



## Comparative Analysis of Factor Markets for Agriculture across the Member States

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# Agricultural Labour Market Flexibility in the EU and Candidate Countries

### ABSTRACT

Factor markets that function well are a crucial condition for the competitiveness and growth of agriculture. Institutions and regulation may give rise to agricultural labour market heterogeneity, which could have important effects on the functioning of the labour market and other agricultural factor markets in EU member states.

This paper first defines the institutional framework for the labour market, and then presents a brief literature review of previous studies of labour market institutional frameworks. Based on the literature, a survey to characterise agricultural labour markets was undertaken, which was implemented for a selection of EU27 and EU candidate countries, with responses based on expert opinion. The survey data were then used to construct indices of labour market flexibility/rigidity for the countries examined. These indices were used to make inter-country labour market comparisons and to draw inferences about the institutions and functioning of the agricultural labour market.

**Keywords:** agricultural labour market, flexibility, policy

**JEL Classification:** J40, J43

FACTOR MARKETS Working Papers present work being conducted within the FACTOR MARKETS research project, which analyses and compares the functioning of factor markets for agriculture in the member states, candidate countries and the EU as a whole, with a view to stimulating reactions from other experts in the field. See the back cover for more information on the project. Unless otherwise indicated, the views expressed are attributable only to the authors in a personal capacity and not to any institution with which they are associated.

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and Thia Hennessy\***

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## **1. Introduction**

Labour is one of three crucial elements in production which economists refer to as *Factors of Production*. The economics literature has long recognised that well functioning factor markets are vital conditions for fostering growth and maintaining international competitiveness (Van Bavel et al., 2009). It is important to recognise that the policy, regulatory and legal environment, along with prevailing social norms such as customs and traditions, can affect how well or how poorly these factor markets operate. Within the EU these factor markets are influenced by conditions that exist at either a widespread EU level or at a more localised national level. Therefore the characteristics of factor markets across the EU member states are not necessarily uniform.

The Factor Markets project was established to explore this factor market heterogeneity, in the context of agriculture, with a view to providing policy makers with a better understanding of the heterogeneity which exists in factor markets across the EU and candidate countries. In so doing the work aims to identify the constraints which current factor market characteristics present to the facilitation of more well-functioning markets and better growth opportunities within the EU.

In this specific work package the focus is on the market for labour, specifically labour associated with agriculture. The work package has a number of strands and this deliverable draws together these strands of work so that ultimately an index of labour market flexibility/rigidity is created, which allows the countries under study to be ranked according to a series of criteria associated with the agricultural labour market.

While the literature on the labour market generally in developed countries is extensive, specific studies of the agricultural labour market are quite uncommon. A recent exception is work by Dries et al. (2012) which found that job creation and destruction rates in the EU differ strongly between countries, sectors and farm size. Their results found that job creation is due more to structural differences across countries, while job destruction is more determined by structural differences across farms.

By contrast, literature on labour market flexibility in agriculture is much more common in studies of developing countries where agriculture remains a far bigger share of overall employment and economic activity and where the process of transition of workers from agriculture to other parts of the economy represents a major transition within the overall labour market. This literature includes contributions from Fields (2011), Bhorat et al. (2013), Satchi and Temple (2009), Bardhan and Rudra (1981) and Berry and Sabot (1978) among many others.

The initial objective of this work package was to identify the main criteria of interest in describing the institutional framework of the labour market. These include factors such as ease of engagement and disengagement from employment in the sector, measures of human

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capital and mechanisms to enhance human capital, wage setting arrangements, the extent of union power and labour mobility.

In this deliverable we summarise the institutional framework of the labour market and describe a survey that was developed in order to gather data on the characteristics of labour markets in the countries under study. We present the results of that study and finally we develop an index measure to describe the overall characteristics of the labour market for each country under study. In so doing we are able to rank countries on a labour market flexibility scale and we are able to pinpoint specific criteria which affect the ranking of these countries in this index.

## **2. Institutional Framework for the Labour Market**

Normally an institutional framework is taken to mean the broad set of factors that shape the environment in which human behaviour takes place. It therefore extends from the very formal and more easily documented and more easily observable characteristics such as laws and regulations, to less easily documented and less easily observable characteristics such as customs, habits, traditions and other informally established ways in which a system functions.

Topel (1999) describes three pillars of an institutional framework for labour are the regulations governing individual and collective employment relations, unemployment protection and active labour-market policies. These three features can be seen to affect a wider set of criteria namely labour mobility, employment flexibility, wage flexibility, human capital flexibility and labour productivity.

In a labour market it would be desirable to match workers to jobs with requirements that best match their skills. However, Blanchard (2002) points to informational asymmetries on both the side of the employer and the employee as a reason why the labour market cannot be characterised as perfectly competitive. Consequently, a worker's wages may exceed or fall short of his/her contribution to the firm. This outcome can also arise when either the employer or employee has market power, neither of which outcome is desirable for the efficient operation of the labour market. A regulated environment is thus considered a means towards avoiding such outcomes.

There is considerable focus in the literature on labour market rigidity and the consequences it has for labour market operation. However, the literature is divided on whether the institutional framework should be determined by the market or whether some form of intervention is required in order to protect employees. Much of the literature finds that labour market rigidity is associated with higher levels of unemployment, thus forming an argument to reduce these rigidities. For instance, in terms of the minimum wage, research by Neumark and Wascher (2007) found a significantly negative long run employment effect upon low wage workers but other work by Card and Krueger (1994) found no significant negative employment impact from an increase in the minimum wage in New Jersey.

In terms of distinguishing between flexible and rigid institutional frameworks, Amadeo and Camargo (1993) measure flexibility in terms of the flexibility of employment (low barriers to hiring and firing employees and, for workers, low barriers to moving from one job to another); wage flexibility (a high correlation between changes in the marginal productivity of labour and real wages); labour mobility (low barriers to workers moving from one job to another in different segments or regions); human capital flexibility (the capacity to adapt to new demands arising from changes in a given job or from job transfers) and firms' orientation towards increasing productivity, which increases their chances of responding to a shock with fewer costs in terms of employment and wages.

An International Monetary Fund (IMF) study by Estevao (2003) was conducted to empirically estimate the effect of institutional framework rigidities on unemployment rates. The following institutional elements were considered to be important when analysing the institutional framework of labour markets: the replacement ratio (the ratio of unemployment

benefits in the first year of unemployment to past earnings); an index of employment protection; the tax rate on labour (including social security contributions, income taxes, and indirect taxes); the density of union membership; and the nature of wage bargaining process (centralised or decentralised). Not surprisingly, the study revealed that, the extent to which unemployment insurance compensates for job losses contributes to higher unemployment. Unionisation and high rates of employment protection are positively associated with unemployment.

Interestingly, the effect of central coordination in wage bargaining has two conflicting effects. On the one hand, greater coordination discourages competitive wage-setting, resulting in upward pressure on real wages and a looser relationship between wages and productivity across industries and regions. On the other hand, greater coordination may lead workers to take into account the broader economic consequences of wage demands in excess of productivity gains, such as higher inflation or loss of competitiveness. Hence, coordination is conducive to economy-wide wage moderation.

As already mentioned there is not an extensive literature on the institutional framework of the labour market as it relates to agriculture, with studies tending to look at developing countries. Hennessy (2005) has reviewed the literature in this area.

Based on a review of the literature, it is possible to outline the key parameter of an institutional framework for the labour market associated with agriculture as illustrated in Table 1. Each parameter in turn has a number of specific characteristics which can be observed in order to make a judgement about the extent to which the labour market can be seen as flexible. It is possible to specify a set of conditions associated with these characteristics which one might or might not associate with labour market flexibility.

*Table 1. Institutional Framework for Agricultural Markets*

<b>Broad Institutional Framework</b>	<b>Specific market characteristics</b>	<b>Conditions favouring market flexibility</b>
Structure of the Employment Market	<ul style="list-style-type: none"> <li>• Size of the labour force</li> <li>• Numbers at work and out of work</li> <li>• Human capital measures</li> <li>• Proportion of workers involved in agriculture</li> <li>• Human capital and demographic measures of the agricultural work force</li> </ul>	<ul style="list-style-type: none"> <li>• Ease of movement of workers</li> <li>• Measures that improve human capital</li> </ul>
Labour Legislation	<ul style="list-style-type: none"> <li>• Legislation on hiring and firing</li> <li>• Workers' rights and employment protection</li> <li>• Working hours legislation</li> <li>• Legislation on contracts and tenure</li> <li>• Legislation governing foreign workers</li> </ul>	<ul style="list-style-type: none"> <li>• Low barriers to hiring and firing</li> <li>• Less regulation of working hours</li> <li>• Ease of access for foreign workers</li> </ul>
Wage Setting	<ul style="list-style-type: none"> <li>• Policies on minimum wage</li> <li>• Policies on collective bargaining for agricultural workers</li> </ul>	<ul style="list-style-type: none"> <li>• Absence of minimum wage</li> <li>• Wage flexibility</li> <li>• Coordination in wage setting</li> </ul>
Unionisation of Workers	<ul style="list-style-type: none"> <li>• Unionisation of agricultural workers</li> <li>• Protection of workers' rights</li> </ul>	<ul style="list-style-type: none"> <li>• Less unionisation</li> <li>• Minimal worker legislation</li> </ul>
Policies on taxes	<ul style="list-style-type: none"> <li>• Employee taxes</li> <li>• Employers' taxes</li> <li>• Social Insurance Schemes etc.</li> <li>• Unemployment benefits</li> </ul>	<ul style="list-style-type: none"> <li>• Lower employer and employee taxes</li> <li>• Lower replacement rates, shorter unemployment benefit duration</li> </ul>

### **3. Survey Design and implementation**

The next step within this work package was the design of a survey questionnaire on the characteristics of agricultural labour market. This survey was used to gather data on the institutional framework of the labour market in selected countries in the EU27 and in Croatia and Macedonia, based on the parameters and associated market characteristics identified in the previous stage of the work package.

This survey was designed by Teagasc (Irish partner), in conjunction with the University of Kent (UK partner). The survey questionnaire is reproduced in Appendix A. Factor Markets project partners acted as respondents to the survey. In general the response produced by each project partner was in relation to the agricultural labour market in their own country. In the EU27 the countries covered were, Belgium (BE), Finland (FI), France (FR), Germany (DE), United Kingdom (GB), Greece (GR), Ireland (IR), Italy (IT), Netherlands (NE), Poland (PL), Slovenia (SI), Sweden (SE) and Slovakia (SK). The Slovene partner also provided survey responses concerning Croatia (HR) and Macedonia (MK). The survey was distributed to partners in June 2011 and responses were completed mainly over the following two months. In a number of cases it was necessary to engage in follow up with partners to clarify responses. In general the quality of the response received to the questions asked in the survey was quite high.

The survey requested basic data on the structure of the employment market, labour legislation, wage setting mechanisms, unions, taxation and social benefits, education and training, labour mobility and general features of agriculture. Respondents were also free to submit data, or links to data, from national sources and additional information relating to any of the questions asked. The responses received to questions are detailed in Appendix B and the more interesting aspects are now detailed.

#### **3.1 Hiring and Firing Process**

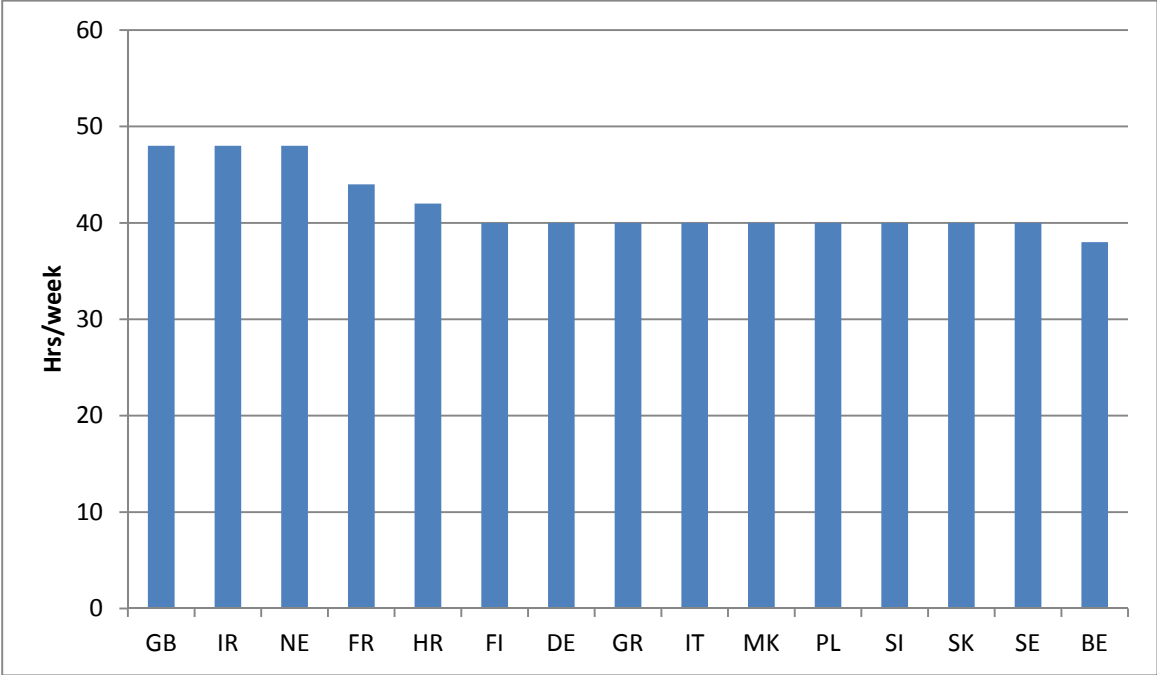
Respondents were asked to consider the hiring and firing process in the countries under study and indicate the ease or difficulty employers faced in respect of the hiring and firing of employees. This question was asked in respect of the wider economy and also specifically in the context of the agriculture sector (Table 1 and Table 2 of Appendix B).

#### **3.2 Hours of Work Legislation**

The survey found that the maximum hours of work legislation exists in all of the countries examined. There is some variation in the maximum hours of work across the countries surveyed. As illustrated in Figure 1, the limit in most countries tends to be 40 hours per week, but the survey results indicate that the limit is higher in Great Britain, Ireland and the Netherlands. The lowest limit in terms of working hours was found in Belgium where the maximum is 38 hours per week. Our Belgian expert points out however that there can be adjustments depending on the sector and the specific circumstances. Other countries allow for an expansion in working hours over the normal limit, but only for a short number of weeks.



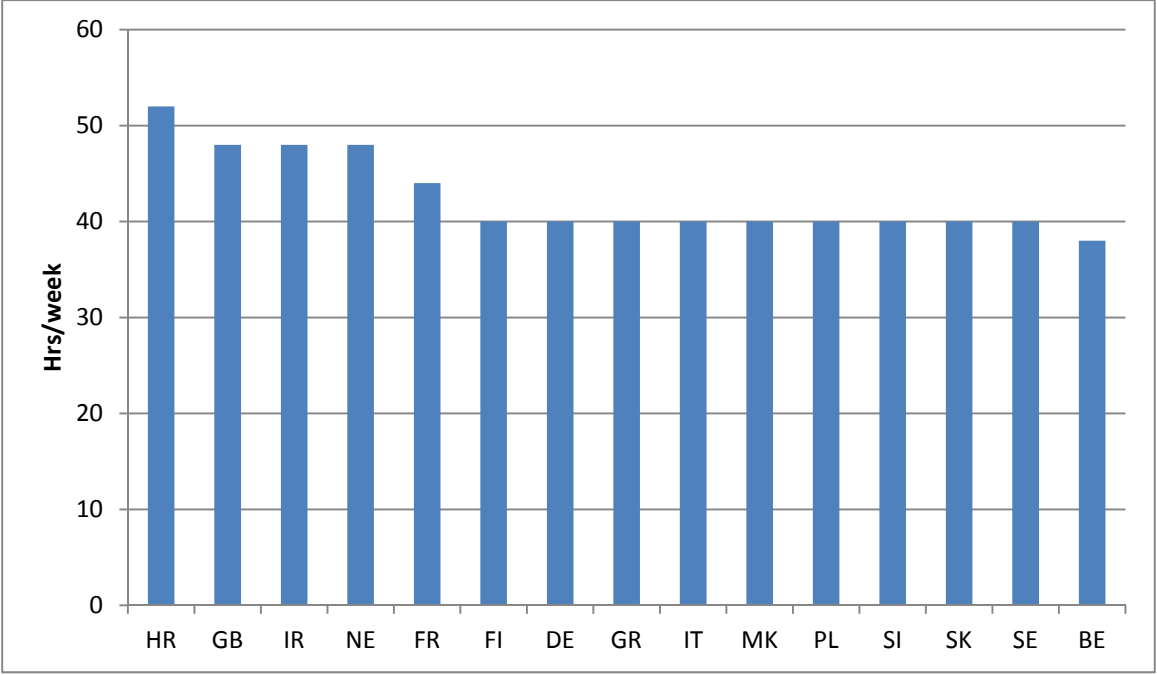
*Figure 1. Maximum hours of work per week in general economy*



*Note:* See also Table 4.

The same question was asked in respect of the agriculture sector and the response is presented in Figure 2. In general it was found that the maximum hours of work legislation applied to the agriculture sector (Table 5) and that that the maximum hours limit is broadly similar to the maximum in operation in the rest of the economy. One exception appears to be Croatia where the maximum limit at 52 hours is much higher for agriculture relative to the rest of the economy at 42 hours per week.

*Figure 2. Maximum hours of work per week in agriculture sector*



*Note:* See also Table 6.



### 3.3 Wage Setting

Survey respondents were asked to detail the existence of minimum wage legislation throughout the wider economy. It was found that minimum wage legislation is relatively widespread across the survey countries. However, respondents indicated that Finland, Germany, Italy and Sweden do not have minimum wage legislation throughout the wider economy (Table 7). Some of these countries have industry level agreements regarding levels of minimum pay rather than national level minimum wages. For example, in the case of Italy, it was indicated that there are 15 regional agreements in addition to 8 industry level agreements and 100 agreements at the province level.

Respondents were also asked to indicate the monetary value of the minimum wage in the wider economy (Table 8) and specifically in agriculture (Table 10). The results are presented below in Figure 3. We include the hourly minimum wage in euro but we also adjust for differences in GDP per person (PPP) using Eurostat data. In some instances, the minimum wage applies to monthly incomes. In those circumstances, we have used Eurostat data on average working hours to estimate the minimum wage per hour. The minimum wage is applied in terms of monthly income in the cases of Belgium, Macedonia, the Netherlands, Poland, Slovenia and Slovakia.

*Figure 3. Minimum Wage in agriculture sector (Adjusted and Unadjusted for GDP)*

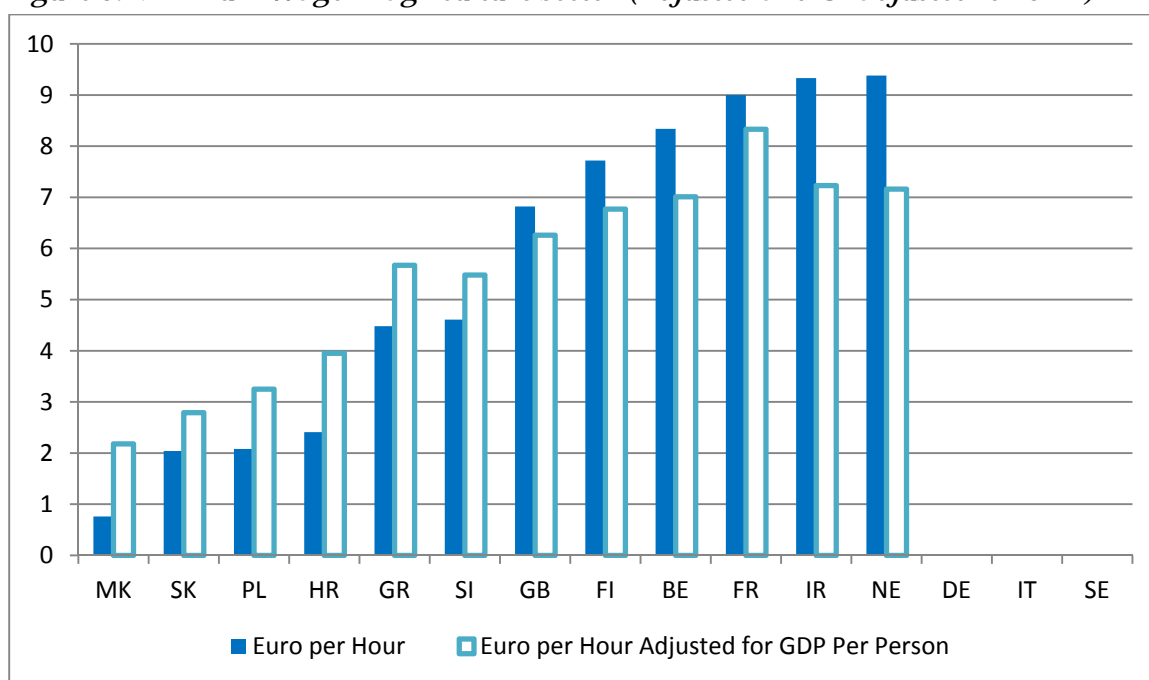


Figure 3 shows that the agriculture minimum wage is highest for employees in Ireland, France and the Netherlands. The minimum wage is lowest for employees in Macedonia, Croatia, Poland and Slovakia. Adjusting for differences in GDP per capita does not appear to change the country rankings to any great degree. France has the highest minimum wage after adjusting for GDP, while Macedonia still has the lowest minimum wage. The gap between the countries with the highest minimum wage and the countries with the lowest minimum wage declines somewhat after the adjustment for differences in GDP per capita, but large differences are still evident. The picture is very similar for the minimum wage in the general economy as evident from a comparison of Table 8 and Table 10.

It is notable that in some countries, the minimum wage varies according to the level of job experience, age or education. In the case of Belgium, the minimum wage for uneducated agricultural employees is €8.34 per hour but is greater for educated workers at €9.20 per hour. In Greece, the minimum wages varies according to experience. The minimum wages

listed here refer to the situation in 2011 and we acknowledge that there may have been more recent changes in some countries. Where the minimum wage varies according to age, experience or education, we have applied the minimum wage for those employees with the lowest minimum wage. We include a question in the questionnaire as to whether or not the minimum wage varies according to the above variables and the responses form part of the overall index.

### **3.4 Unions**

Respondents were asked to indicate whether farmer unions exist in the surveyed countries. It was found that farmers unions are very widespread with Croatia and Slovakia appearing to be exceptions in this regard (Table 25). Precise figures on the level of membership of farm unions among farm operators were not easy to ascertain and in some cases guesstimates were provided by survey respondents. In general, among farm operators union membership was reported to range from a low of about 50 percent in Belgium to a high of 99 percent in Finland. Typically for most of the countries examined, the level of union membership among farm operators was indicated to be in a range of 70 to 90 percent. It was not possible to get a response to this question for some countries.

Detail on the level of union membership among farm employees is quite limited, with no information available in several countries. In general it was indicated that union membership among farm employees is less common than among farm operators. Farm employees are not generally union members in Belgium, Germany, Ireland, the Netherlands or Slovakia, with the extent of farm employee unionisation not well known elsewhere.

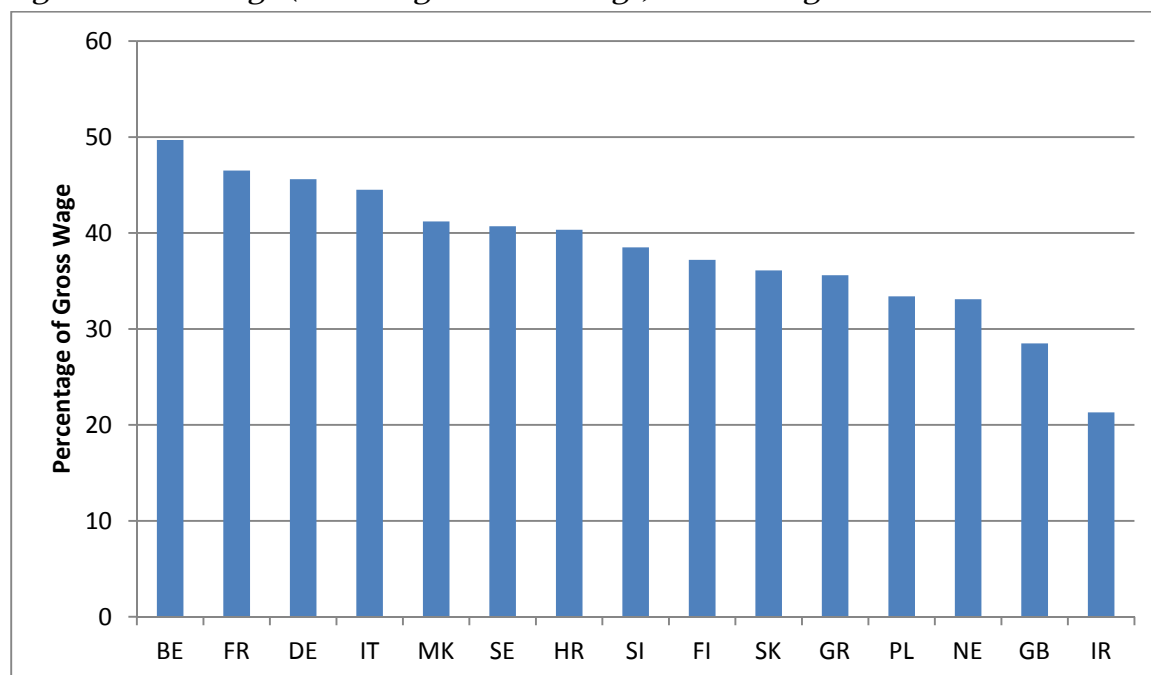
Having gathered all of the data on union density, we concluded that it would be best to omit unionisation from the overall index. In making this decision, we took into account some qualitative feedback from the experts regarding the usefulness of farmer union density as a proxy for union power. In addition, it appeared from the results that farmer union density was weakest in countries where there is a reputation for strong farm union power.

### **3.5 Taxation and Social Benefits**

The survey sought information on the design of the unemployment benefit system in the countries under study. It was found that the duration of unemployment payments is generally 1 year, although there are exceptions where the duration of payments was indicated as indefinite - in Belgium and Ireland for example (Table 13). There may have been an issue here with the interpretation of the question and the precise terminology that is used to describe different forms of payments that can be received when an individual is out of work. In any event the survey indicated that in general farm operators are not entitled to unemployment payments. The description for France rested on information from the EU's comparative tables on social protection MISSOC (2013).

In addition to the survey question on benefit duration, we utilised Eurostat data on the size of the tax wedge for low wage earners in each country. This variable was calculated based upon the tax rate as a percentage of the gross wage which includes both employer and employee social insurance. The results are presented below in Figure 4.

Figure 4. Tax Wedge (Percentage of Gross Wage) for low wage earners in 2011



Source: Eurostat (2013).

In Figure 4, we see that the tax wedge for low wage earners is usually between 30 and 45 per cent of the gross wage. The tax wedge is highest for Belgium, France and Germany and lowest in the case of Great Britain and Ireland.

### 3.6 Education and Training

The survey sought details on the system of agricultural training qualifications that exist in the countries under study. The results indicated that most countries appear to have a system of agricultural qualifications in place (Table 14). A further question sought information on whether it was now mandatory for farmers to acquire such qualifications, but it was indicated that this was not the case in the countries under study.

Respondents were asked for information on the typical level of education among farm operators. While the response indicated that there is some variation in education level of farmers across the countries examined, there is no regional pattern to this. Great Britain and Poland were notable outliers from the remaining countries. For Great Britain the survey indicated that the level of educational attainment among farm operators is likely to be higher than the average for the wider population, while by contrast in Poland it was indicated that the level of educational attainment among farm operators is likely to be lower than the average for the wider population. For the remaining countries it was held that there was no discernable difference in the education level of farm operators and the wider population (Table 15).

Similarly in the case of agricultural employees it was found that their education level would be above average in Great Britain. By contrast the education level of farm employees in Macedonia and Slovakia was considered to be below the average of the wider population in those countries. For most of the remaining countries it was indicated that the education level of farm employees was broadly similar to that of the wider population (Table 17).

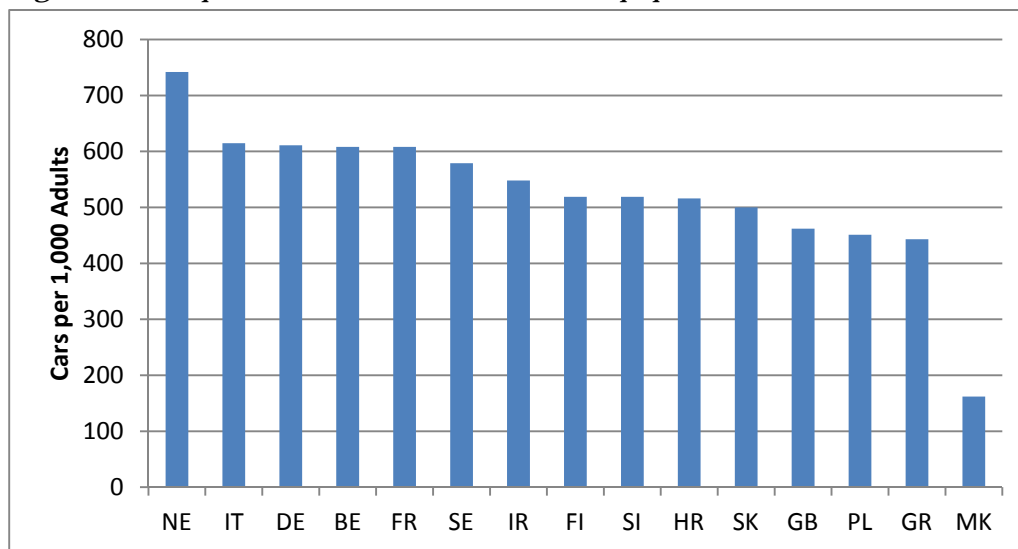
### 3.7 Labour Mobility

The study is concerned with labour mobility both in terms of the movement of labour between economic sectors and the geographic mobility of labour. Respondents were asked to

indicate whether labour market measures exist for farm operators, a mechanism which can facilitate the movement of labour between economic sectors. It was found that labour market measures are not generally targeted to farm operators in most of the countries under study, the exceptions being Greece, Italy, Macedonia, Poland, Slovenia and Sweden (Table 18). By contrast active labour market measures are quite widely available for farm employees, with Belgium, Germany, Ireland, the Netherlands and Slovakia as notable exceptions (Table 19).

Respondents were asked to indicate the level of car ownership per adult as a measure of mobility. It is recognised that this variable is limited in the sense that countries have different population densities and different levels of public transport provision. There was quite a wide spread in the level of car ownership across the surveyed countries. One might expect this to be strongly correlated to the level of GDP per capita, and by and large this was the case. However, there were some outliers, with Great Britain and Finland reporting lower levels of car ownership than some less affluent EU member states (Table 20).

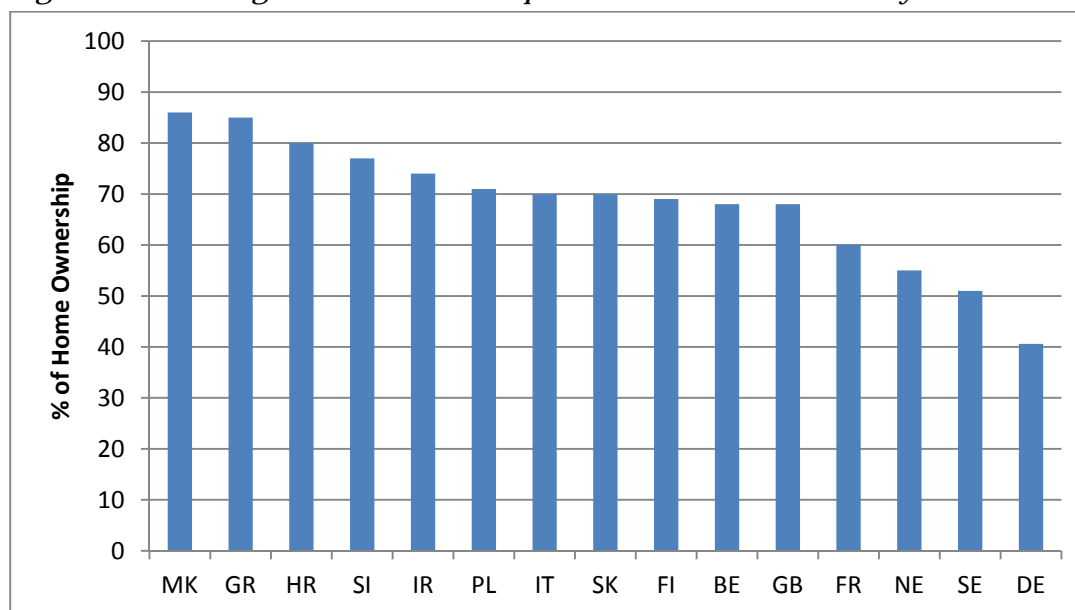
*Figure 5. Cars per 1,000 members of the adult population*



*Note:* See also Table 20.

### 3.8 Home ownership

Respondents were asked to provide information on the level of home ownership in the countries under study. The level of home ownership could be seen as an indicator of labour mobility, with higher levels of home ownership seen as a limiting factor in terms of the mobility of labour Oswald (1996). We find that home ownership is lowest in Germany, Sweden, the Netherlands and France and highest in Macedonia and Greece.

*Figure 6. Percentage of home ownership in the countries under study*

### 3.9 Employment of foreign workers in agriculture

Questions were also asked about the extent to which foreign workers were present in the agriculture sectors of the economies under study, in comparison with other low skilled sectors in these countries. In general it was found that foreign workers either from within other EU MS (Table 22) or outside of the EU (Table 23) remain relatively uncommon (exceptions being the labour market in Belgium, Ireland and the Netherlands). However, it was indicated that the prevalence of such workers is generally on the increase, with France and Macedonia notable as exceptions to this trend (Table 24).

### 3.10 Description of the farm holding

Respondents were asked to describe the most common farm type in the countries under study. It was indicated that small family owned and operated farms tend to dominate in Finland, Greece, Ireland, Italy, Macedonia, Poland and Sweden (Table 26). Large family owned and run farms are most common farm type in the Netherlands. In France it was indicated that small rented farms are the dominant farm type, while in Slovakia small farms, which were previously part of a collectivist structure, tend to be the most prevalent. For Germany, it was indicated that the typical farm type exhibits strong regional variation, making it difficult to generalise for the country as a whole.

The survey sought information on the specifics of farm inheritance in the countries under study. The most common form of inheritance is by gift, with a requirement to pay for the farm using a mortgage or similar type of loan a feature only in Belgium and the Nordic countries.

Respondent were asked to provide details on the extent of part-time farming in the countries under study. Unsurprisingly, it was indicated that part-time farming is a feature of agriculture in all the countries under study. The highest rates of part-time farming were found in Greece and Croatia, while some of the lowest rates were found in countries such as the Netherlands and Italy. The low level of part-time farming observed in Italy might be seen as contrary to expectations. In this latter case, this may reflect a lack of off farm labour opportunities.

#### 4. Construction of an agricultural labour market flexibility/rigidity index

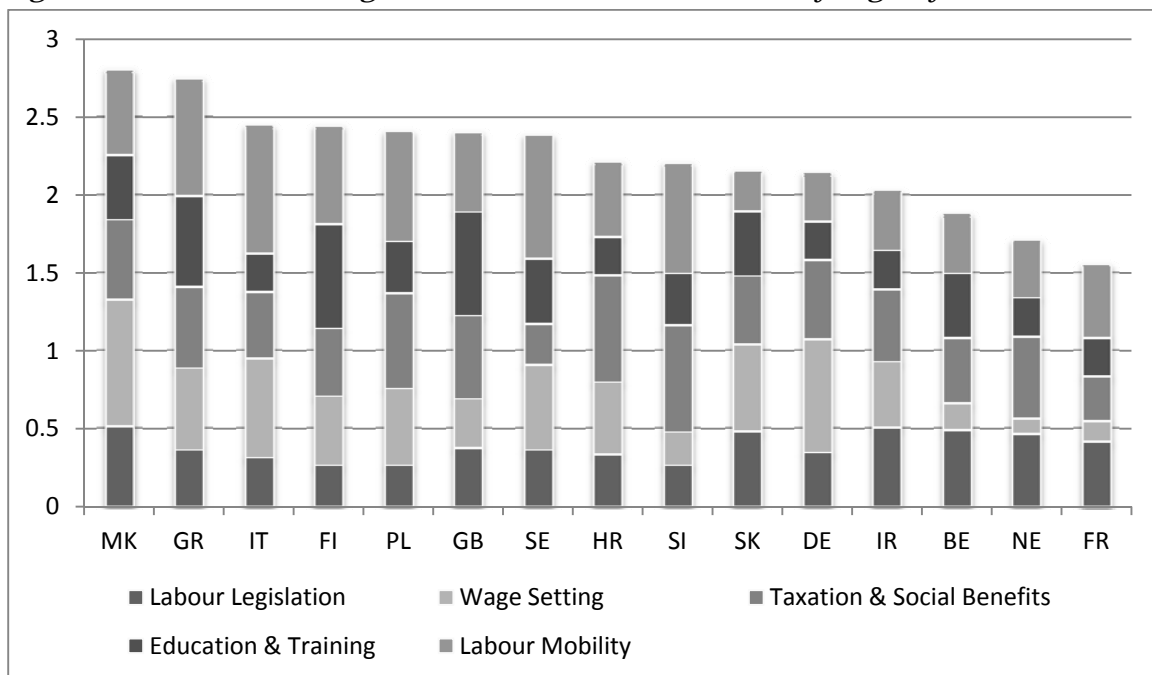
The final step in this work package was the development of a labour market rigidity/flexibility index. Indices of this kind have been developed in the past for the wider labour market (Nickell and Layard, 1999). Essentially this involved collating the data from the survey and ascribing a value to the response to each question. These values were then added together to provide an overall index value.

One consideration which immediately arises is the compilation of indices of this kind is whether and how the responses to particular questions should be weighted to provide an overall index measure for each country. The procedure which was followed in this case involved creating a score for each of 5 separate categories (namely, labour legislation, wage setting, taxation and social benefits, education and training, and labour mobility). Each of these individual category scores was in turn based on responses to several questions within that category. Questions within a category were weighted in some cases, so that particular questions did not overly influence the score compiled for that category.

In terms of the summation of the category scores to provide an overall index measure it was decided to go for a simple unweighted approach. It should be noted that alternative approaches can also be used which can involve a consultative process to determine how category scores should be weighted. For example an expert panel can be assembled in order to achieve consensus on whether specific categories should carry a higher or lower weighting. However, for the purposes of this study, it was decided to allow the category scores to remain unweighted, as the authors were concerned that consensus on a weighted scheme would not easily be achieved, especially since the work involved a multi-country analysis.

Within each category, the maximum score was 1. Values closer to 1 are an indicator of greater labour market flexibility and values closer to 0 indicate less labour market flexibility. To make the construction of the index as transparent as possible, the individual category scores for each of the countries under study are included in the stack bar chart in Figure 4.

Figure 7. Overall index of agricultural labour market flexibility/rigidity



In Figure 7, we can see that there is some variation in the value of the overall index between countries. The results suggest that Macedonia, Greece and Italy are among the most flexible in terms of agricultural labour markets. By contrast, France, Netherland and Belgium are the least flexible, with each having particularly low scores for the wage setting category.

This is partly a function of being among the countries with the highest minimum wage levels. In all three countries, wages are typically determined through collective bargaining or through a mixture of collective bargaining and individualised firm level bargaining. Macedonia and Greece score very highly in most categories. Labour mobility is a key driver of flexibility in the case of Greece, while wage setting appears to have a big impact on the result for Macedonia, partly due to the low minimum wage.

Looking at the country rankings, it is possible to discern some level of inter-regional variation. The three countries with the highest labour market flexibility score, Macedonia, Greece and Italy are neighbouring countries. Equally the three countries with the lowest labour market flexibility score are Belgium, Netherlands and France are also neighbouring countries.

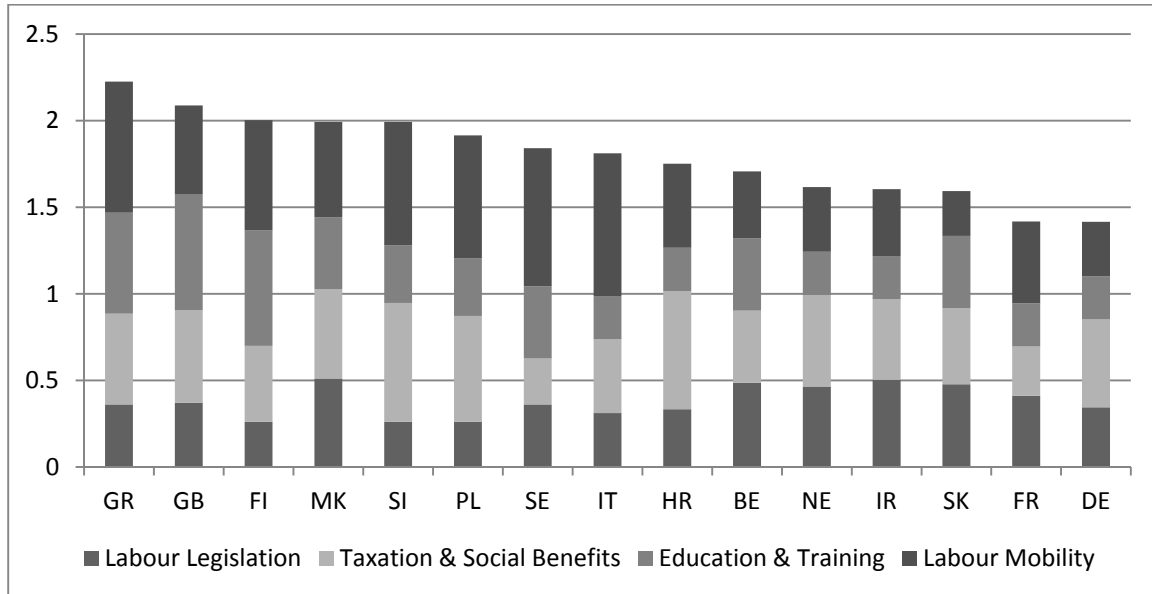
It is notable that the category with the biggest variation is wage setting, where Macedonia and Germany have the highest score. It is also interesting to observe that some of the countries which are categorised as least flexible in terms of the overall index, score highly in terms of the labour legislation variable (indicating that labour legislation in these countries is weaker than elsewhere). Just two Mediterranean countries are included in the study and both appear to have more flexible labour markets than northern European countries.

For the vast majority of countries in the study, there was very little difference in the overall labour market flexibility score. However, there were still noticeable differences in the composition of the overall scores, reflecting the existence of some heterogeneity in the category level scores. For this middle range of countries, the contribution of each factor to the overall index scores varies. This emphasises the importance of using a wide variety of criteria to measure labour market flexibility in a country, since individual labour market flexibility component scores for that country may not be a good proxy for overall agricultural labour flexibility in that country. The same observation can be made with respect to inter-country studies of labour market flexibility.

The above point can be illustrated by conducting some sensitivity analysis on the index by removing particular components from the index to see the impact this has on the ranking of individual countries. We present the overall index in Figure 8, having omitted the wage setting component and show how this affects the relative ranking of countries in comparison with Figure 7. Great Britain moves from fifth to second in terms of overall flexibility. Germany has the least flexible index measure if one excludes the wage setting component and this is largely driven by low scores for education and training as well as labour mobility. France and the Netherlands remain close to the bottom of the list after the exclusion of wage setting.

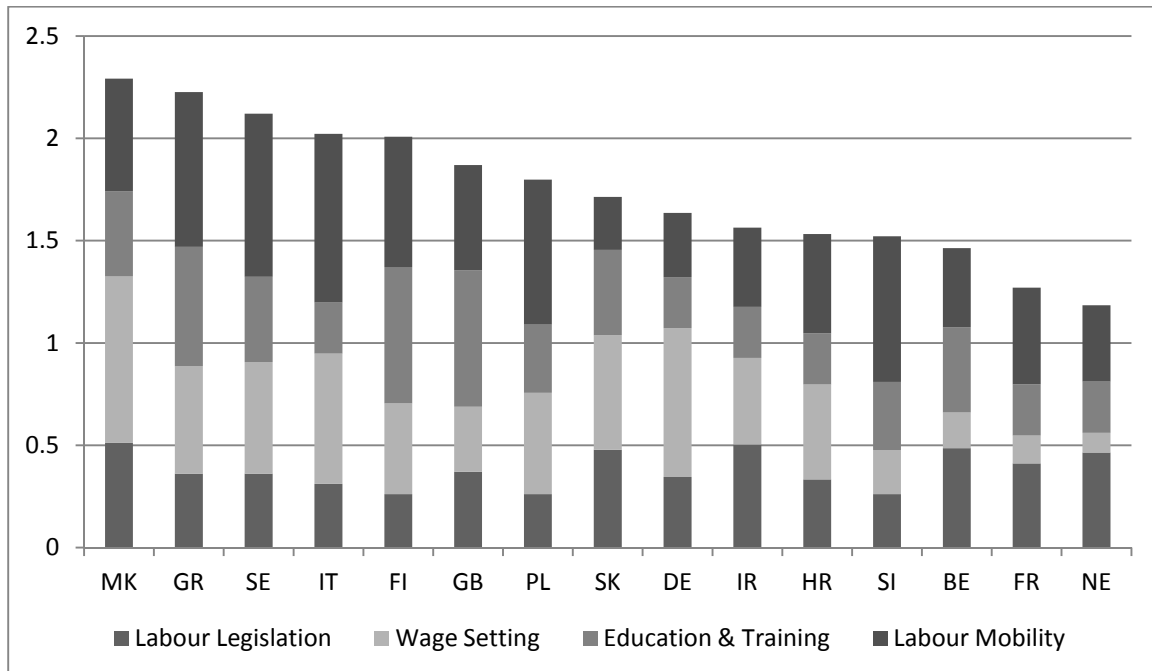


*Figure 8. Overall Index without Wage Setting Component*



We present the overall index in Figure 9, having omitted the tax-benefit component. Sweden has the third most flexible agricultural labour market if one excludes this tax-benefit component. This represents a movement of four places in the overall rankings. The relative ranking for a number of other countries moves by two places but Macedonia and Greece remain the most flexible and Belgium, France and the Netherlands are the least flexible.

*Figure 9. Overall index without Tax-Benefit Component*



## 5. Conclusion

Overall, this survey has found differences between the agricultural labour market characteristics in member states across the EU and in the Candidate Countries considered. These differences are not particularly extreme when looked upon in the aggregate. It was

found that the most flexible labour market exists in Macedonia and Greece while the least flexible agricultural labour markets were found to be in Belgium, the Netherlands and France.

The two main factors contributing towards low agricultural labour market flexibility in the Netherlands and France are the wage setting mechanism and relatively low scores in the education and training categories. The low score in the case of Belgium can be attributed low scores for the wage setting mechanism and labour mobility. Macedonia and Greece score very highly in most categories. Labour mobility is a key driver of agricultural labour market flexibility in the case of Greece, while wage setting appears to have a big impact on the result for Macedonia, partly due to the low minimum wage.

Looking for the countries with similar overall labour market flexibility scores, we still find that there is some heterogeneity in the institutional features of these labour markets. This is an important finding for policymakers since it demonstrates the importance of measuring agricultural labour market flexibility across a wide range of criteria. This is because individual features of a labour market may not be indicative of the extent of overall agricultural labour market flexibility. This point is emphasised by the fact that we found that the labour market flexibility measure was quite sensitive to the criteria included/excluded from that measure. This in turn influenced the relative ranking of countries in terms of their agricultural labour market flexibility/rigidity.

If policymakers deem it desirable to increase labour market flexibility, the approach required will need to be tailored to the causes of agricultural labour market inflexibility. Our study finds that these causes differ across the countries under study. Ultimately, this implies that a common European approach to enhancing agricultural labour market flexibility may be inappropriate.

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## Appendix A. Labour Market Survey Questionnaire

### Section A: Structure of the Employment Market

**A1. Please provide data on the number of people in the workforce in your country?**

**I am submitting a data spreadsheet with my response**

Yes	
No	

**A2. Please provide data on the number of people employed in the whole economy in your country ?**

**I am submitting a data spreadsheet with my response**

Yes	
No	

**A3. Please provide data on the number of people employed in the agriculture sector in your country ?**

**I am submitting a data spreadsheet with my response**

Yes	
No	

**A4. Please provide a web address where official data on employment/unemployment can be obtained in your country.**

**A4a.** Enter Web address: \_\_\_\_\_

**A5. Do detailed demographic data exist for employment in the agricultural sector e.g. age categorisation, gender? If so can you provide these data or a web link to where the data can be accessed?**

Yes	
No	

**A5a.** Enter Web address: \_\_\_\_\_

**Section B: Labour Legislation**

**B1. Thinking about the economy in general, how would you describe the process by which an employer can hire or fire an employee in your country?**

*Please tick one option*

Easy	<input type="checkbox"/>
Relatively Easy	<input type="checkbox"/>
Neither Easy nor Difficult	<input type="checkbox"/>
Relatively Difficult	<input type="checkbox"/>
Very Difficult	<input type="checkbox"/>

**B2. Thinking specifically about the agricultural sector, how would you describe the process by which an employer can hire or fire an employee in the agricultural sector in your country ?**

*Please tick one option*

Easy	<input type="checkbox"/>
Relatively Easy	<input type="checkbox"/>
Neither Easy nor Difficult	<input type="checkbox"/>
Relatively Difficult	<input type="checkbox"/>
Very Difficult	<input type="checkbox"/>

**B3. Does legislation exist governing the maximum number of hours that can be worked by employees in your country?**

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

**B3.a If YES, please state the maximum number of hours (per week, month or year)**

Answer: \_\_\_\_\_

**B4. If you answered YES to B3 above, does this legislation governing the maximum number of hours worked apply to employees in the agricultural sector?**

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

**B4.a If YES, please state the maximum number of hours (per week, month or year)**

Answer: \_\_\_\_\_

**B5. Does specific employment legislation exist covering the health and safety of farm employees in your country ?**

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

**B5a. If you answered YES to this question can you indicate when it was introduced?**

Answer: \_\_\_\_\_

**Section C: Wage Setting**

**C1. Please indicate whether there is a general economy wide minimum wage for employees in your country?**

Yes	
No	

**C1a. If YES, please indicate the level of the wage in your national currency**

Answer: \_\_\_\_\_

**C2. If a general economy wide minimum wage exists can you indicate when this wage was introduced?**

Answer: \_\_\_\_\_

**C3. Please indicate whether there is a specific agricultural minimum wage for agricultural employees in your country?**

Yes	
No	

**C3a. If YES, please indicate the level of the wage in your national currency**

Answer: \_\_\_\_\_

**C4. If an agricultural minimum wage exists can you indicate when this wage was introduced?**

Answer: \_\_\_\_\_

**C5. If a minimum wage exists does the legislation allow for different levels of minimum wage according to the age or experience of the employee?**

Yes	
No	

**C6. Is data available on the proportion of employees in the agricultural sector who are paid the minimum wage? *If no official data is available please try to provide an estimate.***

Yes	
No	



**C6a: Percentage of agricultural employees in receipt of minimum wage**

	%
--	---

**C7. How are agricultural employees' wages determined in your country ?**

*Please tick one option*

uncentralised, individual bargaining	
centralised bargaining	
mixture of both approaches	

**C8. What is the typically the nature of the contract of work which employees have in the agricultural sector in your country?**

*Please tick one option*

Formal contract	
Informal verbal contract (e.g. <a href="#">gentleman's agreement</a> )	

**C9. Which of the terms below best describes the nature of the employment of agricultural employees in your country?**

*Please tick one option*

Secure	
Relatively Secure	
Neither secure nor insecure	
Relatively insecure	
Very insecure	

**C10. Do systems which can give farm employees a share in the output/profits of the farm business (e.g. sharecropping) exist in your country?**

Yes	
No	

**Section D: Unions**

**D1. Please indicate if farm owners/operators in the agricultural sector in your country are typically represented by a union?**

Yes	
No	

**D1a. If YES, approximately what percentage of farmers are Union members?**

	%
--	---

*If no official data is available please try to provide an estimate.*

**D2. Please indicate if employees in the agricultural sector in your country are typically represented by a union?**

Yes	
No	

**D2a. If YES approximately what percentage of farm employees are Union members? *If no official data is available please try to provide an estimate.***

	%
--	---

**D3. Does specific legislation exist to cover agricultural employees' employment rights in your country?**

Yes	
No	

**Section E: Taxation & Social Benefits**

**E.1 Thinking about the economy in general in your country, can you indicate the duration of unemployment payments?**

*Please tick one option*

1 year or less	
Between 1 to 2 years	
Between 2 and 3 years	
>3 years	

**E2. Are farm operators in your country eligible for these types of unemployment payments if they leave the agriculture sector and become unemployed?**

Yes	
No	

**E2a. Are farm operators in your country eligible for income support payments (other than CAP payments) while working in the agricultural sector?**

Yes	
No	

**E3. Are farm employees in your country eligible for unemployment payments if they leave the agricultural sector and become unemployed?**

Yes	
No	

**E4. Please indicate what proportion of tax revenue in your country comes from the following sources**

*Please enter a number in each cell*

Taxes on employment income		%
Taxes on consumption		%
Other taxes		%
<b>Total</b>	<b>100</b>	<b>%</b>

**E5. Are there special pension provisions for farm operators which are different to the provisions for self-employed persons working in the rest of the economy?**

Yes	
No	

**E5a. If YES, please briefly describe these provisions**

Answer:

**E6. Do national subsidies exist to help fund the farm operators' pensions in your country?**

Yes	
No	

**E6a. If YES, please briefly describe the subsidy**

Answer:

**E7. Does legislation exist in your country for the mandatory provision of pensions for farm employees?**

Yes	
No	

**E7a: If YES, is farm employee pension provision the same for those engaged in agricultural activities as for those engaged in diversified on-farm activities (eg. farm tourism) ?**

Yes	
No	

**E8. Does legislation exist in your country for the mandatory provision of pensions for members of the farm operator's household who work on farm without a formal employment contract?**

Yes	
No	

**Section F: Education and Training**

**F1. Is there is a system of specific agricultural qualifications for farmers or farm employees in your country?**

Yes	
No	

**F1a. If you answered YES, is this qualification system now compulsory for farmers or farm employees in your country?**

Yes	
No	

**F1b. If you answered YES then please state when this qualification became compulsory**

Answer: \_\_\_\_\_

**F2. What is typically the highest level of educational attainment for farm operators in your country?**

*Please tick one option*

<10 school years	
10 to 14 school years	
>14 school years	

**F3. What is typically the highest level of educational attainment for farm employees in your country?**

*Please tick one option*

<10 school years	
10 to 14 school years	
>14 school years	

**F4. Is there a system of incentives to encourage farmers to obtain specific agricultural qualifications in your country?**

Yes	
No	

**F4a: If you answered YES, can you please provide a basic description of the system?**

Answer:   
---------------------

**F5. Thinking about the skills/education level of employees in agriculture and employees in low to medium skilled employment (factory work, transport, lower skilled construction work), how would you describe the skill and education level of agricultural employees?**

*Please tick one option*

Lower level of skills/education than non agricultural employees	<input type="checkbox"/>
About the same level of skills/education as non agricultural employees	<input type="checkbox"/>
Higher level of skills/education than non agricultural employees	<input type="checkbox"/>

**Section G: Labour Mobility**

**G1. Do active labour market type measures exist to provide farm operators with skills they can use in non-agricultural employment?**

Yes	
No	

**G1a: If you answered YES, can you please provide a basic description of these measures?**

Answer:
---------

**G2. Do active labour market measures exist to provide employees with the skills to work in agriculture?**

Yes	
No	

**G3. Please indicate the level of car ownership in your country (e.g. cars per 1,000 head of population)**

**Cars per 1,000 head of population**

	cars
--	------

**G4. Please indicate the level of home ownership in your country**

**Percentage of homes owned by the occupant**

	%
--	---

**G5. What is the extent of employment of employees from other EU Member States in the agricultural sector in your country?**

*Please tick one option*

Very Uncommon	
Relatively Uncommon	
Similar to other low skilled sectors of the economy	
Widespread	
Very Widespread	



**G6. What is the extent of employment of employees from outside the EU in the agricultural sector in your country?**

*Please tick one option*

Very Uncommon	
Relatively Uncommon	
Similar to other low skilled sectors of the economy	
Widespread	
Very Widespread	

**G7. In your opinion is the share of foreign employees employed in the agricultural sector in your country increasing, unchanged or decreasing over the last decade?**

*Please tick one option*

Increasing	
Unchanged	
Decreasing	

**G7a: If possible please indicate potential reasons for the changes observed**

Answer:          
---

**Section H: General Features of Agriculture in your country**

**H1. How would you describe the dominant farm structure in your country?**

*Please tick one option*

Small family operated farms <i>owned</i> by operator	
Large family operated farms <i>owned</i> by operator	
Small family operated farms <i>rented</i> by operator	
Large family operated farms <i>rented</i> by operator	
Small farm previously part of large collectivist farm	
Large farm, formerly part of a large collectivist farm	
Other Please Specify: _____	

**H2. Which of the options below best describes how farms are typically inherited by heirs in your country?**

*Please tick one option*

Inheritor purchases farm from owner using a mortgage	
Inheritor receives farm from owner with no requirement to pay a selling price	
Other - Please Specify: _____	

**H3. Is part-time farming (where the farm operator also has an off-farm job outside of the agricultural sector) a feature of agriculture in your country?**

Yes	
No	

**H3a. If yes please indicate what percentage of farm are part-time**  
*If no official data is available please try to provide an estimate.*

	%
--	---

## Appendix B. Labour Market Survey Questionnaire

Table 1A. Labour Legislation: Hiring in General Economy

<b>Hire</b>	<b>BE</b>	<b>FI</b>	<b>FR</b>	<b>DE</b>	<b>GB</b>	<b>GR</b>	<b>HR</b>	<b>IR</b>	<b>IT</b>	<b>MK</b>	<b>NE</b>	<b>PL</b>	<b>SI</b>	<b>SK</b>	<b>SE</b>
<b>General Economy</b>			NR												
Easy	X										X				X
Relatively Easy					X	X		X	X	X				X	
Neither Easy nor Difficult															
Relatively Difficult		X		X			X					X	X		
Very Difficult															

NR = No Response

Table 1B. Labour Legislation: Hiring in Agricultural Sector

<b>Fire</b>	<b>BE</b>	<b>FI</b>	<b>FR</b>	<b>DE</b>	<b>GB</b>	<b>GR</b>	<b>HR</b>	<b>IR</b>	<b>IT</b>	<b>MK</b>	<b>NE</b>	<b>PL</b>	<b>SI</b>	<b>SK</b>	<b>SE</b>
<b>General Economy</b>			NR												
Easy															
Relatively Easy						x		X		X				X	
Neither Easy nor Difficult	X				x										
Relatively Difficult		X		X			X				X	X	X		X
Very Difficult									X						

NR = No Response

Table 2A. Labour Legislation: Firing in Agricultural Sector

<b>Hire</b>	<b>BE</b>	<b>FI</b>	<b>FR</b>	<b>DE</b>	<b>GB</b>	<b>GR</b>	<b>HR</b>	<b>IR</b>	<b>IT</b>	<b>MK</b>	<b>NE</b>	<b>PL</b>	<b>SI</b>	<b>SK</b>	<b>SE</b>
<b>Agriculture</b>			N R												
Easy	X									X	X				X
Relatively Easy					X			X	X					X	
Neither Easy nor Difficult						X	X								
Relatively Difficult		X		X								X	X		
Very Difficult															

NR = No Response

Table 2B. Labour Legislation: Firing in Agricultural Sector

<b>Fire</b>	<b>BE</b>	<b>FI</b>	<b>FR</b>	<b>DE</b>	<b>GB</b>	<b>GR</b>	<b>HR</b>	<b>IR</b>	<b>IT</b>	<b>MK</b>	<b>NE</b>	<b>PL</b>	<b>SI</b>	<b>SK</b>	<b>SE</b>
<b>Agriculture</b>			N R												
Easy										X					
Relatively Easy	X							X						X	
Neither Easy nor Difficult						X	X				X				
Relatively Difficult		X		X	X				X			X	X		X
Very Difficult															

NR = No Response

Table 3. Labour Legislation: Does legislation exist governing the maximum number of hours that can be worked by employees in your country?

<b>Hire</b>	<b>BE</b>	<b>FI</b>	<b>FR</b>	<b>DE</b>	<b>GB</b>	<b>GR</b>	<b>HR</b>	<b>IR</b>	<b>IT</b>	<b>MK</b>	<b>NE</b>	<b>PL</b>	<b>SI</b>	<b>SK</b>	<b>SE</b>
<b>General Economy</b>															
YES	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
NO															

Table 4. Labour Legislation: Please state the maximum number of hours that can be worked by employees in your country?

<b>Hire</b>	<b>BE</b>	<b>FI</b>	<b>FR</b>	<b>DE</b>	<b>GB</b>	<b>GR</b>	<b>HR</b>	<b>IR</b>	<b>IT</b>	<b>MK</b>	<b>NE</b>	<b>PL</b>	<b>SI</b>	<b>SK</b>	<b>SE</b>
<b>General Economy</b>															
<b>No of hours per wk</b>	38	40	44	40	48	40	42	48	40	40	48	40	40	40	40

Table 5. Labour Legislation: Does the legislation governing the maximum number of hours worked apply to employees in the agricultural sector?

<b>Hire</b>	<b>BE</b>	<b>FI</b>	<b>FR</b>	<b>DE</b>	<b>GB</b>	<b>GR</b>	<b>HR</b>	<b>IR</b>	<b>IT</b>	<b>MK</b>	<b>NE</b>	<b>PL</b>	<b>SI</b>	<b>SK</b>	<b>SE</b>
YES	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
NO															

Table 6. Labour Legislation: Please state the maximum number of hours that can be worked in agriculture in your country?

<b>Hire</b>	<b>BE</b>	<b>FI</b>	<b>FR</b>	<b>DE</b>	<b>GB</b>	<b>GR</b>	<b>HR</b>	<b>IR</b>	<b>IT</b>	<b>MK</b>	<b>NE</b>	<b>PL</b>	<b>SI</b>	<b>SK</b>	<b>SE</b>
<b>No of hours per wk</b>	38	40	44	40	48	40	42	48	40	40	48	40	40	40	40

*Table 7. WAGE SETTING: Please indicate whether there is a general economy wide minimum wage for employees in your country?*

Min Wage Level	BE	FI	FR	DE	GB	GR	HR	IR	IT	MK	NE	PL	SI	SK	SE
Yes	X		X		X	X	X	X		X	X	X	X	X	
No		X		X					X						X

*Table 8. WAGE SETTING: If YES, please indicate the level of the wage in your national currency*

Min Wage Level	BE	FI	FR	DE	GB	GR	HR	IR	IT	MK	NE	PL	SI	SK	SE
Euros per Hour	9.43	NR	9.00	NR	6.82	4.48	2.41	8.65	NR	0.76	9.38	2.08	4.61	2.04	NR
Euros per Hour Adjusted for GDP Per Person	7.93	NR	8.33	NR	6.26	5.67	3.95	6.71	NR	2.18	7.16	3.25	5.48	2.79	NR

*Table 9. WAGE SETTING: Please indicate whether there is a general economy wide minimum wage for employees in your country?*

Min Wage Level	BE	FI	FR	DE	GB	GR	HR	IR	IT	MK	NE	PL	SI	SK	SE
Yes	X	X	X		X	X	X	X		X	X	X	X	X	
No				X					X						X

*Table 10. WAGE SETTING: If YES, please indicate the level of the wage in your national currency*

Min Wage Level	BE	FI	FR	DE	GB	GR	HR	IR	IT	MK	NE	PL	SI	SK	SE
Euros per Hour	8.34	7.72	9.00	NR	6.82	4.48	2.41	9.33	NR	0.76	9.38	2.08	4.61	2.04	NR
Euros per Hour Adjusted for GDP Per Person	7.01	6.77	8.33	NR	6.26	5.67	3.95	7.23	NR	2.18	7.16	3.25	5.48	2.79	NR

*Table 11. Form of Wage determination in Agriculture*

How Ag Wages	BE	FI	FR	DE	GB	GR	HR	IR	IT	MK	NE	PL	SI	SK	SE
<b>Determined</b>															
UC				X	X					X				X	
CEN											X		X		
MIX	X	X	X			X	X	X	X			X			X

*Table 12. Tax Rate as a % of Gross Wage Earnings (Tax Wedge)*

Tax Wedge	BE	FI	FR	DE	GB	GR	HR	IR	IT	MK	NE	PL	SI	SK	SE
2011	49.7	37.2	46.5	45.6	28.5	35.6	40.33	21.3	44.5	41.2	33.1	33.4	38.5	36.1	40.7

Source: Eurostat Single Person without Children earning 67% of the Average Wage.

**Table 13. Duration of Benefits**

Duration	BE	FI	FR	DE	GB	GR	HR	IR	IT	MK	NE	PL	SI	SK	SE
1 year or less		X		X	X	X	X		X	X	X	X	X	X	X
Between 1 to 2 years			X												
Between 2 and 3 years															
>3 years	X							X							

**Table 14. EDUCATION AND TRAINING: Is there is a system of specific agricultural qualifications for farmers or farm employees in your country?**

	BE	FI	FR	DE	GB	GR	HR	IR	IT	MK	NE	PL	SI	SK	SE
<b>YES</b>			X	X	X		X	X	X	X	X	X	X	X	X
<b>No</b>	X	X				X									

**Table 15. EDUCATION AND TRAINING: What is typically the highest level of educational attainment for farm operators in your country?**

	BE	FI	FR	DE	GB	GR	HR	IR	IT	MK	NE	PL	SI	SK	SE
<10 school yrs															
10 to 14 school years	X		X	X		X		X	X		X	X	X		X
>14 school years		X			X		X			X				X	

**Table 16. EDUCATION AND TRAINING: What is typically the highest level of educational attainment for farm employees in your country?**

	BE	FI	FR	DE	GB	GR	HR	IR	IT	MK	NE	PL	SI	SK	SE
<10 school yrs												X			
10 to 14 school years	X	X	X	X		X	X	X	X	X	X		X	X	X
>14 school years					X										

**Table 17. EDUCATION AND TRAINING: Thinking about the skills/education level of employees in agriculture and employees in low to medium skilled employment (factory work, transport, lower skilled construction work), how would you describe the skill and education level of agricultural employees**

	BE	FI	FR	DE	GB	GR	HR	IR	IT	MK	NE	PL	SI	SK	SE
Lower			NR				X			X				X	
Same	X	X		X		X		X	X		X	X	X		X
Higher					X										

**Table 18. LABOUR MOBILITY: Do active labour market type measures exist to provide farm operators with skills they can use in non-agricultural employment?**

Farm Operator	BE	FI	FR	DE	GB	GR	HR	IR	IT	MK	NE	PL	SI	SK	SE
<b>Active Labour Measures</b>															
YES						X			X	X		X	X		X
NO	X	X	X	X	X		X	X			X			X	









## Comparative Analysis of Factor Markets for Agriculture across the Member States

245123-FP7-KBBE-2009-3

### The Factor Markets project in a nutshell

<b>Title</b>	Comparative Analysis of Factor Markets for Agriculture across the Member States
<b>Funding scheme</b>	Collaborative Project (CP) / Small or medium scale focused research project
<b>Coordinator</b>	CEPS, Prof. Johan F.M. Swinnen
<b>Duration</b>	01/09/2010 – 31/08/2013 (36 months)
<b>Short description</b>	<p>Well functioning factor markets are a crucial condition for the competitiveness and growth of agriculture and for rural development. At the same time, the functioning of the factor markets themselves are influenced by changes in agriculture and the rural economy, and in EU policies. Member state regulations and institutions affecting land, labour, and capital markets may cause important heterogeneity in the factor markets, which may have important effects on the functioning of the factor markets and on the interactions between factor markets and EU policies.</p> <p>The general objective of the FACTOR MARKETS project is to analyse the functioning of factor markets for agriculture in the EU-27, including the Candidate Countries. The FACTOR MARKETS project will compare the different markets, their institutional framework and their impact on agricultural development and structural change, as well as their impact on rural economies, for the Member States, Candidate Countries and the EU as a whole. The FACTOR MARKETS project will focus on capital, labour and land markets. The results of this study will contribute to a better understanding of the fundamental economic factors affecting EU agriculture, thus allowing better targeting of policies to improve the competitiveness of the sector.</p>
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<b>Partners</b>	17 (13 countries)
<b>EU funding</b>	1,979,023 €
<b>EC Scientific officer</b>	Dr. Hans-Jörg Lutzeyer

