot of potential to influence the use of the measures. This is clearly an example of how the economic tradition of the country feeds through to the set-up of a measure like the STW. In this case, the trade unions can contribute to a better protection of employees in the case of STWA participation. It can be expected that their involvement has a tempering effect and therefore avoids unnecessary STW application, also providing legitimacy for the measures undertaken. Furthermore it provides some efficiency gains, as the sectoral level can sort out the conditions for the company level. At the same time however, the bargaining involved in this process of social dialogue seems to have deterred some companies, especially smaller ones, from participating in one of the measures at all. This pay-off between stronger and weaker social partner involvement is important to remember.

The Achilles heel of the French STWA during the recent crisis was clearly the administrative procedures related to the measures. Firstly, participation required a lot of administrative activity from the companies involved, as they had to work through the intricate legislative

provisions and provide extensive administrative evidence on their eligibility and use of the measures, also connected to existing internal flexibility in the context of the 35-hour week. Besides the administrative burden, which should be addressed, even more importantly the financial administration of the STWA was not administered according to plan. Thus, companies had to wait several weeks, if not months, for the reimbursement of salaries. This creates a difficult situation for companies and can have a serious negative impact on the effectiveness of the measures. The stakeholders in France are aware of this problem and aim to address it in the future administration of the measures. Overall, these issues serve to re-emphasise the importance of the successful administrative handling of the system in Germany which earned praise from all stakeholders involved.

Finally, it has to be reemphasized that the role of the French STWA during the recent crisis was simply very different to that played by the German system. Since the German *Kurzarbeit* was one of the central measures of the German approach to the crisis, the French STW measures were much less significant in their scope and impact. Within the French systems of working time modulation and annualisation, companies have recourse to internal flexibility of working hours and it is not always clear how this system relates to short-time work. Furthermore, the French STWA are really seen as short-term solutions, even though the APLD can also be used for a longer time. Thus, at a point when the crisis does not subside, actors may not regard short-time work as a relevant measure anymore. This point is especially relevant at present, as the French economy is facing a difficult situation once more. It can therefore be questioned whether in the French case the context was conducive to the effectiveness of the short-time work measures applied.

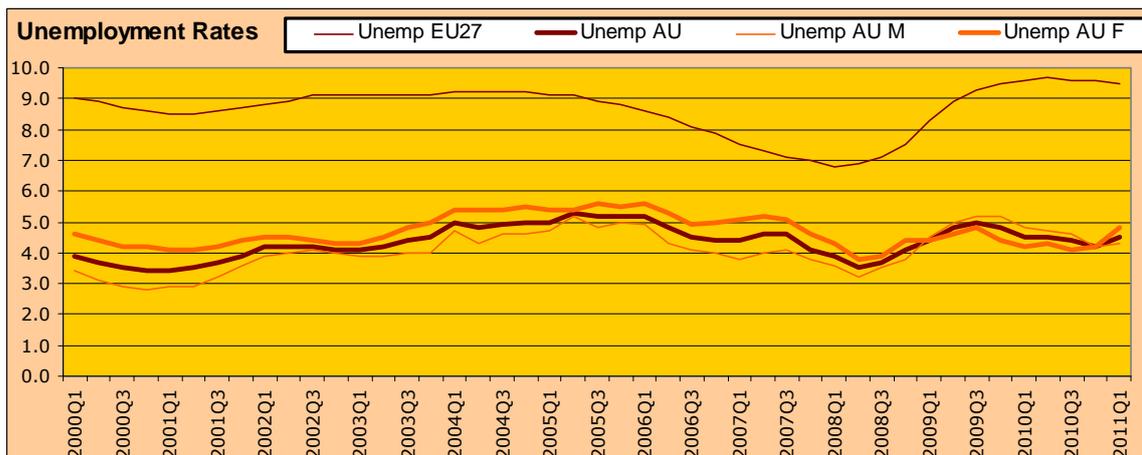
8 Country case: Austria

The Austrian system of STWA is designed in a way similar to the German one. The impact of the economic crisis in Austria also developed along the same lines as in Germany. When we look closer, the design and use of the measures of course differed between the countries. In the following we describe how the situation evolved in Austria and what can be said about the role of STWA in the Austrian experience of the crisis.

8.1 The impact of the 2008-2009 crisis in Austria

Regarding the economic situation before the crisis, the Austrian economy was in relatively good shape. The growth of GDP slowed down from almost 4% in 2000 to rates under 2% in 2001 to 2003. Between 2003 and 2008 the growth of GDP exceeded 2% reaching 3.7% in 2007. In 2008 the crisis was starting to make its impact felt, as the growth slowed down again to 2.2% overall. In 2009 the crisis could be felt all year as the Austrian economy shrank by 3.9%, less intensely than in Germany but a greater fall than was experienced in France. In 2010 the economy started to recover again as the GDP increased by 2%.

The unemployment rates in Austria in the last decade were significantly lower than the EU27 average. Before the crisis started, in the second quarter of 2008, the unemployment rate in Austria was as low as 3.5%. In the third quarter of 2009 the unemployment rate peaked when reaching 5% (compared to 9.3% in EU27). These numbers would suggest that businesses may have difficulties in finding suitable staff, at least in the years preceding the crisis. Until 2009 the unemployment rate of men in Austria was lower than the unemployment rate of women. As a consequence of the crisis, the growth of the unemployment rate of men was considerably higher than by women. For almost the whole of 2009 and 2010 the unemployment rate of men exceeded the unemployment rate of women.



Just as the unemployment rate has been lower in Austria when compared to the rest of Europe, the employment rate has been considerably higher than the EU27 average throughout the decade. Since late 2006, the Austrian employment rate has exceeded 70%.

It peaked in late 2008 when it reached 72.8%. Since then, it has been fluctuating between 70.6% and 72.6%. The employment rate of Austrian men, as well as women, is above the EU27 average (almost reaching 80%, respective 68%). Although the employment rates of women have been growing (from roughly 60% in early 2000's), there is still relatively a large gap in the employment rates between the sexes.

In conclusion, the economic context of STWA use in Austria was characterised by the following factors:

- Stable economic situation before the crisis, relatively strong impact of crisis in 2009, quick recovery in 2010;
- Very low unemployment before the crisis, increasing during the crisis but still low in comparison to other EU countries;
- Relatively large gap between the employment of men and women, relatively low employment rate of people aged 55 and older.

Taking this economic context into account, we now move on to look at the way the Austrian STWA was designed and implemented in the last few years.

8.2 The Austrian STWA system and its evolution during the crisis

The Austrian short-time working arrangements are comparable to the German system and thus represent a classic model of STW. Austrian STW, *Kurzarbeit*, already existed before the crisis and was aimed at companies experiencing temporary economic difficulties due to external problems. Though it could be used for bridging cyclical difficulties (though not seasonal cycles), it was mainly associated with business dealing with external catastrophes, such as the floods in Austria in 2002 or the BSE-crisis in the agricultural sector. During the recent recession, STWA was discovered as an instrument to deal with the intense cyclical problems. This was due to the fact that a situation had occurred where almost all sectors of the economy were dealing with strong falls in order and therefore falls in labour demand while the end of the crisis could not be foreseen.

In its original form, Austrian *Kurzarbeit* was an instrument which aimed to support companies facing short-time economic difficulties. Companies had to prove their economic need and come to an agreement with their work councils. Though the short-time work payments that are provided for the participation employees are financed from the unemployment insurance funds, employers had to continue paying social security contributions and possibly additional compensations agreed upon with social partners. Furthermore, the STW support was limited to three months. These conditions were in place to prevent enterprises with structural problems making use of the measure and to avoid deadweight losses. In order to make the instrument more attractive and increase the flexibility with which it could be applied, some of these conditions were changed.

The first changes to the measure were already introduced in 2008 when the core personnel of temporary employment agencies also became eligible for short-time work, as well as companies without work councils. In February 2009, more far-reaching changes were agreed upon. Perhaps most importantly, the maximum duration of short-time work was extended. While the duration used to be limited to three months, it was now possible to ex-

tend participation to 12 and even to 18 months. Though short-time work was still meant to bridge short-term problems, the severity of the economic crisis required measures that could take away fears of businesses that the instrument was not flexible enough.

In addition, in February 2009 the combination of qualification and short-time work was enshrined in the legislative framework. If they participated in transversal, non-specific training measures during their STW time, employees could receive a compensation which was 15 per cent higher than the usual STW rate. This was paid by the employer but reimbursed by the employment agency (*Arbeitsmarktservice, AMS*). Furthermore, up to 60 per cent of the costs of the training courses were reimbursed, the remaining costs being paid by the employer. This subsidy of training costs was financed by the European Social Fund. A social partner agreement concerning qualification measure was a precondition for the use of this added regulation. Finally, the legislative framework of the STWA was adjusted by defining a possible range of STW from 10 to 90 per cent of the usual working time, instead of specific numbers and ranges of STW hours which were defined previously.

Although the extended duration of STW and the subsidies provided for qualification were supposed to make the Austrian *Kurzarbeit* more attractive to businesses and employees, in the months following the legislative changes, it became clear that it was still a rather expensive measure for companies, due to the obligation to pay full social security contributions on the one hand and as a result of generous social partner agreements regarding wage top-ups for employees on the other hand. While it was seen as desirable and necessary that companies contribute some part of the costs of STW in order to prevent dead-weight losses, it was seen as undesirable that companies would look for alternatives because of the high costs of STW. Especially the comparison with Germany, where the social security contributions could be partly or entirely reimbursed led to calls from both industry and trade unions to make the system financially more attractive. Thus, in July 2009 it was agreed that the social security contributions for the time not worked would be reimbursed from the seventh month of STW onwards. In addition, the possible duration of STW was raised once again, to a maximum of 24 months which was seen as a rather symbolic act to reassure enterprises as much as possible.

Regarding the legislative developments it is important to point out that these were all carried out with involvement of the Ministry of Labour, Social Affairs and Consumer Protection (BMASK), the employment agency AMS and the social partners. While the AMS is responsible for the practical implementation of the STWA, the BMASK defined the legal framework for the funding guidelines which were specified by the Funding Committee of the AMS, again made up of representatives of all stakeholders involved. In this context, some technical decisions were also made which had an important impact on the way that STWA was run. Most importantly, it was decided to finance the STWA no longer from the active budget but to activate passive resources for the time of the crisis. As the active budget is limited, extensive use of this budget would have led to the need to cut expenses on other labour market support measures. This was therefore prevented by using other resources.

8.3 Implementation of the Austrian STWA

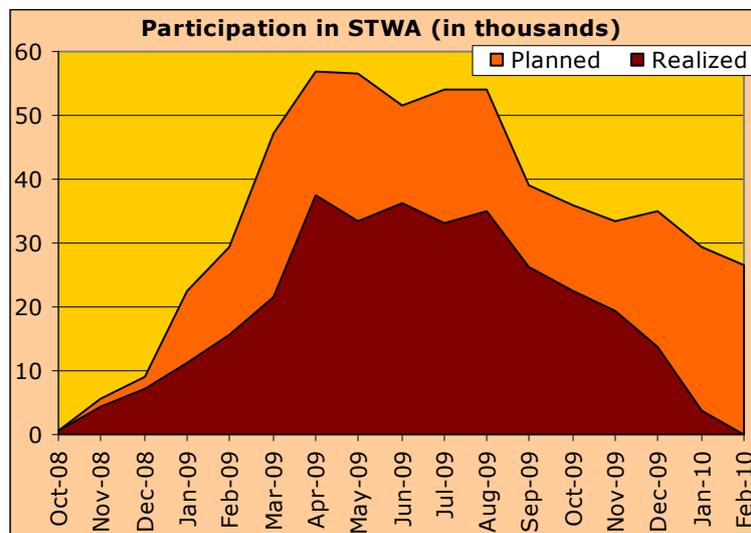
At the start of the crisis, *Kurzarbeit* was not well-known as an instrument in enterprises and the general public. However, it quickly became one of the key issues discussed in relation to the crisis and was also covered extensively by the mainstream media. The BMASK, the AMS, the Chamber of Labour (*Arbeiterkammer, AK*), the Federation of Austrian Industries (*Industriellenvereinigung, IV*) and other stakeholders provided information on their websites and held informative activities. A special advice and counselling service for SME's was established at the AMS, as the measure was considered more difficult to implement for these kinds of enterprises. These information efforts were seen as especially beneficial since the STWA had been hardly used in before the 2008-09 crisis. Though employer and employee organisations had clearly outlined positions in the beginning of the negotiations about STWA, most respondents emphasise the consensual manner in which the differences were overcome.

Although in comparison to Germany, the use of STW in Austria was low (in a comparison adjusted according to population size, German STWA was used four times as much as Austrian¹), this was the first time that the Austrian STWA was used so broadly throughout the economy. Overall, most applications for STW came from enterprises in the automobile sector and the manufacturing sector, from machine producers and suppliers in these sectors. In line with the characteristics of these sectors, mainly men working in large enterprises were affected. This led to some discussions that the measures were not properly implemented in female-dominated sectors, for example in the retail sector.

Generally speaking, the use of the available measures displayed the same development as in Germany and France. Starting in the last quarter of 2008, the number of people taking part in the STWA was steeply rising. The participation in the STWA peaked in April 2009, when 37,346 people took part in STWA. The number of participants exceeded 30,000 until August 2009. Hereafter, the participation in STWA was decreasing. The planned participation in STWA was higher than the actually realized STWA. For April 2009 the companies planned that roughly 56.000 people would take part in the scheme. This means, that the companies do not use all the registered STWA if it is not necessary. This may be an indication that the costs that companies have to cover for employees within STW work as an incentive to consider closely the actual need of participation. The graph below shows the participation rates of employees throughout the crisis.

¹ See WIFO (2011): *Kurzarbeit in Österreich und Deutschland*.

Figure 8.1 Participation in Austrian Kurzarbeit (in thousands, employees)



Source: BMASK (2010b)

The participation rates were seen as satisfying by most actors, as few calls for higher or lower use of the measure were heard. In fact, some respondents see the relatively low take-up of the measure as a positive sign, interpreting it as a result of a comparatively mild impact of the recession or at least as an indication that the deadweight loss was negligible. Despite the various measures to extend the maximum duration of STW, the average duration of STWA use was around four months. Once again, this suggests that the STWA was only used where it was necessary and was terminated again when possible.

The social partners were heavily involved in the implementation of the scheme in Austria at all levels. In fact, this can be seen as one of the most distinguishing characteristics of the Austrian system. On the one hand, social partners were of course involved in the policy discussions at national level that led to the changes in the legislative framework. Furthermore, they played a crucial role in the actual implementation of the measures which is formalised in the framework of the STWA. Thus, every company which wishes to apply for STW needs to come to an agreement with the work council at both company and subscribe to the agreements made at sectoral level. Generally, trade unions and employer federations set up framework agreements at sectoral level which companies could subscribe to. In addition, work councils came to agreements with employers at company level. Where no work council existed, trade unions carried out the negotiations with employers. In many cases, employers were required by social partner agreement to pay higher compensation to their short-time workers than the legal minimum. Furthermore, the duration and extent of short-time work and the organisation of qualification measures were defined in the agreements.

The need to come to an agreement at both company and sectoral level could be an obstacle for companies to apply for STW, as it also increased the administrative burden. At the same time, sectoral framework agreements which were binding for the entire sector could also alleviate difficulties at company level. Moreover, the social dialogue that needs to be con-

ducted for this measure is in fact seen as a deliberate selection mechanism by some respondents. The social partner agreement can therefore be seen as a pre-check on the application. In fact the actual applications that were submitted to the AMS were hardly ever rejected which seems to confirm this interpretation. There are some concerns that the need for a social partner agreement at individual enterprise level hindered the participation of SMEs since they do not normally use the formalised social dialogue structures.

The experiences of the qualification measures within the framework of the STWA are mixed. While most stakeholders seem to support the idea of using STW-time for training purposes, this possibility was only taken up by a small proportion as only about 10 per cent of participating employees made use of the available qualification allowance of the AMS. Where training was organised, courses were offered that enhance the general skills (foreign language classes, quality management, etc.) or provide sector-specific vocational competences (sales-training, specific driving licence courses, etc.). The difficulties that prevented companies from making use of the training measure were similar to those faced in other countries. Importantly, Austrian enterprises also applied another instrument, so-called educational leave, instead of STW qualification. This was cheaper to the enterprise and also amended during the crisis, as the minimum duration was shortened to 2 months and the federal provinces provided additional funding. There might therefore be some substitution of short-time work for educational leave.

Overall, the implementation of the Austrian STWA did not face many problems, apart from the disappointing take up of qualification measures. We will now move on to look at the way in which STWA was implemented at company level in order to identify the mechanisms that influence the decisions of employers and employees and can help us explain the effectiveness of the instrument.

8.4 The workings of the Austrian STWA at company level

As in other countries, businesses in Austria started feeling the impact of the crisis in late 2008. Again, it was mainly manufacturing and industrial companies that were the first to suffer from the drop in demand. Respondents report a sharp decline in orders which was not foreseen and which was also not predictable in its duration and extent. As a first reaction to these developments, companies took the usual measures to address the decrease in production, such as urging employees to take up their holiday entitlements or built-up compensation time. Some companies carried out a limited number of dismissals before they started thinking about STWA, based on consensual termination of contracts or involuntary emergency layoffs.

As companies did not wish to lose more qualified personnel, they started looking for alternatives to dismissals. In some cases, companies already knew of the possibility of using STWA. Others heard about it in the media, from industry associations, or actually knew about the existence of STWA in Germany and looked for an Austrian equivalent. Some companies were even encouraged by their German sister companies to make use of the Austrian measures. In several cases, respondents report that it was actually the shop steward of the work council who brought up the idea of STWA in the company. The shop stewards appear to have received extensive information from their trade unions, both about the

general possibility of using STWA and during the process of implementation. Since the Austrian system of *Kurzarbeit* was much less well-known than the instruments in Germany and France for example, the information provision by social partners, government and the media played an important catalysing role.

Before applying for STWA, companies and work councils looked for alternatives to using the measure. This was done in consultation with the AMS, whereby the search for alternatives also included an economic needs test for the company. When the decision to use STWA was taken, the company had to sort out the agreements with social partners at different levels. Thus firstly, the employer had to refer to the collective agreement and subscribe to the terms defined at the sectoral level where such an agreement existed. Secondly, the employer had to come to a company agreement with the work council, based on the conditions set by the collective agreement. In companies without a work council, the trade unions sent representatives to conduct the negotiations with the employer. In this company agreement, the following aspects were included:

- the scope, duration and extent of STWA;
- the amount of support;
- the number of affected workers;
- the period during which no dismissals during/after STWA were possible;
- the details of the qualification measures (if training took place during STWA).

The several layers of bargaining led to a situation where employers had to make important concessions to employees and to trade unions. Some respondents indicate that small and medium enterprises that are not used to collective bargaining procedures were possibly discouraged by these processes. While Austrian trade unions see STWA as an instrument that benefits both employers and employees, they were also emphasising their concern that businesses could essentially out-source their business risk by taking advantage of collective support. It was therefore important to trade unions that employers would pay an additional allowance to employees. In most sectors and enterprises, this resulted in short-time work compensation for employees which was significantly higher than the publicly provided partial unemployment benefit. As a result, Austrian *Kurzarbeit* is seen as a rather expensive measure for companies, more so than for example in Germany.

Despite the costs, companies decided to continue with the implementation of STWA which suggests that they saw some benefit in it. With their social partner agreements and the economic needs assessment, they had to step to the AMS for their application six weeks before the start of STWA. This lead time was criticised as too long and in fact, in most cases the applications were actually processed much more quickly. Since the application procedure was seen as rather cumbersome, companies often applied for a maximum number of short-time workers in order to prevent themselves from having to file an additional application if their use of STW increased. At the same time, the social partner consultation seem to have worked as a filtering mechanism, as throughout the crisis almost no applications for STWA had to be rejected by the AMS.

In the implementation of STW, companies did not face serious difficulties according to respondents. The selection of employees working short-time was based on work load monitoring, which however meant that production workers were sometimes overrepresented. Some companies consciously decided to spread the distribution of STW also to other de-

partments in order to increase the internal solidarity. This remains a difficult task since employees working as sales representatives or in the R&D departments might be working even more intensively during the crisis than before. Nonetheless, no problematic cases of unequal or unreasonable STW distribution were reported. Whereas employees might in the beginning be worried about their position in the company when going on STW, they usually get used to it after some time. Furthermore, most employees stay working a few days per week and therefore do not lose touch with the company.

Companies were informed by the AMS on application about the possibility of combining qualification measures with STWA. Of course, this only applied to companies applying from 2009 onwards, as before that date the measures encouraging the use of qualifications were not yet in place. Nonetheless, a lot of companies decide not to make use of the qualification measures. One of the most important factors in this decision appears to be the sense of urgency which applies to the use of STW and which does not fit the consideration of training measures which need to be well-planned and thought through. Thus, in times where the STW application is administered companies feel rushed and in a state of emergency and do not have the time nor the resources to think about the organisation of additional qualification programmes.

The situation was different in the larger companies that are used to carrying out their own qualification programmes, may have already been planning specific training courses and have recourse to trusted trainers and educational institutions. In these cases, it was usually already defined in the company agreement what kind of training measures would be carried out and employees were often obliged to take part in them which facilitated the implementation. Other companies decided not to carry out training measure in the context of STWA but made use of the instrument of educational leave which was already referred to above. This was a very different instrument than STWA, as it focuses specifically on education and not on employment protection, but it was, according to some respondents, misused as a kind of alternative way of short-time work during the crisis.

In order to receive the reimbursement of STW allowances and, later on, of social security contributions, the employers had to submit a monthly report to the AMS with the actual use of STWA. In practice, this actual use turned out to be much lower than the projected use in the company agreements, as companies tried to keep the use of STW as low as possible. The monthly report also works as a check on the employers obligation not to dismiss employees on STW. Notably, depending on the company and sector agreement, some employers were able to dismiss employees who were not on STW, as the dismissal protection only applied to those actually participating in the measure.

A lot of companies only experienced a relatively short time of decreasing demand. According to the regulation regarding STWA, companies had to re-assess their need to use STWA after six months, even though the maximum duration of the use of STWA had been extended several times. In fact, most companies did not use STWA longer than six months, terminating their use of STWA on average after four months. Respondents report that extending the use of STWA beyond the first six month would have led to more difficult consultations with social partners. Luckily, in a lot of cases the demand picked up again just before an extension of the measure became necessary. As the measure was experienced as

quite expensive, especially in relation to opportunities in other countries, companies were happy to reduce the use of short-time work.

As the social partner agreements often included stipulations on dismissal protection also for the time after use of STWA, employees mostly kept their job when the economy picked up again. Considering the fact that some companies only used the STWA for a very short period of time, it may be questioned whether they really needed the support to survive. In hindsight, it may have been possible for those companies to bridge the temporary drop in demand without recourse to public subsidies. This was confirmed by some respondents. For the companies themselves, no negative effects were reported.

8.5 Effectiveness of Austrian STWA

8.5.1 Perceived effect

The overall judgement of the effectiveness of the measure in Austria is a positive one. According to the majority of respondents the STWA in Austria worked the way it was supposed to work and protected the jobs for which it was used. While there is some criticism of specific aspects of the instrument (e.g. the costs to enterprises), the effectiveness as such is not questioned. STW was the only policy measure during the crisis that targeted employment directly as other instruments were targeted at upholding investment, solvability or supporting businesses in other ways, and this direct support for employment is valued by stakeholders.

The businesses that were interviewed in the context of this study also responded positively to the effect that their participation in STWA had. The Austrian system of STW is seen as providing suitable support for bridging short-term drops in demand and productivity, so that participating employees could indeed keep their job after demand picked up again. In this context, it is worth mentioning that STWA is not seen as a viable long-term alternative for businesses as it is seen as rather expensive, so that after some time dismissals become necessary after all. In addition, some respondents reckon that the jobs that were protected by STWA use would probably have remained unscathed also in the absence of STWA. This implies deadweight losses which is striking in a situation where the instrument is actually seen as rather expensive in the first place. It seems to be the case that both cases where the measure is seen as too expensive and cases where it is actually used more extensively than necessary do coexist.

While the perception of the effectiveness of the measures is generally positive, we will now turn to estimating the effectiveness on the basis of the available data, by following individual employees over time in the data sets of the Austrian employment service.

8.5.2 Effect according to micro-econometric analysis

In order to measure the effects of the Austrian Kurzarbeit on employment, we conduct an econometric analysis based on employee-level data. The aim of the analysis is to determine whether employees participating in Kurtzarbeit have higher job security than non-

participants. In this paragraph, we first present the hypothesis we want to test, then the data we use, our estimation method, and finally we discuss the estimation result and the conclusion we draw from it.

Hypothesis and model

The hypothesis is that employees participating in Kurzarbeit have, all other things being equal, higher job security than non-participants. To test this hypothesis, we estimate a model in which the employment status six months after the start of the Kurzarbeit period is the variable to be explained.

A binary choice model is applied to explain having a job six months after the start of the Kurzarbeit period. The probability to have a job after six months is explained using participation in Kurzarbeit, employees sex, age, education, being Austrian or not, and profession.

Data

From the Austrian government we received three datasets. The first dataset contains information on all Austrians containing date of birth, sex, education, nationality and profession. The second dataset contains employment status information. And the third dataset contains information on Kurzarbeit participants.

Between and among individuals there are many different employment statuses. Here, we are only interested in having a regular job six months after the start of the Kurzarbeit period. All other statuses are coded as not having a regular job. Not having a regular job also contains fragmented employment, marginal employment and aided employment.

Method

The modeling occurs in two steps. First, a propensity score matching technique is applied to create a control group of non-participants that closely resembles the group of Kurzarbeit participants. Propensity score matching matches a non-participant to a Kurzarbeit participant in such a way that their initial probability to participate in Kurzarbeit is equal. The probability to participate is modeled using employees sex, age, education, being Austrian or not, duration of the current regular job and sector of employment. The modeling occurred under the condition of having a regular job. This leads to a research data set in which half of the employees participate in Kurzarbeit and the other half does not. The statistical properties of the variables in the group of participants resemble that of the group of non-participants. This is attractive in modeling and strongly diminishes the number of observations in the second step.

In the second step a binary choice (probit) model is applied to the data constructed in the first step. The variable to be explained is a dummy variable indicating whether a person has a regular job six months after the start of a Kurzarbeit period in the years 2009-2011. The explanatory variables used are participation in Kurzarbeit, employees sex, age, education, being Austrian or not, and profession.

Effect of Kurzarbeit on job security

We find a small effect of Kurzarbeit on job security in Austria. The estimated parameter is significantly positive, but very small. For the average employee in Kurzarbeit, the probability of having a job six months after the start of Kurzarbeit is 93.2 percent. Without Kurzar-

beit this percentage would have been 92.8 percent. The effect of Kurzarbeit for the average receiver is 0.4 percentage point. This means that for every 1000 participants 4 participants keep their job because of Kurzarbeit. With slightly over 160.000 participants in our data set, approximately 650 participants would have lost their job if not for Kurzarbeit.

Table 8.1 Estimated marginal effects for the average receiver of Kurzarbeit on the probability to have a job six months after the start of Kurzarbeit

	Percentage point		Percentage point
Kurzarbeit	0.38*		
Sex (compared to female)		Nationality (compared to non-Austrian)	
Male	0.31*	Austrian	-0.06
Age (compared to 35-44 years)		Job type (Compared to industry)	
< 25 years	-4.66*	Agriculture	0.43
25-34 years	-0.78*	Trade	1.71*
45-44 years	-0.44*	Service	2.23*
> 55 years	-2.05*	Technology	-2.60*
Education (compared to middle)		Administration/desk job	-1.79*
Basic	-0.66*	Health and education	0.83*
Higher	1.39*	Job unknown	0.20*
Academic	1.38*	Constant	0.70*
Education unknown	8.56*		

*significant at the 5% level

The parameters of the other variables have to be interpreted with care for two reasons. The first reason is that the marginal effects only hold for the average receiver of Kurzarbeit. Average means average in all variables in the model. The values can be compared though. A higher value means a stronger effect.

The second reason is that the parameters can only be interpreted in relation to Kurzarbeit. Consider for instance the negative effect of having a technological job. This does not mean that technicians have a lower probability to have a job six months later. It means that technicians have a lower probability of having a job six months after the start of Kurzarbeit, compared to other professions also participating in Kurzarbeit.

Conclusions

In the above, we tested the hypothesis that employees participating in Kurzarbeit in Austria have, all other things being equal, higher job security than others. We consider short term job security. To be precise, we consider the job security six months after the start of the Kurzarbeit period. We find a statistically significant, but small effect. 650 employees would not have a job if they had not participated in Kurzarbeit. This leads us to the conclusion that Kurzarbeit has a very small effect on the short term job security of employees in Austria.

8.5.3 Overall effectiveness

The slight effect of STWA that can be observed in the available data corresponds to the perceived effectiveness of the instruments amongst stakeholders. Respondents believe the system to be effective, but they do not subscribe to it as much as importance as for exam-

ple in the German case. Moreover, taking into account the rather sobering results of the micro-econometric analysis in France and also in Germany, it can be seen as a good sign that the results of the analysis in Austria are positive at all. Since we are using individual-level data and not company-level data, we are however not facing endogeneity issues which are skewing the results in the other countries.

The micro-econometric analysis concludes that around 650 jobs were saved in the short term in the period from 2009 to 2011 through the use of STWA. While this number is statistically significant, it can be questioned whether it is also economically significant, regarding the resources and efforts put into the running of the system. If we were to look at the development of job security in the longer term, the difference between STWA users and non-users is likely to diminish even further. Companies in Austria have used STWA usually only for a relatively short time (four to six months), so it seems that the jobs of the participants could have been kept in the absence of STWA as well. Nonetheless, companies using STWA also report that their recourse to the measure was necessary and effective after all.

To explain this situation, it is also useful to look at the actual percentages resulting from the micro-econometric analysis. According to the calculations, employees who did not use Kurzarbeit during the crisis nonetheless display a probability of 92.8 per cent of still having a job six months later. At a time of strong economic crisis, this probability can indeed be seen as surprisingly high. It also reflects the generally low unemployment rate in Austria before and during the crisis, which only peaked at a comparatively low level of 5 per cent. In fact, this constellation of facts could suggest that the crisis that Austrian businesses were faced with actually turned out less intense than what they expected. The actual take-up rates of STWA were, as has already been stated, also much lower than the rate of applications and several businesses terminated STWA use earlier than planned which would support such an explanation. In this situation, businesses applied for STWA expecting a stronger impact of the crisis and could have, with hindsight, also kept their employer on board without recourse to STWA.

As in the other countries, we are here obviously only looking at the direct effects on employment. As in Germany, Austrian companies participating in STWA do mention that their ability to respond to returning demand was improved through the flexibility they acquired by using STW. STW had a calming effect on the atmosphere in participating enterprises as employees and employers remained confident that the crisis could be tackled without turning to dismissals.

8.6 Discussion and lessons learned

The Austrian experience of the crisis was characterised by a strong impact in 2009 and a quick recovery in 2010, in a generally stable economic climate. Unemployment was very low before the crisis and stayed reasonably low during the crisis, with the unemployment reaching a maximum level of only 5 per cent. For companies experiencing problems, STWA was a welcome instrument used to bridge temporary difficulties. It was also the only instrument available targeted directly at employment protection.

While the design of the Austrian STWA is similar to that of the German system, it differed in some respects and was also used in a different way, which makes it interesting as a case for comparison. Most importantly, Austrian *Kurzarbeit* was used less extensively than the German equivalent, but it was also the first time that it was applied as an instrument throughout the entire economy. Furthermore, the role of social partners was even greater in Austria than in Germany which in several cases also resulted in more expensive outcomes for employers, as trade unions argued for top-up payments for employers participating in STW. Finally, STWA was used for shorter periods of time, despite policy moves to extend the period of eligibility.

Especially the involvement of the social partners in the Austrian system is an interesting example for other countries to learn from. On the one hand, the requirement that companies subscribe to the sectoral social partner agreement and on top of that negotiate with their work councils or, in some cases, with the trade union representatives was seen as a disincentive for small companies to participate, as they are not used to collective bargaining procedures. On the other hand, the sectoral framework agreements proved a useful instrument for translating public policy on STWA into a usable framework at company level. In addition, the agreements at company level can be seen as a filter making sure that only justified and well-documented applications reach the employment agency.

Especially in comparison to the German system, the Austrian system of STW was seen as rather expensive, precisely because the collective bargaining procedures often led to more generous allowances for workers on STW. In this context it is very interesting to see that pressure from social partners led to some reduction in the financial pressure with the specific comparison with Germany in mind, as it was decided that the social security contributions should be reimbursed in Austria as well. Despite this change it is possible that the expensive image of STWA led to fewer applications in Austria or at least to earlier termination of STW use than a more generous system would have facilitated. The fact that some businesses preferred to use the instrument of educational leave which was financially more attractive to making use of STWA supports the impression that Austrian STWA was seen as rather expensive.

However, both the results of the micro-econometric analysis at the level of the individual and the input of some respondents at policy and company level seem to suggest that there were considerable deadweight losses, as the STW users would in many cases not have lost their job after all. This stands in contrast to the idea that STWA was seen as very expensive for businesses and would only be used as a last resort. A possible explanation for this incongruity can be that businesses were expecting the drop in demand to be even heavier or last longer than it actually did, thus being surprised by the quick recovery. The use of STWA (instead of dismissals) did then however enable them to respond quickly to the positive developments.

Part D: Conclusions

9 Answering the research questions

Research question 1: To what extent (and if) have STWA protected jobs in the EU labour market to date?

Short-time working arrangements allow companies to reduce the working time of their employees temporarily in order to compensate for a drop in production activity as a consequence of falling demand, without terminating the employment relationship. When production and demand pick up again after the crisis, employees on short-time work can return to their work and resume activity without having to look for new jobs, just as the companies do not need to look for new employees. Thus, in theory, short-time working arrangements protect jobs by providing a buffer in times of recession and low productivity.

Most of the countries that have employed STWA in the recent crisis are positive about their experience of implementing STWA. Several ministries and agencies involved have published estimates of how many jobs have been saved as a consequence of STWA. However, these estimates are not always based on hard data. High take-up rates are not necessarily indications of high effectiveness, as it may be the case that jobs are protected that did not need protection, or that workers who were subsidised are still dismissed after the crisis (so-called deadweight losses and displacement effects). Nonetheless, the general impression emanating from secondary sources at country level is positive.

According to sources at country level, the effectiveness of STWA is not only dependant on the design of the measures, but also on the context and the development of the economy during the crisis. STWA are seen as effective as long as there is no need for structural adaptation of the economy and the demand for goods is likely to pick up again quickly. In Germany, where the economy was in a robust state before the crisis, the STWA seems to have been highly effective, since the main reason for the economic difficulties was indeed a temporary fall in both national and international demand. In Latvia on the other hand, it was found that STWA was preventing necessary restructuring of the economy taking place. The economy was subject to a lot of change which also necessitated some labour relocation processes which became obvious during the economic crisis. As a consequence, STWA was not the right instrument to address the economic challenges.

Moving on from the national sources, overarching macro-econometric studies on STWA show that STWA are an effective instrument to protect jobs in times of crisis, at least in the short term. Most analyses do find that the measures are effective, but the way in which these effects are achieved remains unclear. A reconstruction of previous macro-econometric analyses has shown that it depends strongly on the model applied (1) whether the effect of STWA is found to be direct or indirect (indirect meaning that STWA only has effect through mitigating the effect of a drop in output on employment), and (2) how many jobs are found to have been saved by the use of STWA. Our own estimations fit in the existing literature as they also find a positive effect of STWA on employment, exclusively because STW temperates the impact of negative output shocks on employment. The total number of jobs saved in the 10 countries for which we have evidence from our own estimations and from the previous literature could range from 125 000 to 850 000.

The micro-econometric analyses conducted on the basis of establishment data for Germany and France present a more nuanced picture of the effects of STWA on employment. The same is true for the analysis of employee level data in Austria.

For Germany, our most reliable model suggests that firms which used short-time working retained 5 percent more workers than firms with comparable difficulties which did not. This matches the perceptions of users that Kurzarbeit helped to preserve employment during the crisis. However, the figure also suggests deadweight losses. It is important to keep in mind that this figure may be an underestimation of the real effect, as it is not clear whether our model completely manages to control for the endogeneity of the use of Kurzarbeit (i.e. for the fact that firms with difficulties are more likely to use Kurzarbeit anyway).

For France, the effects of STWA estimated on the basis of micro data are limited. We only find a positive effect of STW on employment for firms which experience very important drops in output (by more than 55 or 60 percent). For other firms, we only find slight negative effects. Again, this matches the perceptions of stakeholders in the field, who think that STWA could have had a bigger impact if the measure had been designed in a different way.

For Austria, we estimate the effects on the basis of data at the level of individuals, testing the hypothesis that employees participating in Kurzarbeit in Austria have, all other things being equal, higher job security than others. We consider short term job security. To be precise, we consider the job security six months after the start of the Kurzarbeit period. We find a statistically significant, but small effect. 650 employees would not have a job if they had not participated in Kurzarbeit. This leads us to the conclusion that Kurzarbeit has a very small effect on the short term job security of employees in Austria

In general, it is noteworthy that our estimations based on micro-data find some positive, even if limited, effects of STWA on employment, as previous literature based on micro-data so far often found negative results. The latter are often associated with the difficulty to correct for endogeneity of STW use. We also had to deal with this problem in our analyses, and it is very well possible that our results still are an underestimation of the true effects of STWA.

In our study, as well as in previous literature on the subject, we note that estimations conducted on the basis of macro (country or sector-level) data in general find more positive effects of STWA than estimations based on data at establishment level. This is due to the fact that the problem of endogeneity of STW use is less important in analyses at country level. Many countries with quite different situations in terms of GDP and employment have STW schemes. Therefore, the use of STWA does not necessarily indicate that a country is in particular great trouble compared to others, while for firms, STW use is much more directly influenced by difficulties encountered. As the endogeneity problem is less important for analyses at the macro-level, the estimations based on macro data are less in danger of underestimating the effect of STWA on employment. However, this does not mean that the endogeneity problem completely disappears in macro-econometric analyses: the use of STWA can increase in a country as the employment situation deteriorates. In this sense, the risk of underestimating the effects of STWA is present for analyses both at micro and at macro level and the ideal solution to this problem is yet to be found.

In-depth qualitative research at country and company level in Germany, France and Austria shows that the effects of STWA are not limited to the direct protection of jobs which can be measured by using econometric calculations. Companies do report that they would have had to dismiss employees in the absence of STWA. In addition however, especially in Germany, the country with the largest STWA in terms of participation, STW is seen as a measure contributing to the stability of businesses and as a consequence to the stability of the economy as a whole. While respondents acknowledge that it is possible that deadweight effects occur, this is acceptable to the actors involved as the overall effect on the economy is judged to be more important. As short-time work enabled companies to react swiftly to the increasing demand after the crisis, the measure is seen as having contributed significantly to the strength of the German recovery.

The long-term effects of the arrangements remain unclear. This has to do with the fact that it is hard to isolate the impact of STWA in the further development of the economy in general and in individual careers. Of course, it is also still too early to measure the long term effects of STWA in the recent crisis.

Research question 2: How does the protection offered by the current schemes compare to earlier performance of similar measures in previous crisis situations?

STWA have a long tradition in some European countries. Notably in Germany and France, STWA have been used for a large part of the previous century, both in crisis situations and in situations where external events had a temporary impact on specific industries, such as natural catastrophes or animal diseases. Other countries, such as the Netherlands and Latvia, introduced STWA as a specific response to the recent crisis. In doing so, they looked to countries that already had an STWA in place in order to learn how to design and implement the measures. Thus, in terms of country coverage, the scope of STWA has been extended considerably in recent years.

Judging from the in-depth country studies, the recent crisis was experienced as more intense, more sudden and broader in scope than previous crisis situation. Whereas previous crises, for example 1992 to 1993 in France or around 2001 in Germany, were either characterised by a focused impact on a specific sector or by a rather slow stagnation of economic activity, the 2008/9 crisis hit the entire economy almost from one day to the next. The fact that the impact was so great and that everyone was affected, combined with the external origin of the crisis (i.e. international demand for goods collapsing), actually even facilitated the use of STWA for example in a country like Germany, where both government and social actors looked for joint ways of tackling the crisis. As STW is regarded as an instrument that requires some concessions from all actors, but also benefits the entire economy, it was an obvious choice once the scope of the crisis became visible.

On the basis of our micro-econometric analyses conducted for Germany, it is difficult to distinguish between the crisis period and preceding year, as the most informative estimations are based on a sample covering the period 2003-2010. However, it is interesting to note that effects of STW estimated in previous literature for the period 1993-1998 were negative or insignificant (Speckesser 2009), while studies based on estimation samples which include the crisis (this study, Boeri & Bruecker 2011) find rather positive effects. The micro-econometric analysis we conduct for France (for the period 2007-2009) finds slightly more

positive effects than analyses conducted by Calavrezo et al. (2009) for the period 1996-2004 and by Calavrezo et al. (2010) for the period 2000-2005. This evidence suggests that STWA in Germany and France have had a more positive effect on employment in the recent crisis than before.

As a result of the intensity of the crisis, the pre-existing schemes were generally broadened in terms of generosity and weakened in terms of eligibility. In terms of generosity, social security contributions have been reimbursed to employers. Also, access to the schemes has been broadened across the entire economy, including new sectors. These were mainly measures taken during the crisis as the situation was seen as grave enough to encourage use of the schemes more actively. The risk of deadweight effects was hereby tolerated by policy makers and stakeholders. In countries where STWA were newly introduced during the recent crisis, this was done in the framework of existing unemployment benefit systems, and in the context of other anti-crisis measures. These changes and new introductions were aimed at encouraging participation by making the measures more attractive and less complicated. In addition, the administrative burden for companies, but also the administrative tasks for government agencies was kept as low as possible, in order to be able to deal with an increasing number of participants. Finally, training of participants is getting a more important role in the context of STWA.

In countries that were already using STWA in times before the recent crisis, the familiarity of the measure amongst stakeholders such as social partners, was an important factor in facilitating the implementation. This was especially clear in the case of Germany, where the system had admittedly never been used to such a great extent, but where the concept and working of the measure was known by most of the actors involved. This facilitated the political bargaining process and allowed for a joint approach to the implementation of the measure. On the other hand, in a country like France the STWA already existed for a long time as well, but had been more or less forgotten and also had to be reformed to fit the new circumstances. Thus, the existence of older schemes does not automatically lead to more awareness or support.

In other countries, the introduction of the new measures had to be accomplished in a short time frame which could lead to difficulties in some cases. In all countries, the public actors, including the ministries and employment agencies, actively informed companies about the possibilities and encouraged participation. This all led to an unprecedented take-up of STW, in terms of sectors involved, numbers of companies and employees participating and of extent of work reduction. It is however difficult to say whether the increase in take-up and the high popularity of the measures also led to an increase in effectiveness (see research question 1)

It is emphasized by some countries that the changes that were made to the STWA during the recent crisis should not all be maintained in the aftermath of the crisis. The temporary expansion of the generosity of the schemes may be untenable and undesirable in the long-run, since they might imply an imbalance in the contributions paid by employers and employees, as employers' contributions are temporarily relaxed. For the time of the crisis, these changes were justifiable, but they are not seen as viable in the long term. Some countries that introduced STWA during the recent crisis, have already discontinued the schemes (e.g. Latvia and the Netherlands).

Research question 3: How have the governments concerned designed and implemented the current STWA support schemes?

In several countries, STWA were already in existence before the recent crisis, in others they were introduced as a new instrument (see research question 2). The arrangements were one of several instruments that were employed to face growing unemployment during the crisis, such as re-employment measures and training, income support for the unemployed and other measures to stimulate labour demand. Due to the severity of the recent crisis, governments tried to make their STWA more attractive in order to encourage more businesses to make use of the schemes.

In most countries, the ministries of employment and social affairs are responsible for the design of STWA. They often consult with national social partner organisations, i.e. industry federations and trade unions, on how best to set up or change the STWA to suit the needs of both employers and employees. Social partners can also play an important role in encouraging actual use of the schemes, through providing information and advice to potential participants. The implementation is often administered by the employment agencies. This means that applications for use of STWA have to be sent to the employment agency where applications are evaluated, implementation is monitored and subsidies are paid. In some cases, the employment agencies also have tasks relating to the design of policy, but this is an exception.

As STWA mostly involve some kind of direct financial compensation in order to keep up the wage level of participants, the STWA are often financed within the framework of public unemployment benefits. This means that the existing institutional infrastructure for these benefits can be used in order to administer the STWA. By including eligibility criteria, conditional requirements and financial incentives in the systems, governments strive to ensure that only those companies in need but with a chance of survival can make use of STWA.

As has already been said, during the recent crisis several changes were made to the design of the STWA. In some countries these changes were temporary, in others permanent. Hereby the basic working mechanisms of the STWA were not influenced, but the balance between generosity and strictness, between public and private contribution, between employer and employee risk was adapted to make the measures more attractive. This implies that there are several points, 'buttons' so to say, at which STWA can be adjusted to produce different effects. Countries setting up new schemes also need to pay attention to these aspects and decide on their own balance of measures.

In fact, the concept of balance is a very useful one in this regard. Judging from the experiences made by the countries studied within the context of this study, public authorities need to strike the right balance between different aspects, most importantly between the generosity and the strictness of the measures. The risks associated with an STWA that is too generous are the deadweight effects (see research question 4). The risk associated with a measure that is too strict is a high administrative burden which stifles effective use of the instrument. Next to these two dimensions there are specific aspects of the different STWA that also deserve attention by policy makers as they can have an impact on the way in which the STWA works in practice. As the design of an STWA is crucial, the table below summarises the considerations that are of importance for each of the different aspects addressed in this study.

Possibilities	Considerations	Evidence
Elegibility criteria		
<p>Companies may have to present a proof of economic need. The employment agency may check this economic rigorously or not. There may be minimum requirements of the number of short-time workers. Employers may also be required to implement all possible alternative measures before using STWA. Employees may be required to be eligible for unemployment benefits.</p>	<p>There needs to be some kind of check on the participants to determine whether they qualify for STWA. Participating companies should be facing <i>temporary</i> difficulties caused by <i>external</i> events, i.e. not be postponing structural change. If this check is too lenient, STWA risk spending money on companies that don't need it (deadweight loss) or on jobs that are not sustainable in the long run (displacement effects). If this check is too rigorous however, the administrative burden on companies may become too high and make the measures unattractive. Minimum requirements in terms of short-time workers may be advisable in order to make sure that companies use STWA for serious cases of production decrease, but again they might make the system more complicated to manage. It is certainly advisable to ask companies to use alternative instruments of internal flexibility before making use of STWA. STW is an expensive instrument, and using internal flexibility mechanisms can usually bridge at least the time before the STWA can be properly implemented. Finally, eligibility requirements for employees should be kept to a minimum in order to ensure that STWA is available to all groups of workers.</p>	<p>The experience of Germany during the recent crisis shows that a flexible approach to the economic needs test can indeed increase the attractiveness of the scheme and facilitate the cooperation between companies and employment agencies. In France, the concerns about the administrative burden was higher and led to more complications. In most countries, experience shows that companies will use alternative flexibility measures before using STWA, though these can usually not last for too long a duration.</p>
Conditionality requirements		
<p>To make sure that STW is used in the way intended, companies may be required to implement reform plans, they may not be allowed to dismiss employees during or after STWA use. The dismissal protection can apply to all employees or only to those participating in STW. Employees may be required to look for alternative employment or take part in training schemes.</p>	<p>Dismissal protection, the most important conditionality requirement, can have different effects. On the one hand it may be advisable to include dismissal protection at least for the duration of STWA to avoid displacement effect, as companies will not use the measure for unviable jobs. Especially where the dismissal protection extends to the time after STW use, it might however place companies in a very difficult situation, especially where the STWA has not had the desired effect of helping the firm into recovery. Companies may then be faced by continuing economic problems and an inability to change the composition of their staff. This therefore needs to be treated very carefully. A solution to strike the balance can be to make companies repay the STW subsidies in cases where dismissals cannot be prevented. On the basis of this study, little can be said about the effects of conditionality requirements for employees. Regarding training, see section below.</p>	<p>The dismissal protection in France had the effect that companies could not dismiss short-time workers after use of the measures. For some companies, this was difficult. In Germany, where the dismissal protection did not extend to the time after STW, no records of high dismissal rates could be found, questioning the need for far-reaching dismissal protection.</p>
Generosity, including residual costs and duration		
<p>In determining the generosity of the system, countries need to strike the central balance between attractiveness, effectiveness and efficiency. The subsidies provided to companies/employees can be</p>	<p>The basic principle behind STWA is the fact that all parties make concessions: the public finances the system, employees forsake some of their income and employers contribute some financial resources. If too many concessions are asked from employers or employees, the system might not have its desired effect, as it will not be used to the extent necessary. If the system is too generous, it may</p>	<p>Comparing Germany and Austria in terms of generosity shows that Austria had a considerably more expensive STW scheme than Germany during the recent crisis. Unsurprisingly, the German meas-</p>

Possibilities	Considerations	Evidence
<p>calculated as a percentage of the salary or as a fixed amount. Employers may be required to top up the employees' benefits. The social security contributions may be reimbursed or put on the bill of the employer. The participation may be limited to a short period of time, to a specific amount of time per year or be kept open to allow maximum flexibility.</p>	<p>turn out far too expensive, incurring high dead-weight losses. It is considered very important that employers contribute at least something to the costs of the measure. This forces them to think carefully about when to make use of the measure. As they invest in the measure themselves, they should then only use it when it can have the desired effect. The amount of these residual costs for employers needs to be negotiated and finely balanced. If the attractiveness of the measure is meant to be increased, steps to reimburse some of the costs can lead to a higher uptake. The maximum duration of STW is connected to this, as companies will terminate a costly measure as soon as possible, but try to exploit a generous measure as long as possible. Some flexibility in the duration of STW is advised, as a crisis situation may also carry on for a longer time, though it needs to be monitored at which point STW becomes unviable and other, structural measures need to be taken. A limitation of the maximum duration can therefore prevent companies and employees from resting too passively in their STW situation.</p>	<p>ure was used much more intensively, but was also much more costly for the employment agency's funds. The French system works with fixed subsidy rates, which makes STW more attractive for low-paid employees than for the better paid, as the latter lose proportionally more of their income. Despite moves to extend the maximum duration in several countries, it appears that companies do not want to make use of STW for longer than the maximum durations, often terminating use after a few months.</p>
Social partner involvement		
<p>Social partner can be involved in the policy making process at national level, they can have sectoral role in determining specific rules for their industry and they can play a role at company level through the channel of work councils or direct trade union representatives. Their role can differ from influencing the framework, bargaining about conditions and simply managing the system.</p>	<p>Involvement of social partners at all levels may contribute to the societal support of the system, especially in countries where the social dialogue is strongly embedded. At sectoral level, employers organisations and trade unions can take into account the specific sectoral situation and adapt the system as necessary, guaranteeing a sectoral level playingfield. Mandatory involvement of work councils in the planning and implementation at company level can strengthen the position of employees and prevent deadweight effects, as work councils can play a role in controlling the economic need for STWA. At company level, social partner agreements can also increase the efficiency of implementation, as the STW can be managed collectively. Mandatory social partner involvement can have the undesired effect of increasing the administrative complexity of the measures, making STW more expensive than intended as a result of trade union bargaining. Especially small and medium-sized enterprises may be discouraged from using STWA when social partner involvement is strongly mandatory.</p>	<p>The macro-econometric analysis shows that STWA with a strong involvement of social partners at company level are more effective than those without. The German experience shows that social partner involvement at national level can increase the momentum in implementation. France and Austria both display strong sectoral involvement of social partners, supporting the national traditions of social dialogue. In Austria however, the involvement of sectoral social partners leads to a more expensive system for employers and may also have discouraged participation.</p>
Training element (see also research question 5)		
<p>As part of the participation in STWA, employees may be encouraged to participate in training measures during the time not worked. This can be a mandatory requirement, it can be stimulated by sub-</p>	<p>Using the idle time of STW for training activities could be a very effective instrument, increasing employability of employees and strengthening the economy in the long-run. Stimulating the use of training can be useful, but does not always have the desired effect, as employers and employees may consider it too much hassle to organise training activities. Making training mandatory can solve</p>	<p>Several countries, including Germany, Austria and France included incentives to stimulate training. The results show that only a small proportion of companies and employees make use of the possibili-</p>

Possibilities	Considerations	Evidence
<p>sidising training costs and creating other financial incentives such as reimbursement of social security contributions. The funds of the ESF can be used to support this element of the measures, with the STW subsidy counting as national co-financing. An emphasis on transversal skills as opposed to job-specific skills can be included in the regulation.</p>	<p>this problem by forcing all participants to take part in training. It may also however lead to lower take-up rates of the STWA as a whole, as employers and employees may not be interested in training at that point. It then needs to be carefully assessed what the nature of the STWA is. Making training mandatory may change the key priority of the measure from employment protection to training. This may not be desirable. Regarding the voluntary stimulation of training measures, experience shows that the organisation and administration of training has to be facilitated as much as possible in order to overcome practical obstacles.</p>	<p>ties, due to practical difficulties. In Latvia and the Netherlands, training was mandatory. In Latvia, STWA was finally even integrated into the life-long learning policy programme, reducing its priority of employment protection. In the Netherlands, the evaluation is ongoing.</p>

While these aspects of the design played an important role in all the countries examined and should be taken into account when setting up a new system of STW, the effectiveness of the measure is also crucially influenced by two other factors, namely the economic context and the implementation of the STWA. Regarding the context of the crisis measure, the following questions play an important role:

- Is the crisis severe enough to justify the use of STWA?
- Is the crisis likely to be temporary in nature which enables STWA to have a bridging function?
- Is the crisis external in origin or does it necessitate structural change?
- Are there financial resources available to finance the extensive use of STWA?

Furthermore, the evidence shows that for a smooth implementation of STWA it is very beneficial if all actors involved, i.e. the government, employment agency and social partner organisations, make an unequivocal choice for the use of STWA and commit resources to the management and support of the implementation. The employment agency plays a crucial role in this regard, which can have a very positive impact, as can be seen in the case of Germany. Employers organisations and trade unions can however also support the implementation by providing information, advice and practical support, for example by setting up training schemes. Where this cooperation between the stakeholders is hampered by a lack of consensus about the use of the STWA, the overall effectiveness can be compromised.

Research question 4: How have the schemes limited the risks of deadweight losses?

So-called deadweight losses occur when STWA provide financial support to companies and employees in cases where the employment relationship would have been sustained even in the absence of STWA. In these cases, the support provided was, in essence, unnecessary. This does not necessarily imply abuse of the companies involved. In many cases they might be facing difficulties indeed. However, experience has shown that companies do not always have to dismiss workers, even where their productive output declines. As employers anticipate labour shortages in the aftermath of the crisis, they might decide to keep on their workers even in the absence of STWA. This is described as labour hoarding. Internal labour flexibility can help companies achieve stable employment without recourse to STWA.

Governments have strived to limit deadweight losses by setting eligibility criteria and conditional requirements on the behaviour of participants. In most schemes, companies have to prove their economic need before taking part in the STWA. The strictness of this test can vary, but it usually includes variables such as decline in output and demand. In some cases, it has to be proven that the decline in output is a result of the crisis, and not of mismanagement of general need for restructuring. In addition, companies may have to commit to not dismissing employees during the time of participation in STWA, and possibly for a certain period after the participation. This requirement is set up in order to avoid displacement effects, whereby workers participating in STWA are dismissed nonetheless.

However, even more important than the eligibility rules and conditional requirements are the financial incentives that are built into many of the STWA, specifically the cost to employers. In most STWA, the labour costs to employers do not decrease to the same degree as the working time of employees. This is the case because employers often still have pay part of the social security contributions of employees, as well as specific sectoral arrangements such as holiday pay or Christmas benefits. Thus, participation in STWA is made less attractive to employers. The idea behind this financial incentive is that employers can make the following basic calculation: they can estimate the probability of having to dismiss an employee and the costs of having to re-recruit such an employee after the crisis. If the probability and the costs are high, it will be favourable to use STWA. If it is not likely that the employee will be dismissed, it will also not be attractive for the employer to use STWA, thus avoiding deadweight losses. In addition, companies that are in great difficulties and will have to dismiss employees anyway will not be able to pay these costs of STWA and will therefore also be discouraged from using the scheme. Thus, displacement effects are also tackled.

The respondents interviewed for this study, including government representatives and social partner representatives, are in fact generally not very concerned about deadweight losses. STW is regarded as a relatively expensive measure for companies, even in a case like Germany, which can be seen as a rather generous system during the recent crisis. Due to the expenses it is considered unlikely that companies will abuse the measures. Nonetheless, there are some indications that deadweight losses occur, especially in the last months of STW. Thus, companies might be using STW longer than necessary in order to keep benefiting from the measures as long as possible. Furthermore, it seems unavoidable that at least some deadweight loss will occur, since employers will most probably use STWA for a higher number of employees than would be dismissed in the absence of STWA. In a sense, the core effect of STWA is then that they can stabilise a company in a time of crisis, thereby saving jobs, but not actually purely protecting employment relationships. Since the effect of STWA desired by stakeholder often includes this broader dimension, the risk of dead weight losses becomes slightly less important.

Nonetheless it remains an important question how deadweight losses can be reduced. It is difficult to estimate the actual extent of the deadweight losses of current schemes, because the number of jobs saved by STWA itself is subject to quite some variation depending on the econometric methods and data used. On the basis of both macro- and micro-econometric analyses, we find that the estimated number of jobs saved by STWA remains below the extent of STWA take-up. This indicates that some deadweight losses are present. More precise estimates are however difficult to give in the absence of robust estimations of the number of jobs saved. STWA have to find a balance between remaining attractive to

both employers and employees and being strict enough to avoid inefficient use and conscious abuse.

Research question 5: What has been the advantage and impact of work-related training (provisions) attached to certain STWA support schemes?

Short-time working arrangements do not only provide income support and wage supplements. Increasingly the training and qualification of participants is seen as an independent objective of STWA. Using the time that participants are out of work for training and retraining them is supposed to increase the employability of participants and thereby improve the competitiveness and flexibility of the labour market. The way that this is implemented can differ. Thus several countries include training as a compulsory activity during participation in STWA whereas others try to encourage the use of training by means of financial incentives. Only a few countries do not specify a training element at all.

Where training is not compulsory, it is not always easy to encourage employees and employers to use the possibilities for training. In both Germany and Austria, training was encouraged by means of financial incentives and in both countries, about 10 per cent of participants made use of the possibility. While 10 per cent can be seen as a reasonable achievement (in Germany, this represents around 110,000 people in training), there is clearly much room for improvement. It appears that neither employers nor employees feel the necessity to partake in the training measures available.

This has several reasons. Firstly, people may not see the added value of work-related training, companies might not have the resources to support the training demands of the employees and participation in training might negatively influence the flexibility and availability of participating employees. Furthermore, the paradox that employers prefer to support specific on-the-job training in contrast with transversal skills based training that is more beneficial for labour market mobility, plays an important role. Especially in times of crisis, employers will assess very strictly which training measures they support and what benefits they might expect from them.

There are also some practical issues that formed an obstacle to participation in the training measures. Thus, training was often supported by funds made available out of ESF subsidies. As a result, separate application mechanisms applied which formed a high administrative obstacle for employees and training providers. Training courses had to be certified before they could be used in the context of STWA subsidies and they had to be adapted to the specific circumstances, e.g. concerning limited periods of learning time per week and flexibility in group sizes and completion points of courses. As a result of these practical issues, companies often did not make use of the public subsidies. There are even examples of companies who did carry out training during STW, but in their own way using their own funds in order to evade the administrative procedures. Especially small and medium enterprises however find it hard to organise training activities for their staff on short notice and within the framework set by the STWA.

Where participation in training does take place, participants are generally very positive about the results of the training. Other indicators of the short-term and long-term impact of training measures are hard to find. Previous studies have shown that the short-term im-

pact of training is often low, but that it can have important consequences in the long-term both on individual careers as well as on the functioning of the labour market. However, these long-term consequences are very difficult to assess scientifically, since it is not easy to isolate the effects of training from other factors influencing labour market developments. Interestingly, in the macro-econometric analysis, there is one result that suggests that making STW use conditional on training may enhance its impact on employment. It is however not robust across measurements of STW take-up.

Different aspects of the current training components of STWA can be used to improve the use and effectiveness of the training measures. Despite the difficulty of persuading individual employers or individual sector of the need for transversal education, it is generally agreed that training should increasingly focus on transferable skills in order to increase the mobility of workers between companies and sectors. More practically, flexibility and availability of workers within STWA can be guaranteed by providing modularised training courses, possibly organised in-house so that employees keep the connection with the company. There are good examples of industry associations in Germany developing special training courses and helping with the organisation thereof in cooperation with training providers. Finally, the incentives for training may have to be improved even more in order to increase the take-up of the training measures. Making training mandatory is another option that can be explored. Of course, all these measures need to fit within the context of the STWA in a particular country.

Research question 6: Which stakeholders are involved in designing the STWA support schemes and setting up the eligibility criteria?

Depending on the country in question, the main actors involved in designing the set-up of STWA and setting up the eligibility criteria are the responsible ministries, the employment agencies and national social partner organisations. The extent and manner of the input of industry federations and trade unions depends on the corporate tradition of the specific country. In some countries, social partners at company level are also involved, but more in the implementation stage than in the design of the measures. In general, the commitment of social partners to the measures is seen as crucial to the success of STWA. Especially in countries where STWA already exist for a longer period of time, it is seen as a success factor that employers and employees are already familiar with the idea of STW and therefore support instead of oppose the use of the measures.

The French system of sectoral or company framework conventions between social partners within the APLD measure shows that social partners can also have an important role in applying the general conditions of a measure to a sectoral or a company context. The situation in Austria is similar, where sectoral social partners can influence the conditions for the entire sector. This mechanism prevents extensive bargaining at company level, as the social partners are already involved and decide on the general conditions applying to all companies. In Germany, during the discussions about the crisis-related adaptations, not only social partners, but also some of the largest companies from the car and steel industries were involved at national level. This is clearly very different to the situation in for example Latvia where social partners are not involved at all.

There seem to be several lessons to learn regarding the way in which social partners should be involved in the scheme. It is clearly important to involve social partners right from the beginning of the design stage. They can be used as an important channel through which information can be distributed to companies and employees. As a preparation for the implementation, it can also be seen that it is important that social partner organisations cooperate with the employment agencies, preventing administrative obstacles. In Germany for example, the national employers federation provided the employment agency with a simplified version of the application forms which could then be used to facilitate procedures during the implementation. These examples of cooperation in the planning and design phase can have an important impact on the practical operation of the STWA.

Research question 7: How are threats and opportunities stemming from use of the STWA distributed regarding the positions different groups of workers hold in the labour market?

The available data on the take-up of STWA in different countries shows that participation in STWA was highest in manufacturing and industry. These were sectors that were hit hardest by the crisis and by the drop in international demand. Reflecting the general composition of the workforce in these sectors, the majority of participants in STWA in several countries were male and aged between 30 and 50 years. Moreover, it appears that companies were most likely to use STW for skilled workers out of medium income groups, such as machine operators. These are after all the workers that will be hard to find for employers when the economy picks up again. In addition, the great majority of participants had permanent contracts, though it is unclear whether their representation was disproportional, depending on the country in question. Macro-econometric analyses and the analyses conducted by OECD (2010) and Hijzen & Venn (2011) suggest that STWA rather benefited permanent workers than temporary workers. No information is available on the ethnicity of participants.

However, there have been concerns that STWA may be used to slowly push out certain unwanted groups of workers by pushing them into STW and not reactivating the employment relationship. Little information is available about this point, but the evidence suggests that this is generally not the case. At least in Germany, where a local analysis has examined this point, it appears that there is a high turnover of participants and that the burden of inactivity is distributed evenly across the workforce. This indicates that there are no direct imbalances in the use of STWA regarding different groups of workers apart from the difference between permanent and temporary contracts. The overrepresentation of specific sectors and the resulting overrepresentation of specific groups may however be seen as a concern, even though it does not seem to be the result of systemic imbalances or misuse of the schemes.

Interviews with companies in three countries (Germany, Austria, France) show that the selection of STW participants is as far as possible done on the basis of objective criteria. Put simply, STW is used in departments or working groups where needed, i.e. where production is low. In practice, this means that production workers (in manufacturing industries) are most likely to be using STW, but that there should not be any disadvantaged individual participants, as the decision is usually taken collectively. Paradoxically, the administrative departments and the departments for research and development of companies are often working overtime in the periods that other departments are using short-time work. None-

theless, several companies have taken measures during the crisis to distribute the burden of STW by making other departments also participate in the measures or using other measures to shorten their working time as well. The influence of work councils at company level thereby clearly has a positive influencing in distributing the burden of STW across the staff.

Research question 8: Which mechanisms can cause STWA to have positive or negative effects in neighbouring countries?

The short-time working arrangements that are the subject of this study are national schemes and differ between countries. In the framework of the internal market, it is important to see whether these interventions and the differences between the schemes have positive or negative effects in neighbouring countries. This question has not been the object of empirical research, yet we can construct different hypotheses on the potential cross-border effects of STWA. Thus on the one hand, STWA can be seen as state interventions which have an undesirable influence on the competition in the internal market. Enterprises that do not have access to STWA may find themselves in an unequal position to companies that can easily make use of STWA in their countries.

However, STWA eligibility requirements ensure that only companies in economic need can make use of STWA which should minimise the effects on the level playing field within the European economy. Furthermore, the idea behind STWA is that jobs are supported and not companies, though this distinction is difficult to make in practice. The European Commission (DG Enterprise) also emphasised during the crisis that it is important to ensure that employers incur some kind of residual costs in order to prevent STWA being seen as a direct subsidy. Finally, STWA should apply to the entire economy, not singling out specific companies or national sectors in order to prevent distortion of the single market. The Commission and Member States communicated directly about the set-up of the different schemes during the recent crisis.

On the other hand, STWA may also have positive effect in the context of cross-border regional economic clusters. Firstly, they may help sustain important players in regional and international supply chains. Furthermore, they may play a role in increasing the employability of participants and therefore the responsiveness of the labour market. Where cross-border regions are concerned, this can also be of benefit to companies operating in neighbouring countries.

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Annex 1 Annex to the macro-econometric analysis

Sensitivity to model specification

Table A1.1 Reproduction of the estimations by Hijzen & Venn (2011) including a linear STW term

n obs	1632		
n countries	18		
R square	0.2359		
	coeff.	t	P
% change output	0.1018	1.87	0.078
% change output*crisis	0.1712	3.24	0.005
% change output*STW	2.1897	0.82	0.423
% change output*crisis*STW	-11.1016	-3.41	0.003
average STW in the crisis	-0.0389	-0.16	0.875

Note: the model includes time-dummies

Table A1.2 Reproduction of the estimations by Hijzen & Venn (2011) including country and time-by-industry dummies

n obs	1632		
n countries	18		
R square	0.4445		
	coeff.	t	p
% change output	0.0691	1.71	0.105
% change output*crisis	0.1685	3.32	0.004
% change output*STW	3.7599	1.02	0.322
% change output*crisis*STW	-13.0164	-2.19	0.043

Note: the model includes dummies for countries and for industry by time.

Sensitivity to data issues

Table A1.3 Reproduction of the estimation by OECD (2010) based on data by Hijzen & Venn (2011)

n obs	1632		
n countries	18		
R square	0.4436		
	coeff.	t	p
% change output	0.0898	1.89	0.076
Crisis	0.0034	0.45	0.659
average STW in the crisis	-0.0609	-0.19	0.848
% change output*crisis	0.1476	2.71	0.015
% change output*crisis*STW	-9.1174	-2.94	0.009

Note: the model includes dummies for countries and for industry by time.

Table A1.4 Reproduction of the estimation by OECD (2010) based on data by Hijzen & Venn (2011), and including Poland in the sample

n obs	1724		
n countries	19		
R square	0.4262		
	coeff.	t	p
% change output	0.1184	2.03	0.058
Crisis	0.0096	1.06	0.304
average STW in the crisis	-0.4509	-0.99	0.333
% change output*crisis	0.1992	3.09	0.006
% change output*crisis*STW	-12.7518	-2.53	0.021

Note: the model includes dummies for countries and for industry by time.

Estimations by sector

Table A1.5 Reproduction of the estimations by Hijzen & Venn (2011) while differentiating the effect of STW on employment by industry

n obs	1632		
n countries	18		
R square	0.2388		
	coeff.	t	p
% change output	0.1017	1.88	0.078
% change output*crisis	0.1715	3.08	0.007
% change output*STW	2.2104	0.84	0.414
% change output*crisis*STW			
- manufacturing	-11.3643	-3.02	0.008
- Construction	3.2885	0.35	0.729
- distributive services	-13.3071	-2.63	0.017
- business services	-10.5226	-1.07	0.299

Note: the model includes time-dummies

Table A1.6 Reproduction of the estimations by Hijzen & Venn (2011) while differentiating the effect of STW on employment by industry and STW take-up defined at industry level

n obs	988		
n countries	11		
R square	0.3021		
	coeff.	t	p
% change output	0.1036	1.64	0.133
% change output*crisis	0.1290	1.99	0.074
% change output*STW	-0.1626	-0.41	0.692
% change output*crisis*STW			
- manufacturing	-2.9348	-2.91	0.016
- Construction	-0.3576	-0.27	0.792
- distributive services	-19.3518	-2.79	0.019
- business services	18.5911	0.69	0.504

Note: the model includes time-dummies

Table A1.7 Overview studies of the effect of STW on employment in the crisis using macro-data

Article	Data	Model	Method	Effect
Arpaia et al. (2010)	all 27 EU countries (industry sector) 1991Q2 – 2009Q3	$\Delta l_t = a_0 + a_1 l_{t-1} + a_2 \Delta y_t + a_3 D^{crisis} + a_4 D^{crisis} * STW + a_5 D^{country}$	OLS, robust covariance matrix	coefficient on cross-term crisis and use of STW positive and significant: 0.7 -> STW useful in limiting fall in employment due to crisis
Cahuc & Carcillo (2011)	25 countries period 2008-2009	OLS: $\Delta u_c = a_1 + a_2 \Delta STW_c + a_3 X_c + \Delta \epsilon_{ct}$ IV: $\Delta u_{ct} = a_1 + a_2 STW_{ct} + a_3 X_c + \Delta \epsilon_{ct}$	OLS IV: instruments = permissible reductions in weekly working time which can be compensated before 2008 and STW take-up rate in 2007 (to correct for the fact that STW arrangements may be changed as a reaction to an increase in unemployment)	OLS: positive effect of STW on unemployment, no effect on employment (possibly due to endogeneity) IV: negative effect of STW on unemployment, positive effect on employment find positive effects of STW on employment for permanent jobs, but not for temporary jobs.
Boeri & Bruecker (2011)	16 OECD countries period???	$\Delta \ln l_{it} = a_0 + a_1 \Delta \ln y_{it} + a_2 STWR_{it} + a_3 STWR_{it} * \Delta \ln y_{it} + a_4 EPL_{it} + u_{it}$	OLS IV: instruments = time elapsed since introduction or last reform of STW in the country (assume new rules affect take up but not directly the adjustment of employment to output changes)	both OLS & IV: STW take up neg. sig. effect, cross-term of STW and GDP growth neg. sig. -> STW saves jobs only in the presence of big decrease in GDP (above 2.6 percents)

Article	Data	Model	Method	Effect
OECD Employment Outlook (2010)	18 European countries + Japan 2003Q1 – 2009Q3	$\Delta \ln I_{ikt} = a_0 + a_1 \Delta \ln Y_{ikt} + a_2 \Delta \ln Y_{ikt} * D_{kt}^{crisis} + a_3 \Delta \ln Y_{ikt} * D_{kt}^{crisis} * STW_k + a_4 D_{crisis_{kt}} + a_5 STW_k + b_t D_{it} + g_k D_k + e_{ikt}$	<p>OLS (conditional on the change in output, the intensity of STW may be interpreted as a proxy for the attractiveness of STW, which is exogenous)</p> <p>model estimated at industry level, standard errors clustered within countries</p> <p>STW take-up rate at country level in the baseline; when taken up at sector level, lose observations, no change in results</p>	<p>cross-term of output, crisis dummy and STW take-up rate: neg. sig. effect on permanent employment, pos. sig. effect on average hours of permanent workers</p> <p>-> STW helped preserve permanent employment, and reduced hours of permanent workers</p> <p>no sig effect on temporary employment</p>
Hijzen & Venn (2011)		$\Delta \ln I_{ikt} = a_0 + a_1 \Delta \ln Y_{ikt} + a_2 \Delta \ln Y_{ikt} * D_{kt}^{crisis} + a_3 \Delta \ln Y_{ikt} * STW_{ik} + a_4 \Delta \ln Y_{ikt} * D_{crisis_{ikt}} * STW_{ik} + b_t D_t + u_{ikt}$		

Annex 2 Interview respondents

ORGANISATION / COMPANY	NAME
Austria	
WIFO	Mrs. Bock-Schappelwein
Austrian Economic Chamber (WKO)	Mr. Gleißner
Federation of Austrian Industries (IV)	Mr. Gruber
Federal Ministry of Labour, Social Affairs and Consumer Protection (BMAŠK)	Mr. Edlinger
Chamber of Labour (AK)	Mrs. Hofbauer
Austrian Union for Production Workers (PRO-GE)	Mr. Schindler
Public Employment Service for Lower Austria (AMS NÖ)	Mr. Walbert
4 companies wishing to remain anonymous	Anonymous
Infenion Technologies Austria AG	Mr. Jost
Czech Republic	
Employment Office	Anonymous
Germany	
Ministry of Labour and Social Affairs	Mrs. Bell
Ministry of Labour and Social Affairs	Mr. Jülicher
Ministry of Labour and Social Affairs	Mr. Nehring
Germany Federation of Trade Unions	Mr. Jakob
German Federation of Employers	Mr. Petrak
Employers Federation Unternehmer NRW	Mr. Köster
Employers Federation Unternehmer NRW	Mr. Degener
Employers Federation Südwestmetall	Mrs. Dr. Strauss
Employers Federation Südwestmetall	Mr. Küpper
Employers Federation Südwestmetall	Mrs. Schöttler
Anonymous company	Anonymous
Daimler Werk Gaggenau	Mr. Brecht
ThyssenKrupp Steel	Mr. Bruckes
Daimler AG	Mr. Plocher
MAN SE	Mr. Schwitalla
Finland	
Financial Supervisory Authority	Mr. Aarnio
Ministry of Social Affairs and Health	Mrs. Sollo
France	
Direccte Nord-Pas-de-Calais	Mr. Clément-Ziza
French Democratic Confederation of Labour (CFDT)	Mr. Janin
Employers Movement of France (MEDEF)	Mr. Tellier
Ministry for Economy, Industry and Employment	2 anonymous respondents
Territorial Unit of Seine-Saint-Denis	Anonymous
University of Paris 1	Prof. Freyssinet
French General Delegation for Employment and Vocational Training of the Ministry for Economy, Industry and Employment	Mr. Estrade
Seine-et-Marne Territorial unit	Mrs. Mery
TECHNE	Mr. Huber
PSA Peugeot Citroën	Mrs. Assant
Macosa Lingerie	Mr. Hache
ArcelorMittal	Mr. Guerra
2 anonymous companies	Anonymous
Slovakia	
Central Office of Labour, Social Affairs and Families	Matus Caban
Spain	
Ministry of Work and Immigration	Ignacio Ruiz Miguel

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