

**TRACKING LABOUR MARKET REFORMS IN THE EU USING THE LABREF DATABASE**

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**ABSTRACT**

This paper briefly examines the rationale for creating a database on labour market reforms and looks at the value-added of LABREF (Labour Market Reforms Database) compared to existing datasets. After a description of the database and the information contained therein, the paper provides an overview of reforms enacted by EU Member States in 2000-2006. Exploiting the qualitative character of the information provided by LABREF, the paper builds simple indicators of reform intensity and attempts a characterisation of the reform strategies implemented by the Member States in 2004. The database provides a chronology of policy measures enacted. This is used to quantify the lags with which these measures influence the participation rate of specific target groups. A tentative evaluation of their impact on the older workers' activity rate is also provided.

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## 1. INTRODUCTION

In order to develop an effective framework for the surveillance of the labour markets and for the analysis of the impact of reforms on labour market performance, the European Commission's Directorate General for Economic and Financial Affairs (DG ECFIN) has been working intensively together with the Labour Market Working Group (LMWG) attached to the Economic Policy Committee. Their joint effort aims at supporting the work carried out in the framework of the EU economic policy coordination processes and at improving the understanding of labour markets and labour market institutions in the Member States. The motivation comes from the recognition that "*labour markets will not function well without proper institutions*"<sup>2</sup>, that is, without an appropriate mix of established arrangements instituted and enforced by governments and relevant collective actors<sup>3</sup>. While considerable efforts have been made in the direction of creating comparable datasets on labour market institutions, available qualitative indicators on time-varying labour market institutions provide far-from-exhaustive information. Existing databases mainly focus on the aggregate characteristics of the institutional variables and often lack timeliness or comprehensiveness. The need for improved institutional databases has been underlined by many authors who argue that the lack of well developed data has not allowed a full analysis of the multiple and complex linkages between labour institutions and labour market performance<sup>4</sup>.

In the light of these considerations, DG ECFIN and the LMWG have established a database of those reform measures which are intended to modify relevant labour market institutions in the EU-25. The LABREF database<sup>5</sup> was launched in December 2005. It systematically records, on an annual basis, information on reforms that are likely to have an impact on labour market performance<sup>6</sup>. The LABREF database is conceived as an instrument to provide information on both the design and scope of reforms. As such, it focuses on selected characteristics of reform measures and provides information on their expected implementation phase. Moreover, the database enables tracking reforms by country, by policy area and by one or more key characteristics of the reform design, thus allowing for cross-country analysis on the number and type of reforms enacted in a particular year, as well as for covering a longer time horizon.

The paper is organised as follows. Section 2 examines the rationale for creating a database on labour market reforms exposing some key theoretical issues and presents a comparative description of already existing databases. Section 3 describes the coverage and structure of the database and the information contained therein. In this paper we provide three complementary examples of the potential use of the

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<sup>2</sup> Blanchard (2002, p.1).

<sup>3</sup> For a definition of labour market « institutions » and « policies » see Betcherman (2000).

<sup>4</sup> See Dreger, C., R. Ramos and J. Surinach (2005), IMF (2003) and Gomez-Salvador R, J. Messina and G. Vallanti (2004).

<sup>5</sup> The database can be freely accessed at: [http://europa.eu.int/comm/economy\\_finance/indicators/labref\\_en.htm](http://europa.eu.int/comm/economy_finance/indicators/labref_en.htm)

<sup>6</sup> Obviously, the link between labour market reforms and performance is not direct, as, for instance, legislative acts are the first step and are usually followed by implementation decrees. Hence, the database covers only the first layer of the relationship between policies and performance.

LABREF database: a description of the characteristics of the reform process; the identification of the reform measures enacted in 2000-2006 by EU Member States and of their main characteristics (Sections 4 and 5) and of the impact of reforms on the activity rates of one specific group, the older workers (Section 6). Section 7 discusses the synergies with the Eurostat LMP database.

## **2. THE VALUE-ADDED OF THE LABREF DATABASE**

### **2.1. The theoretical context: the crucial but complex role of labour market institutions in labour market performances**

Since the second half of the 1990s, there has been a growing interest among economists in the relationship between labour market institutions and labour market performance<sup>7</sup>. This starts from the recognition that the assumptions behind the theoretical model of a competitive economy (complete markets, perfect information, atomistic and homogeneous agents and perfect competition) are often violated where labour markets are concerned<sup>8</sup>. The recognition of the multidimensionality of labour market institutions and the existence of complementarities among them leads to the following considerations:

- since labour market institutions do not work in isolation, a comprehensive approach is needed in the appraisal of reforms modifying such institutions, which takes account of both the interaction between labour market institutions and country specific circumstances;
- reforms themselves need to be comprehensive in order to be effective and to generate better outcomes. Reforms which tackle more than one policy field are more likely to create an institutional setting conducive to high employment growth and low unemployment, because coordinated changes in related policy areas can cause mutually reinforcing effects on labour market dynamics, while, on the other hand, absence of complementary reforms in adjacent policy areas can be at the origin of disappointing effects;<sup>9</sup>
- the quality of the reform design of labour market institutions matters for the performance of the labour market and of the economy in general.<sup>10</sup> Reforms can be improved by appropriate strategies that exploit positive complementarities between institutions<sup>11</sup>;
- while useful insights can be drawn by making cross-country comparisons over a short time horizon, looking at reform process over time enables more comprehensive analyses and assessments of reform strategies - at whether reforms in one year are offset by reforms later on, at whether reforms in one

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<sup>7</sup> See among others: Nickell (1997), Blanchard and Wolfers (2000); Kahn (2000), Bertola, Blau and Kahn (2001), Blanchard and Portugal (2001), Besley and Burgess (2004), Neumark and Wascher (2004), Bertola (2004) and Blanchard (2004).

<sup>8</sup> See Blanchard (2005).

<sup>9</sup> Eichhorst, W. and R. Kolne-Seidl (2005). However, a gradual approach can overcome the resistance to comprehensive reforms which entail some uncertainty on the transition costs either real or perceived by those agents involved (Dewatripont and Roland (1995)).

<sup>10</sup> A review of literature can be found in European Commission (2004), Chapter 3, and in Arpaia and Mourre (2005).

<sup>11</sup> Positive interactions can for instance be developed by: a) exploiting the role of incentives to work and participate in the labour market; b) targeting policies measures to those at risks of inactivity or of social exclusion; and c) improving the functioning of policy implementing institutions.

country spur similar reform process in other European countries. A longer time horizon can also be used in order to carry out analysis on the actual impact of reforms on labour market outcomes<sup>12</sup>.

## **2.2. Improving existing tools and developing complementarities with other databases and information sources**

Existing datasets can be divided into two broad categories. A first type collects information on enacted reforms, often with the aim of developing indices measuring the reform effort/intensity in different policy areas on the basis of predefined criteria (*Descriptive databases*). Based on the collected information, a second type of dataset develops indices measuring the overall “stringency” of certain institutions (*Indicator based databases*). This type of indicators is more related to the “stock” of existing interventions rather than to the “flows” of new measures.<sup>13</sup>

### *Descriptive databases*

A simple collection of reform measures is provided by the database recently developed by the International Labour Organisation (ILO), which covers the fields of minimum wages, maternity protection and working time<sup>14</sup>. The database includes information on legal definitions and legislative sources of measures adopted in these three policy areas in more than 100 countries around the world. Similarly, the NATLEX database<sup>15</sup>, also developed by the ILO, provides a comprehensive record of abstracts of legislation and relevant information of national labour, social security and related human rights laws for over 170 countries and territories in the world. An inventory of labour market reforms has been developed by the OECD within the framework of the evaluation of the OECD Jobs Strategy. The database contains information on reforms in seven main policy areas<sup>16</sup> grouped in two sub-periods (1995-1999 and 2000-2004)<sup>17</sup>. The information is summarised in country notes, but it does not provide a detailed description of the characteristics of each reform measure. The “Social Reforms Database” developed by the Italian Fondazione Rodolfo De Benedetti<sup>18</sup> provides information on reform measures adopted in some European countries. It complements the OECD indicators as it provides more insights on qualitative

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<sup>12</sup> As an example, this type of information could be useful when carrying out cross-sectional analysis on specific configurations of labour market institutions (e.g. examining whether the rise in employment rates of older workers is linked to tighter access to early retirement schemes).

<sup>13</sup> With the aim of studying the institutional determinants of the labour market performance, time-varying institutional indicator gathering information from different sources for the twenty OECD countries from 1960 to 1995 have been developed by Nickell and Nunziata (2001). The institutional variables used in this database include an index of employment protection (with a range between 0 and 2, increasing with the strictness of employment protection); the benefit replacement rates (average first-year unemployment benefits as a percentage of average earnings before tax); a wage bargaining coordination index (ranging from 1 and 3 with 3 being the most coordinated); and the tax wedge (the sum of the employment tax rate, the direct tax rate and the indirect tax rate).

<sup>14</sup> The database can be accessed freely on the web at the addresses [www.ilo.org/travaildatabase/servlet/minimumwages](http://www.ilo.org/travaildatabase/servlet/minimumwages) ; [www.ilo.org/travaildatabase/servlet/maternityprotection](http://www.ilo.org/travaildatabase/servlet/maternityprotection) and [www.ilo.org/travaildatabase/servlet/workingtime](http://www.ilo.org/travaildatabase/servlet/workingtime). Searches can be performed by country, region, subject and text.

<sup>15</sup> [http://www.ilo.org/dyn/natlex/natlex\\_browse.home?p\\_lang=en](http://www.ilo.org/dyn/natlex/natlex_browse.home?p_lang=en)

<sup>16</sup> These are labour taxes; employment protection legislation for both regular and temporary contracts; unemployment benefits; active labour market policies; early retirement, invalidity schemes and old-age pensions; industrial relations and wage settings; working time flexibility and part-time work.

<sup>17</sup> See OECD (2005) for the most recent version of this database.

<sup>18</sup> <http://www.frdp.org>

features of institutions. The database collects information about reforms adopted in the EU15 in four broad policy areas - employment protection legislation; pension systems; unemployment/ non-employment benefits, migration policies - over the period 1987-2005. The “Social Reforms Database” contains a description of each reform and provides a broad categorization of reforms into two groups, concerning the scope of the enacted reforms - structural vs. marginal - and their expected effects, going in the direction of either increasing or decreasing labour market flexibility or the generosity of pension systems and unemployment benefits. This categorization places the dataset half way between a pure descriptive dataset and an indicator-based one.<sup>19</sup>

### ***Indicator-based databases***

This group of institutional datasets does not provide information on the reform measures affecting the design of labour market institutions, but concentrates on the characteristics of labour market institutions themselves, measured by means of quantitative indicators (scoring index for qualitative variables and “aggregate” measure for quantitative variables). Two types of indicators have been devised. The first one tries to measure the reform effort through the *change* in institutions likely to be related to governmental measures (*indicators measuring reform intensity*). The second type focuses on *measuring the level of stringency of existing labour markets institutions*. These indicators measure an “outcome”, which can be due to the past and current effect of governmental measures. The link with labour market reforms can be indirect and blurred by implementation delays and lagged effects.

- ***Indicators measuring the reform intensity***: they measure the reform effort through the *change* in institutions suppose to be related to governmental measures. A set of quantitative indicators on the reform efforts has been recently computed by the **OECD** for the evaluation of the OECD Jobs Strategy. A large effort has been put into coding qualitative information so as to construct quantitative indicators of reform progress in each area and also in aggregate for all seven areas together. This provides an overview of cross-country differences in reform efforts between 1994 and 2004. As such, the OECD database contains a great deal of useful information on the characteristics of labour market institutions at specific points in time. However, this inventory does not provide information on key design characteristics of reforms (e.g. targeting of reform, presence of measures to ensure enforceability, if the reform has been implemented after consultation with the social partners) nor on their implementation.

- ***Indicators measuring the level of stringency of existing labour markets institutions***: these types of indicators were mainly developed by the **OECD** and capture important dimensions of the labour market regulation, such as the protection of regular and temporary work<sup>20</sup>. While providing a reasonable proxy for the extent of government intervention in the labour market, these indicators raise a number of measurement issues: for instance, they fail to capture the degree of enforcement of specific regulations<sup>21</sup>.

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<sup>19</sup> Among the other databases providing general information on reform measures, it is worth mentioning the International Reform Monitor project of the Bertelsmann Foundation, reporting on social policy, labour market and industrial relations reforms adopted in fifteen OECD countries: <http://www.reformmonitor.org>

<sup>20</sup> For a description of the OECD indicator of employment protection legislation and its limits see OECD (2004).

<sup>21</sup> See Bertola, Boeri and Cazes (1999) and IMF (2003).

**Botero et al.** (2004) develop measures of labour market regulations in 85 countries and correlate them with a number of other potential determinants of labour regulations and some labour market outcomes, to demonstrate the validity of the principal theories of the determinants of labour regulation.<sup>22</sup> These measures are presented as indices of employment laws (five variables)<sup>23</sup>, collective relation laws (three variables) and social security laws (four variables) where higher values indicate greater extent of labour regulation. The approach adopted in the **Global Labour Survey (GLS) database**<sup>24</sup>, focussing on implementation rather than on the regulation itself, contrasts with the work by Botero et al. (2004), which embraces a *de jure* approach to labour provisions. The GLS database, which is the result of an internet-based survey conducted in 2004 under the auspices of the Labour and Work-life Programme (LWP) at the Harvard Labour School, seeks to measure *de facto* labour practices around the world covering aspects of labour institutions such as employment regulations, employee benefits (including pension schemes, sickness benefits and unemployment insurance), labour market (including wage-setting, enforcement of minimum wage policies, gender discrimination) and the prevalence of collective bargaining. The survey has resulted in the construction of indices of labour practices in ten broad areas for 33 countries.<sup>25</sup>

### 3. COVERAGE AND STRUCTURE OF THE LABREF DATABASE

#### 3.1. General design of the database

##### 3.1.1. Coverage

LABREF is a descriptive database explicitly designed to complement the existing datasets and aims at closing specific information gaps. Without providing an in-depth evaluation of labour market institutions and reforms of each Member State, the database aims at systemically collecting information on measures affecting labour market institutions. LABREF records the main *ex ante* features of the policy measures enacted that help to identify the scope of the reform and its cost-effectiveness<sup>26</sup>. The scope of the reform is defined with respect to the formal broadness of the measure (i.e. if it's part of a long-term policy package), its deepness (i.e. the measure is valid for both incumbents and new entrants) and its political support (proxied by the level of involvement of social partners in the reform process). The cost-

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<sup>22</sup> *Legal theories* “hold that the patterns of regulation are shaped by each country’s legal tradition”, as opposed to the *efficiency theory* according to which “institutions adjust to serve the needs of a society most efficiently” and the *political power theory* which holds that labour market institutions “are shaped by those in power to benefit themselves at the expense of those out of power”. Source: Botero et al. (2004).

<sup>23</sup> The sub-indices of employment laws used by Botero et al. are: alternative employment contracts, cost of increasing hours worked, cost of firing workers, dismissal procedures and an employment law index measuring protection of labour and employment as an average of previous variables.

<sup>24</sup> Chor D., R. Freeman (2005).

<sup>25</sup> More limited efforts to report a scoring of labour market practices over the world are regularly conducted as part of two surveys on economic freedom and competitiveness, respectively conducted by the Fraser Institute and the World Economic Forum (World Bank “Doing Business” database). Under the section on labour regulation, the Fraser Institute’s “Economic Freedom around the World” index (2005) provides an index consisting of five indicators calculated over the period 1980-2003: impact of minimum wage, flexibility in hiring and firing, level of collective bargaining, unemployment insurance; use of military conscripts.

<sup>26</sup> *Ex ante* features are those expected from the enacted legislation or regulation, as opposed to those actually seen when the reform is implemented.

effectiveness is identified by the presence of targeting of groups such as those at risks of unemployment or inactivity and/or by some indication of potential costs in the public budget. Inspired by the literature<sup>27</sup>, the LABREF database covers nine main broad policy fields, corresponding to as many labour market institutions and subdivided into more than 30 areas of policy intervention (see box below). The fields covered by the database reflect the standard classification of labour market and welfare institutions<sup>28</sup>, with the addition of labour mobility and migration policies. They include: 1) labour taxation, 2) unemployment and welfare-related benefits, 3) active labour market programmes (ALMPs), 4) employment protection legislation (EPL) for both permanent and temporary contracts, 5) early retirement and disability schemes, 6) pension systems, 7) wage bargaining framework, 8) working time organisation, 9) migration policies and labour mobility. For each of the above policy areas the database collects information on a number of specific characteristics, which are likely to shed some light on their design, scope, on the effectiveness of their implementation and on their durability (e.g. presence of a broad policy package, existence of policy complementarities or of potentially conflicting policy measures over time, etc.). A set of thirteen key characteristics has been identified to this effect. Box 1 provides an overview of the structure and covered reform areas of the LABREF database.

**Box 1: Overview of the LABREF database**

The database covers 9 main types of reforms' areas corresponding to 35 areas of intervention grouped as follows:

- Labour taxation
  - Employers' social security contributions
  - Employees' social security contributions
  - Income tax
  
- Unemployment and welfare related benefits
  - Unemployment benefits
    - Net replacement rate
    - Duration of unemployment benefits
    - Coverage (number of people or sectors of the economy covered)
    - Entitlement (eligibility rules, job availability requirements)
  - Other benefits
    - In-work benefits (employment conditional benefit or tax credit)
    - Means-tested benefits (housing, social assistance)
  
- Active labour market programmes
  - Public Employment Services (job assistance, job-counselling etc)
  - Training
  - Direct job creation and employment subsidies
  - Other schemes
  
- Job protection
  - Permanent contracts
    - Procedural requirements
    - Notice and severance payments
    - Restrictions dismissal
  - Temporary contracts
    - Maximum number of renewals

<sup>27</sup> See for instance De Koning et al., (2001); van Ours (2003); Layard and Nickell (1999).

<sup>28</sup> Nickell, S. and Layard, R. (1999) "Labour Market Institutions and Labour Market Performance".



- Maximum duration
- Pension Systems
  - Early retirement
  - Disability schemes
  - Pensions
    - Level
    - Eligibility
    - Coverage
    - Tax treatment
    - Contributions
    - Other
- Wage Bargaining
  - Statutory minima
  - Contractual Flexible arrangements (e.g. performance related pay)
  - Government intervention in wage bargaining (e.g. social pacts or extension clauses)
- Working time
  - Participation friendly schemes
  - Working time organisation over the life time (e.g. working time accounts; part-time work arrangements for older workers; sabbatical leaves etc).
- Immigration and mobility
  - Immigration
    - Border controls
    - Selective Immigration policies
    - Measure to facilitate labour market integration of immigrants
  - Mobility (Housing, social security portability; degree recognition etc)

The **main features** of reforms recorded in LABREF are:

1. *General description of the measure:* A reform measure should be described in sufficient detail. Reforms are not limited to legislative changes only, and may also entail changes in the implementation framework. In this case, it is specified that the measure implements a previous decision.
2. *Reference (Budget law, decree, law or other).* This corresponds to the text establishing the measure.
3. *Information source concretely used to fill the database* can be, for instance, OECD, EIRO website, NAPs or other national sources.
4. *Year of adoption:* the date when a reform measure is legally enacted. The database does not provide for the recording of information on planned reforms.
5. *Timing of implementation* (i.e. entry in force, phasing-in schedule). This corresponds to the scheduled or expected timing of the implementation and not to the date of the enactment of the measure (which refers to question n°4). While changes in labour codes tend to be unique events (although spread over time), changes in contributions, taxes and benefits occur more frequently. Both measures can be taken gradually or in one stage.

#### **Detailed features of the reform design**

6. *Direct budgetary costs for general government:* As a first option here appears only information from national authorities.
7. *Socio-economic groups targeted,* i.e. young, older worker, low wage earners, low skilled, female, long term unemployed.
8. *Is the measure applied to new entrants only or also to current incumbents?* A key issue is also to know if the measure is “marginal” concerning only the inflows (the new comers or current incumbents only) or “substantial”, affecting both the “stock” and the new-comers, i.e. all persons affected by institutions/policy measures.

This has an impact of the effect of the measure and it may reflect its political feasibility.

9. *Are enforcement and monitoring procedures put in place? Is an ex-post evaluation foreseen? If so, is the assessment carried out by the government or by some independent organisation?* This information might be difficult to find in many instances.
10. *In order to be implemented does the reform require policy interventions in related areas?* The existence of conflicting measures in related area or insufficient resources allocated because of budget constraints might hamper or delay a satisfactory implementation of the measure. Therefore, these problems should be tackled to allow for an actual implementation of reforms which require a joint policy intervention.
11. *Is the measure embedded in a formal long-term policy programme, and is the reform part of a reform package.* These questions are important as a characterisation of whether labour market reforms are comprehensive and designed to exploit the possible complementarities with other measures.
12. *Is there an involvement of the social partners? If so, do they have an active role or a passive (consultative) role? Do they agree on the measure?* A reform may be carried out through governmental action solely, governmental action with social partners' consultations, tripartite agreement or social partners' agreement. An active involvement of social partners often makes the measure more acceptable and therefore less subject to a risk of being reversed.
13. *Main impact: on  $L^d$ ,  $L^s$ ,  $w$  or matching of unemployed with vacancies?* This question relates to the channel through which the reform operates. It refers to the **direct** effects and should ideally focus on the short-term impact.

### 3.1.2. How data are recorded in LABREF

Sources used to compile LABREF include the already mentioned **ILO** database, the information on Member States' developments published by the **EIRO** (*European Industrial Relations Observatory*) of the Dublin Foundation for the Improvement of Working and Living Conditions, the country reports of the **OECD** and **IMF**, the **National Action Plans for Employment** annually set-up in the framework of the Employment Strategy<sup>29</sup>, national legislation and other information publicly available on the websites of the Ministries for Employment and Social Affairs<sup>30</sup>. The measures reported in the database refer to information on enacted legislation, as well as other public acts of general scope (such as decisions of public authorities or general court decisions) likely to have an impact on labour market performance, including measures entailing changes in the implementation framework of a previously adopted reform. In addition, reported reforms also encompass collective agreements, including cross-industry agreements, tripartite agreements (involving government, trade unions and employers' federations), sector-level collective agreements (whenever the agreement concluded in one sector is likely to set the patterns for negotiations in other sectors) and company agreements, provided that they are likely to affect a large proportion of employees or to engender a change of regime in the medium term (for instance, the innovative company agreements concluded in Germany on pay and working time). The database does not record information on discussions of planned reforms or law bills not yet formalised. A single measure

<sup>29</sup> Since October 2005, the NAP have become National Strategy Reports, encompassing in one single policy document the three strands of the renewed Lisbon Strategy (macro-economic, micro-economic and employment policies).

<sup>30</sup> On the basis of the sources publicly available, the database has been compiled by DG ECFIN and cross-checked by the members of the LMWG.

may cover several areas of policy intervention and consequently be recorded as many times as the areas involved. What matters is not the format of the measure itself, but rather the different policy actions it involves. For example, if a measure establishes a reduction in the social security contributions for the low skilled and the modernisation of the public employment services, then these will be considered as two different reforms in the database and the measure will be recorded twice. Table 1 provides an overview of the coverage by country which has been achieved to date.

**Table 1: Database on labour market reforms - Country coverage**

	Austria	Belgium	Cyprus	Czech Republic	Denmark	Estonia	Finland	France	Germany	Greece	Hungary	Ireland	Italy	Latvia	Lithuania	Luxembourg	Malta	Netherlands	Poland	Portugal	Slovakia	Slovenia	Spain	Sweden	UK
2006	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*
2005	Y	Y*	Y*	Y	Y*	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y*	Y	Y	Y	Y	Y	Y
2004	Y	Y*	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y*	Y	Y	Y	Y	Y	Y
2003	Y	Y*	Y*	Y	Y*	Y	Y	Y	Y	Y	Y	Y*	Y	Y	Y	Y*	Y	Y	Y*	Y	Y	Y	Y	Y	Y
2002	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*
2001	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*
2000	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*	Y*

\* indicates that information has not been checked by national authorities

#### 4. AN ILLUSTRATION OF THE POTENTIAL USE OF THE DATABASE

##### 4.1. Cross-sectional comparisons of the characteristics of the reforms

Exploiting the structure of the *LABREF* database it is possible to analyse the distribution of the measures enacted in 2000-2006 by areas of intervention and specific design characteristics. Each measure  $i$  is considered as a single event and classified accordingly in one of the 35 areas of policy intervention; the sum over  $i$  gives the total number of reforms enacted in one country. Simple accounting of the measures enacted would be misleading as it would neglect important aspects of the reform process. There is no relationship between each formal act, which we call a reform, and its effectiveness. However, the size of the policy measures enacted provides a description of the reform intensity, although, to reiterate, not of its quality. Compared to the concentration of many reforms in different policy areas in one single year, knowing that a series of measures in different areas were spread over various years may also help to characterise the reform strategy implemented as gradual or rapid. Moreover, the availability of a rich dataset of reforms may help to identify spatial interactions among the reform processes of different national jurisdictions. When backdated to the mid 1990s, the information in the database will give a time perspective of the reform process making it possible to study for example its macro-economic determinants. Finally, the structure of the database allows enumerating the reforms with selected desirable characteristics of the reform design. This should provide simple information on the scope of the reform (i.e. whether the measure is part of a long term policy package and it is valid for both incumbents and new entrance) and its formal cost effective design (i.e. whether the measure is targeted to specific groups and the reference documents foresee some budgetary costs for the public accounts). Hence, for each

characteristic  $j$  of the reforms design, we have counted the number of measures  $i$  with the characteristic  $j$ .

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At the end a note of caution is needed. The formal dimension captured by the database represents only the first, although important, layer of the reform policy. Implementing decrees often follows more general laws establishing principles, which implies lags between the policy action and the final outcomes. Hence, cross-countries comparisons provide only a description *de jure* of the reform design and not a way to rank countries according to the effectiveness and efficiency of the reform. The following description is based on a preliminary review of the information available in the LABREF for the years 2000-2006. The information needs still validation by member states and as such is considered only as provisional. With these cautions in mind, the next section will provide a broad description of the measures enacted in 2000-2006.<sup>32</sup>

#### 4.1.1. An overview of reforms enacted in 2000-2006

The following general remarks can be made as regards the characteristics of reforms enacted in 2000-2006:

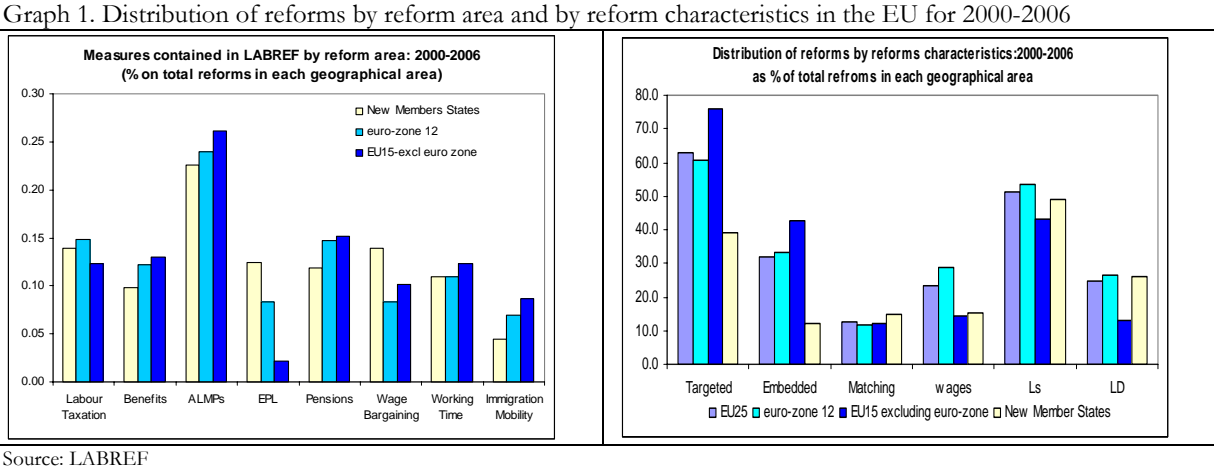
- The majority of policy measures taken in 2000-2006 were in the area of ALMPs, “Taxation”, “Unemployment and welfare related benefits” and “Pensions” (Graph 1). Compared to the new Member States, relatively few initiatives were taken in the EU15 in the area of “Employment Protection Legislation”. Measures adopted in the field of “Working Time Organisation” mainly concerned the introduction of flexible arrangements for reconciling work and family life or the possibility to deviate from collective agreements to introduce more flexible working time arrangements. These measures represent about the same percentage of total reforms enacted respectively in the EU15 and in the EU10. Finally, the new Member States were particularly active in wage bargaining measures, mainly related with the revision of contractual or statutory minimum wages. About 15% of all reforms enacted in the euro area were in the area of pensions.
- The time pattern of the number of reforms enacted in the euro-area countries tends to be negatively correlated with the number of reforms implemented by the new Member States (Graph 2).
- For the EU as a whole, and especially in the United Kingdom, Denmark and Sweden, the policy measures enacted were targeted to specific groups. Conversely, targeting is less frequent in the new Member States. Most of the policy measures were taken in isolation, i.e. they were not embedded in a formal long-term policy package (Graph 1 right panel).
- Labour supply has been the main focus of policy interventions in a large number of countries (Graph 1 right panel). This reflects the prevalence of policy interventions in the area of welfare benefits. Measures to improve the demand of labour were more frequent in euro-area countries and the new Member States. Less than 1/3 of all measures are expected to influence the wage formation mechanism, especially in the euro-area.

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<sup>31</sup> Since a single measure can have more than one characteristic, the sum (over  $j$ ) of the number of all measures with a specific characteristics  $j$  is larger than the total number of measures.

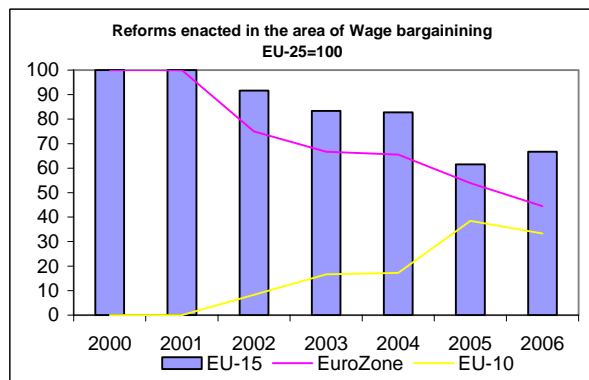
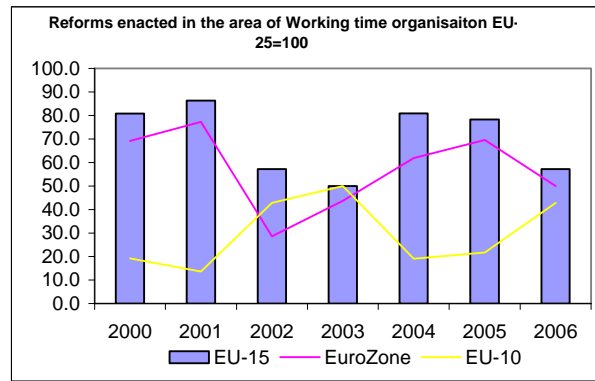
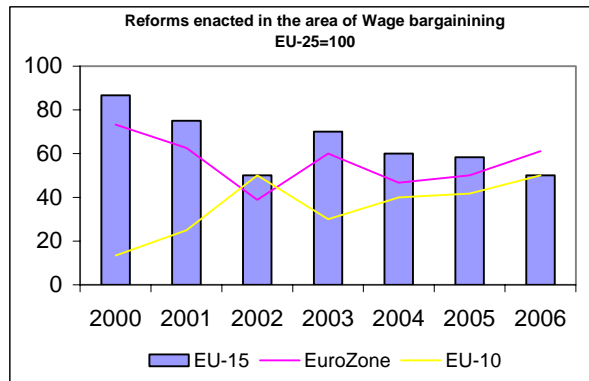
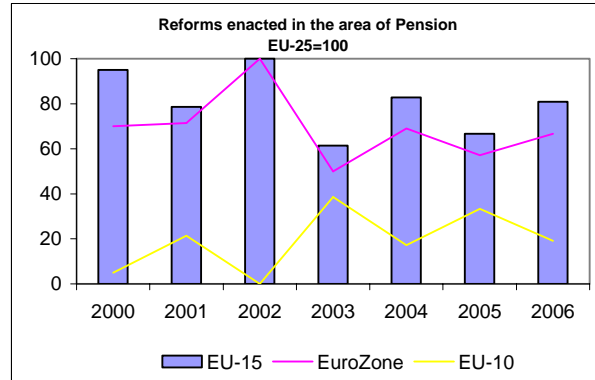
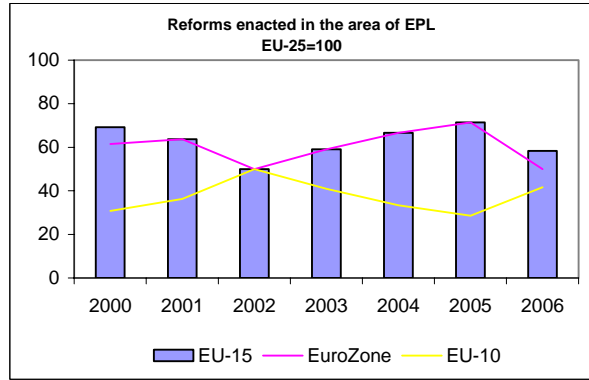
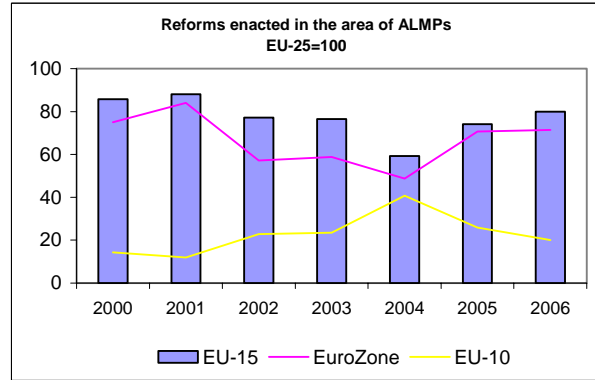
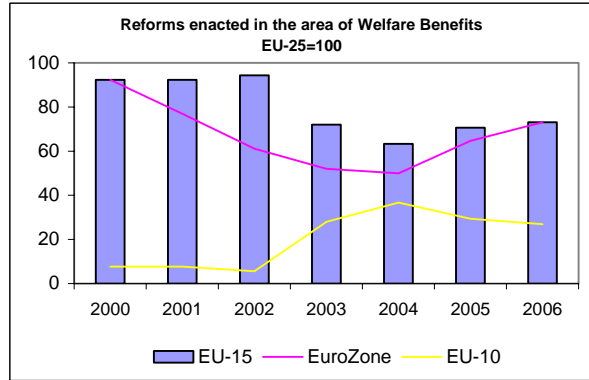
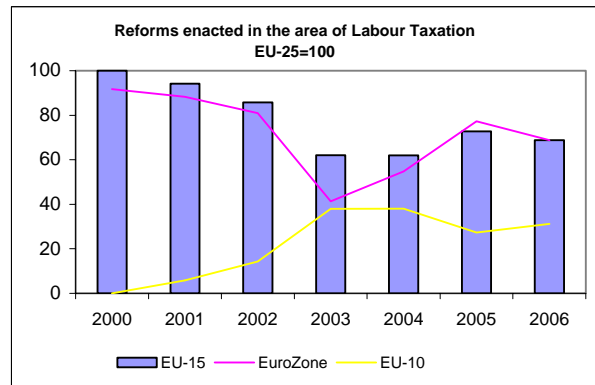
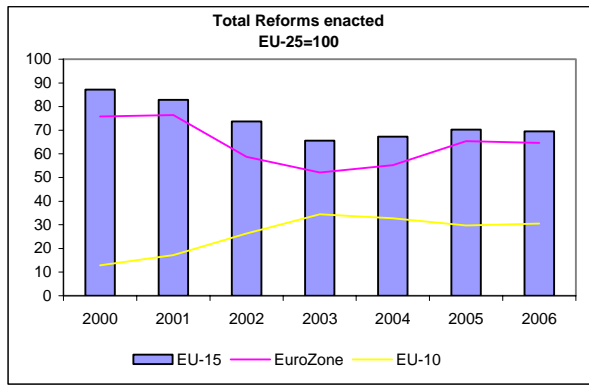
<sup>32</sup> A more detailed description by field of intervention is provided in section 4.2.

- The cross-country distribution of the characteristics of the reforms enacted in 2000-2006 is very heterogeneous (Graph 3). This diversity reflects country specific reforms strategies as well as different labour market conditions. In a large number of countries policies enacted were in the field of labour taxation and ALMPs. Measures in the area of Pensions were more frequent in Czech Republic, Slovakia, Portugal and Spain. Few countries, especially those with a developed system of individualised activation policies, focused their policy action in the area of welfare related benefits. (i.e. The Netherlands, Finland and Sweden among others). An indication of the diversity in the measures implemented is provided by the variability across countries in the number of measures enacted with a certain specific characteristic. In making this comparison, the variability in the number of measures with a specific characteristic has been normalised relative to the variability in the total number of reforms.<sup>33</sup> There is evidence of much more homogeneity across countries in reform measures that are targeted to specific groups or part of a broad policy packages than in measure with an expected impact on wages or on the matching between vacant posts and unemployed people.
- Finally, one should expect that countries more in need of reform should enact more policy interventions. This is partly confirmed by Graphs 4 and 5, which show that countries with low participation rates have enacted more reforms than countries with high participation rates. Conversely, countries with more measures influencing the EPL were those with already relatively high participation and employment rates.

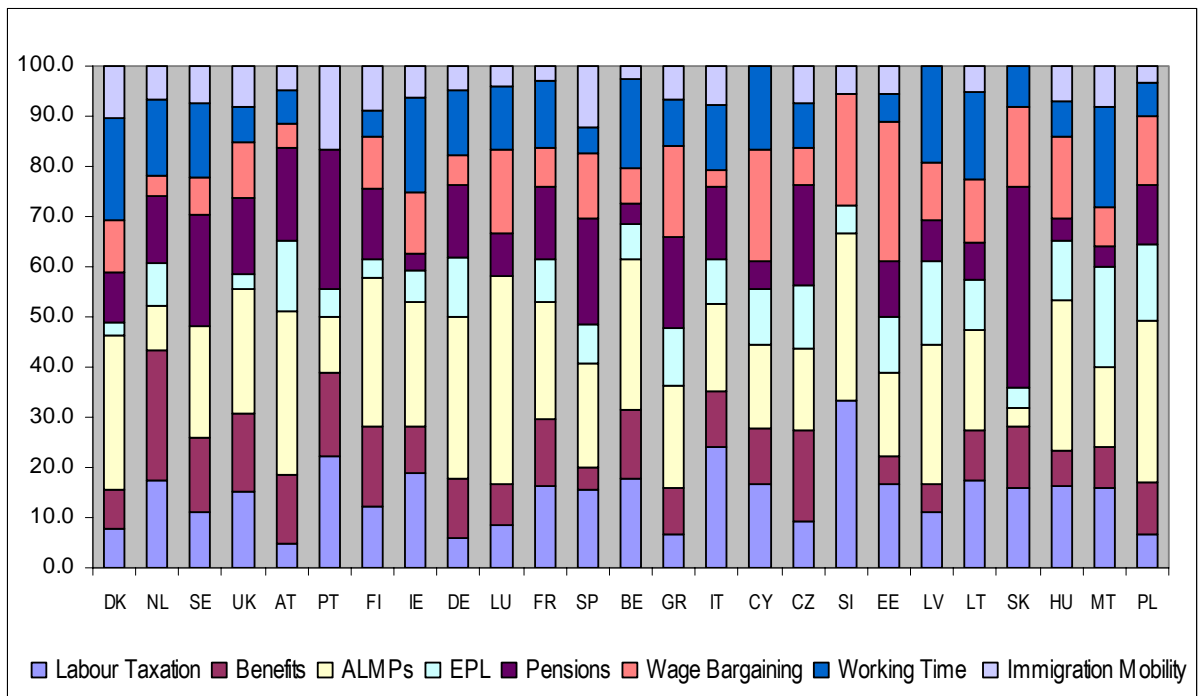


<sup>33</sup> In our case we consider the following characteristics: a) number of reforms embedded; b) number of reforms targeted to specific groups; measures with an expected impact on the Labour Demand, Labour Supply; Wages or Matching. For example, the variability across country of the number of measures targeted to specific groups is about 2/5 of the variability across countries in the total number of reforms (i.e. the index of variability is 0.4). Much higher is the variability across countries in reforms with an expected impact on wages (with an index of 1.40). Hence, there is more heterogeneity in those measures which might be politically costly such as measures that influence the wage bargaining or that entail some costs for the public accounts (such in the case of measure that set up the infrastructure to improve the matching between vacant posts and unemployed people).

Graph 2 Total reforms enacted in the EU by reform area (EU25=100)

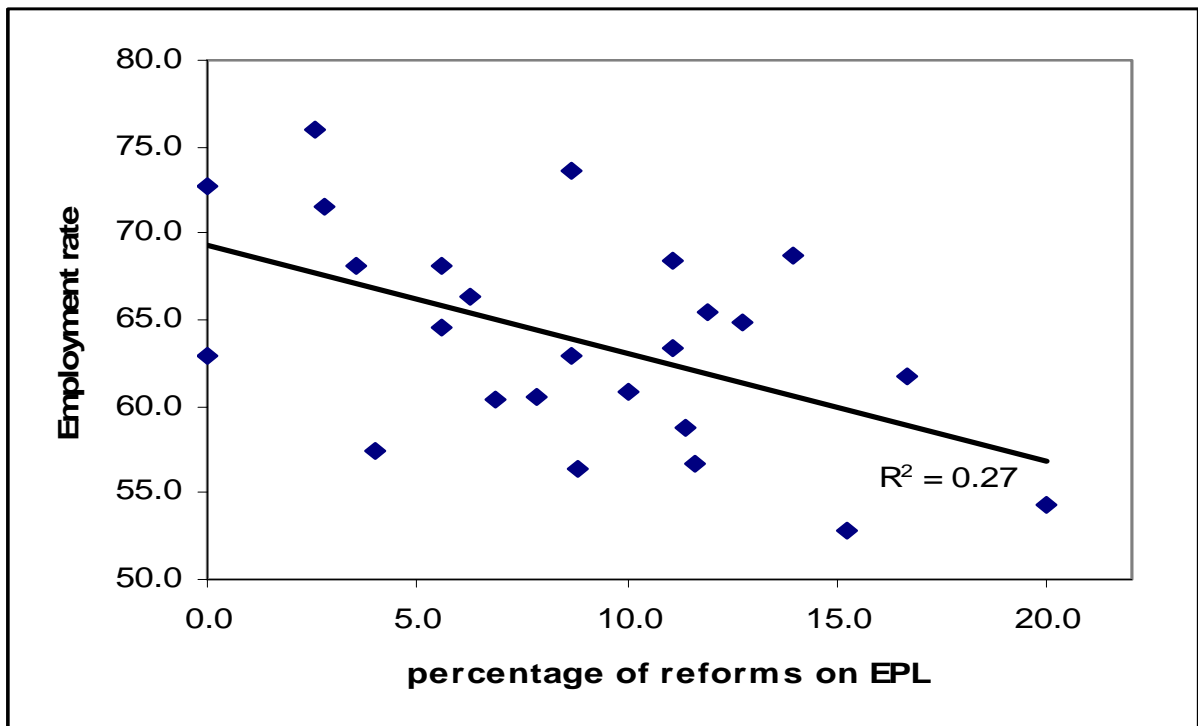


Graph 3 Characteristics of the reform enacted in the Member states in 2000-2006 (% of total reforms enacted in each country)

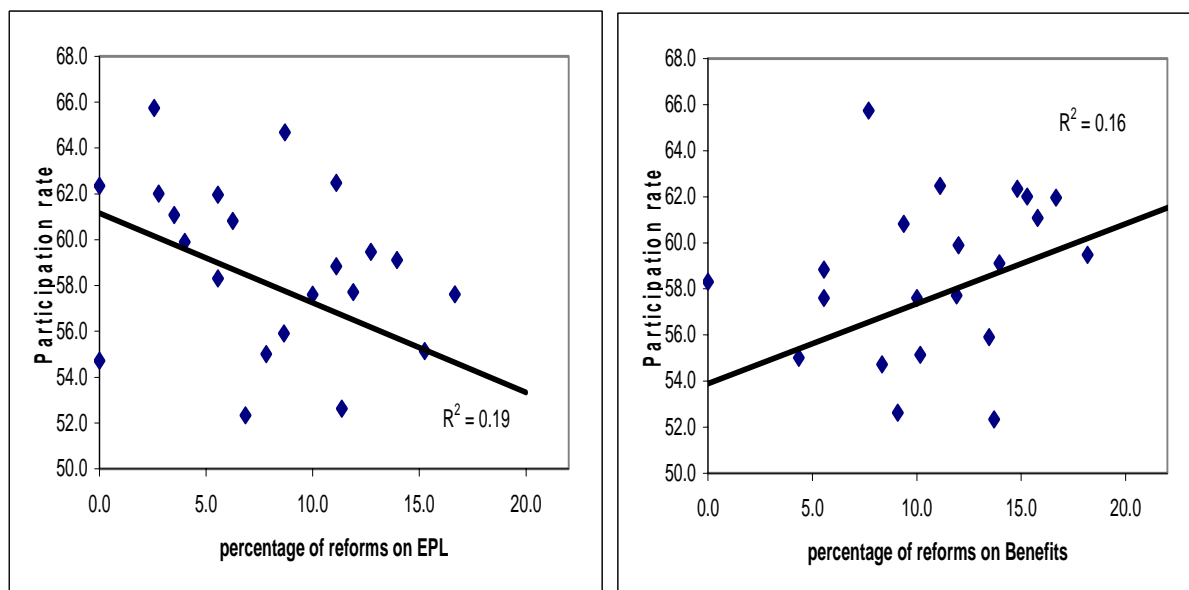


Source: LABREF; EU15 and EU10 countries are ranked in decreasing order of the participation rate

Graph 4



Graph 5



#### 4.2. Summary description of measures enacted in 2000-2006

A preliminary analysis of data collected for the EU25 over the period 2000-2006 shows a progressive shift of policy action from passive to active policies, with a majority of measures being taken in the field of active labour market policies, unemployment benefits and taxation. Policy packages usually included a combination of cuts on labour taxes targeted at low-incomes and a redirection of active labour market policies towards more effective job search and early activation, accompanied by an on-going restructuring of the public employment services and by various attempts to reform the unemployment and welfare-related benefit systems. Stimulating the supply side of the labour market and improving the matching process between the unemployed and job vacancies were indeed at the centre of policy action in a large number of countries.

Substantial reform programmes of early-retirement, sickness, disability and old-age pension systems were adopted in a number of Member States to improve the labour market participation of older workers. In most recent years, a wealth of policy actions was also devoted to the introduction of innovative working time arrangements, both to reconcile work and family life and to promote a more flexible work organisation at the company level. While some wage moderation efforts were undertaken in those countries where a strong centralised bargaining system operates, reforms to bargaining structures were on the contrary substantially absent from the policy landscape and practically no efforts were devoted to promoting a widening of wage differentials so as to make wage settlements more sensitive to different productivity levels at local and company level. Statutory minimum wages played a significant role to attract more people into the labour market, especially in those among the EU10 where minimum wage levels seemed not yet to represent a binding constraint for labour demand. Interventions were undertaken in a number of countries also in the field of immigration policy, aimed at improving the integration of third



country nationals, simplifying and accelerating the procedures for the entry and regularisation of immigrants or developing selective immigration policy so as to set flexible and responsive employment permit systems. Apart from the new Member States, which were still in the phase of building up their job protection systems during the first part of the decade, the reform activity in the field of employment protection legislation (EPL) was very modest during the period 2000-2006. Reform measures were notably absent in those countries characterised by high EPL strictness, where the measures adopted over the last years were mainly at the margin of the employment protection legislation, targeting flexibility for new entrants and marginal workers while leaving unchanged the legislation on permanent employment.

#### *4.2.1. Labour taxation*

Most measures adopted in the field of labour taxation were aimed at reducing the tax burden on labour, so as to stimulate both labour demand and labour supply by lowering labour costs and making work more attractive for low-income earners.

Cuts of employers' social security contributions were the most widespread instrument to stimulate labour demand and create incentives for hiring specific target groups. A substantial simplification of the various schemes aimed at reducing employers' social security contributions to support employment policy occurred in Belgium between 2001 and 2004. The new scheme foresees a structural rebate focused mainly on low-income workers, to be supplemented with reductions aimed at more specific target groups, such as low-skilled workers, older employees and long-term unemployed. In order to improve visibility of tax credits on employees' income, the government also gradually introduced a 'Work Bonus', replacing the tax-credit with an increased rebate of social security contributions for low-income workers. A simplification of the system of employers' social security contributions applicable to the lowest wages was also adopted in France in 2002-2003. Targeted cuts in employers' social security contributions were introduced in Cyprus, France, Germany, Hungary, Italy, Luxembourg, Poland, Slovenia, Spain and the UK, to create incentives to hire employees among the groups with the highest difficulties to join the labour market. Non-targeted reductions of employers' social security contributions were used on a systematic basis in Italy, in particular to foster employment in regions of the country with high-unemployment rates or, to a lesser extent, to support hiring with open-ended contracts or apprenticeships. They were also largely use in Spain in case of conversion of fixed-term contracts into permanent ones.

On the supply side, employment-friendly tax reform packages were adopted all over the EU to reduce the risk of inactivity and unemployment traps, involving a reduction in the tax-wedge for low incomes from work. In some countries this was done either through the reduction of the number of tax brackets at a slightly lower level on average (Austria, Belgium, Slovenia, Spain), a decrease in average income tax for all income groups with relatively higher decreases for the below-the-average wage workers (Czech Republic, Estonia, Hungary, Lithuania, Luxembourg, Portugal), or a straight reduction of the tax burden on low

incomes (Finland, Germany Greece, Ireland). Such measure were often coupled with an extension of the free-tax zone for gross incomes under a given threshold (Austria, Cyprus, Estonia, Hungary, Ireland, Latvia, Luxembourg and Slovenia) or the introduction/ extension of tax credits for low-income earners (Belgium, Czech Republic, Denmark, Germany, Greece, Finland, France, Latvia, the Netherlands, Slovak Republic, Slovenia, Spain). In Denmark, the reduction of the tax wedge on law incomes translated into a significant extension of the upper bound of the tax-bracket with the lowest tax rate. Other reform strategies included the introduction of a green tax shift strategy in Sweden, whereby taxes on energy are increased while taxes on labour are reduced, a shift from direct to indirect taxation in Cyprus and the adoption of a flat tax rate in the Slovak Republic. Tax reductions for second earners and women in particular, as well as and the possibility of joint family taxation were introduced in the Czech Republic, the Netherlands, Malta and Spain to increase female labour market participation.

A number of measures were adopted to tackle the problem of undeclared work in countries where this phenomenon is still significantly spread. Such measures included a widening of the competence of labour inspectors and a reinforcing of the sanctioning system, the development of more efficient social security information systems and stricter record-keeping of workers, the tightening of the conditions for entitlement to unemployment benefits and clearer obligations for both employers and employees. Fiscal incentives were granted in Italy on a large scale to employers and employees in case of regularisation of employment status.

#### *4.2.2. Unemployment and welfare-related benefit systems*

In the area of unemployment and welfare related-benefits, substantial reform programmes were adopted in Hungary, Germany and the Netherlands, while in most other countries policy actions involved minor adjustments, aimed at more targeted interventions, lower level and duration of benefits (The Netherlands, Ireland, Poland, Slovak Republic, Sweden), stricter controls (Belgium), tighter eligibility conditions (Czech Republic, Denmark, France, Poland, Slovak Republic, Spain) and stronger complementarities and interactions with activation policies. The level and duration of the unemployment benefits were slightly increased in those countries where they stood at relatively low levels (Czech Republic, Finland, Greece, Italy), as well as in Sweden, where this increase was accompanied by tighter eligibility conditions. Access to benefits was widened to take account of the growing importance of atypical forms of employment (Austria, Czech Republic and Sweden).

In Hungary, the standard unemployment benefit was replaced in 2005 by a job-search support system composed of two parts: a "job-search benefit" and a "job-search allowance". Job-search benefits are granted to job-seekers who were employed for at least 365 days in the last four years, while the "job-search allowance" is payable to those not entitled to a "job-search benefit" and subject to the compliance with certain requirements. The new scheme is supported by the provision of individual job search

agreements to be concluded by the PES with all job-seekers in order to enable for a better accountability of individual job-search activities. The reform of the unemployment benefit system introduced in the Netherlands in 2005 involved a sharp cut in the unemployment benefit maximum duration (from five years to 38 months), a new system of calculation of the duration of the unemployment benefit on the basis of actual employment history and more stringent requirements. A tightening of the reintegration obligations was also imposed on benefit recipients and the burden of the reintegration initiative was shifted from the benefit recipient to the Employee Insurance Schemes Implementing Body. Also in Germany, the merge of unemployment assistance scheme and the social assistance scheme into the Unemployment Benefit II Programme involved substantial cuts of the unemployment benefits, approximately at the level of social assistance. Under the new rules, job seekers have access to a standardised and integrated system of provision of welfare benefits and active assistance at local level. The long-term unemployed and young people under the age of 25 have access to special assistance in the form of training, employment or qualification measures, while, to encourage the long-term unemployed to take a first step back to work, a new category of low-paying jobs has been introduced to supplement welfare benefits. These job opportunities are offered to the unemployed by the local PES against a small hourly compensation, and are intended to top-up the welfare checks they already get, without replacing the jobs offered on the labour market. If a job offer is not accepted, beneficiaries may lose or have reduced their social assistance. A renewed unemployment benefit scheme (*allocation d'aide au retour à l'emploi*) was introduced in France in 2006. The new benefit is granted for a reduced duration under tightened eligibility conditions and is calculated on the basis of a stronger link with the age and contribution history of the concerned person. Finally, a new unemployment benefit system was introduced in Lithuania in 2003.

The interventions in the field of unemployment benefits were often coupled with support measures (in-work benefits) aimed at preventing people from being discouraged to accept work because it could adversely affect their income. In Hungary, this translated into the extension of the eligibility period for social allowances to the first months of employment, so that beneficiaries are allowed to undertake temporary jobs without losing the entitlement to benefits, while in the Netherlands it materialised in the introduction for local authorities of the possibility to supplement the income of people who have been on welfare benefits for longer than five years, so that welfare recipients will remain entitled to the topping-up allowance even if they do paid work for a short period. Similarly, a sort of "combi-wages" (i.e. subsidised wages) was introduced in Austria, in the form of in-work-benefits for long-term unemployed younger than 25 and older than 45. "Working credit bonuses" were adopted in Belgium, generating a financial benefit added to the net salary of those on low income, and partial unemployment and search bonus schemes were introduced in the Czech Republic. In Poland the possibility was given to unemployed persons entitled to social aid and having lost their right to an unemployment allowance to work 10 hours a week against an activation allowance.

The sickness systems were reformed in the direction of a stronger insurance component (Czech Republic, the Netherlands and Sweden). A number of countries introduced new provisions for the protection of workers at risk of dismissal in case of company restructuring.

#### *4.2.3. Active Labour Market Policies*

Major restructuring of the public employment services and boosting of activation measures took place in a large number of Member States over the period 2000-2006. Measures intended to improve the matching process between labour demand and labour supply included a rationalisation of the services provided by the public employment services (PES) in the direction of more individualised and better targeted activation measures and improved coordination of different actors, and the modernisation and expansion of the training offer. The development of continuous and vocational training systems was indeed at the core of active labour market reform programmes in a significant number of countries, often as a component of broad reform packages including the restructuring of the PES and the reform of passive labour market policies.

The EU10 conducted the most comprehensive reforms, involving a dramatic overhaul of the traditional employment services' operating model from dispensing unemployment benefits to becoming active providers of counselling, job-search and placement assistance services. Key reforms adopted in the Czech Republic and Poland opened-up the job placement services to private employment agencies and provided for the expansion of their activities to include training, personalised career counselling, assistance to active job-seeking, more targeted support to job-seekers and strengthened co-operation with other entities operating on the labour market. In Poland, the so-called "social contracts" were introduced to improve the cooperation between employment services and social assistance services and to ensure that the unemployed taking advantage of social assistance put the right effort in job seeking activities. Actions planned in Estonia, Malta and Cyprus included the extension and diversification of active labour market measures to be performed by the PES, with particular attention for disadvantaged groups, and the implementation of personalised guidance and training services. A new concept of employment services was developed in Latvia in 2003 and in Hungary in 2005.

A remarkable effort of reform was carried out in France, Germany and Italy along similar lines. The wide restructuring of the Federal Employment Agency launched in Germany in 2003 involved a reorganisation of the job placement activities by increasing the use of private employment services and by intensifying counselling and individual support for jobseekers and services for employers. The 10 regional headquarters of the Agency were made responsible for planning and control, and the 180 Labour Agencies given more powers. A great deal of attention was also paid to the development of the vocational and training activities. A reform process was thus initiated in 2004, involving the modernisation of the vocational training system in the direction of better integration of the existing educational structures,

experience and activities, so as to provide a flexible and open framework for lifelong learning, and better focus on persons with low qualifications, disadvantaged young and older people. In France, the measures introduced in the framework of the "Social Cohesion Plan" of 2004 involved the abolition of the monopoly of the public employment services and provided for a coordinated range of local services for the most vulnerable, through the setting up of 300 local 'employment centres' having for mission to identify quantitative and qualitative job needs, provide a structure for training, ensure the monitoring of the unemployed and bring together in a single 'public-interest partnership' all relevant parties, including the body responsible for paying out unemployment benefit. A new form of personalised follow-up for the access to employment was set up in 2006. Like elsewhere (e.g. Estonia, Hungary), the modernisation of the placement services was accompanied by a reform of the French training system - including the modernisation of apprenticeship, the improvement of the vocational training offer and of the status of apprentices - and the introduction of a series of new flexible contracts to help the (re)integration into the labour market of difficult to employ people. Similarly, the labour market reform adopted in Italy in 2003 boosted the privatisation of employment services and the implementation of effective active labour market policies, including the promotion of life-long learning and the setting up of joint training bodies to facilitate the transition from school to the labour market. The reform of the PES also involved the setting up of a network covering all employment services with the creation of a national employment exchange system and was accompanied by the introduction of flexible forms of part-time work and of new forms of flexible employment contracts to increase labour market participation. Labour exchange information systems were also developed in Cyprus, Latvia, Lithuania and Spain. In Belgium, Estonia and Spain reform measures were adopted aimed at setting up or strengthening the cooperation between regional PES, while a deeper decentralisation of labour market services and policies was introduced in Poland, Spain and the United Kingdom.

#### *4.2.4. Job Protection*

The quite few measures adopted in the field of job protection in the EU15 over the period 2000-2006 were mainly at the margin of the employment protection legislation (EPL), targeting new entrants and marginal workers while leaving unchanged the legislation on permanent employment. The lack of action in the field of EPL seems in particular to go together with substantial inactivity in the field of unemployment benefits in those countries (e.g. Greece and Portugal) which are characterized by the most rigid EPL for open-ended contracts and by the lowest level of protection on the market. The new Member States were more active in this field, as many of them were still in the phase of building up their systems of employment protection legislation during the first part of the decade.

A number of provisions adopted in the EU10 were aimed at aligning national legislation with EU labour law, notably in the field of fixed-term and part-time work and collective dismissals. Temporary agency work was also introduced and the conditions for its use set in Hungary, Lithuania, Poland and Slovenia.

Amendments to pre-existing Labour Codes were in some cases piecemeal (e.g. Czech Republic and Poland) and were mainly intended to increase the cost of lay-offs and improve the protection of employee (Estonia, Hungary, Lithuania, Latvia, and Malta). More flexibility in the recourse to fixed-term contracts was introduced in Belgium, while existing limitations to the use of fixed-term contracts for older workers were relaxed in France and Germany in order to promote the employment of older people.

Notwithstanding the long-lasting debate on the need to reform the EPL for open-ended contracts, reforms adopted in Italy over the period 2000-2006 were limited to reorganising the use of already existing flexible contracts (e.g. fixed-term and part-time work, apprenticeship) and introducing new forms of non-standard employment (e.g. on-call working and job sharing), along the lines of targeting flexibility for new entrants while leaving unchanged the existing high level of job protection for the so-called 'insiders'. Marginal reform measures were also adopted in Portugal, where the Labour Code of 2003 codified in a single text all existing provisions on labour law and collective bargaining. To inject a certain degree of flexibility in the labour market, a right for employers was introduced to oppose the reinstatement of workers in dismissal cases, the duration of fixed-term contracts extended to six years and the regime of home-work made more flexible. In France, a new type of open-ended employment contract (*Contrat nouvelle embauche*) was introduced in 2005 for new recruits in firms up to 20 employees, allowing for a longer probation period (two years, against three months) during which the employee may be dismissed orally with no entitlement to compensation. Some margins of flexibility were also introduced in the procedure to be followed in case of collective dismissals.

Efforts to narrow the gap between standard and flexible employment contracts were made in Spain, with the introduction of a dismissal compensation for temporary workers, new limitations to the use of temporary work contracts and the possibility to transform them into permanent ones with lower dismissal costs. In order to increase the labour market participation of those who risk to remain at the margin of the labour market (e.g. young workers and women returning to work after child rearing), the Netherlands discontinued the principle of 'last in first out' in case of collective lay-offs in favour of the 'age reflection principle', according to which redundancies will be spread out more evenly among the different age categories of the company. In Austria, measures previously adopted introducing a disincentive scheme to dismiss older workers were relaxed in 2003 to avoid negative effects on their employment levels. Finally, Finland reduced the notice period related to the termination of employment contracts in case of short-term employment relationships (less than 12 years) and introduced a comprehensive compensation system for cases of unjust termination of the employment relationship by the employer. At the same time, it narrowed the gap between open-ended, full-time employment contracts and fixed-term or part-time ones.

#### *4.2.5. Pension systems*

Most measures adopted in the field of pensions and early retirement schemes were embedded in long-term reform packages, dating in some cases from the Nineties (e.g. Italy, Poland). Enacted measures generally involved the establishment of a stronger actuarial link between contributions and pension benefits and the possibility for workers to retire later, with expected positive effects on the participation rate of older workers. Incentives to early-retire were discontinued and the eligibility conditions tightened in a large number of countries (Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, the Netherlands, Poland, Portugal, Slovak Republic, Spain), while the possibility to work beyond the official retirement age and to integrate the state/occupational pension with new pension contributions completed after entitlement was introduced/ extended both in the EU15 and among the new Member States (Czech Republic, Hungary, Italy, Slovak Republic, UK), often in the framework of more comprehensive reform strategies aimed at increasing effective retirement age. Partial retirement was introduced in Germany and the UK and gradual retirement in France. The ceiling on earned income for those who wish to combine pension with job was raised in Belgium and the prohibition to cumulate income from work and old age pension dropped in Italy. Incentive schemes were decided in Italy, Spain and the UK for workers who remain in the labour market after the age of 65.

Major pension reforms were adopted in Austria, Finland, France and Germany. The reform launched in Austria in 2003 involved the introduction of a defined-contribution individual 'pension account' per working person, a single maximum limit on earnings liable to social insurance contributions instead of the previous differing limits for various categories of people and the reassessment of the levels of pension insurance contribution for all occupational groups. In Finland (2003), greater flexibility was given to older workers to decide on their retirement age (abolition of the general retirement age at 65), while discouraging early exits from the labour market and financially rewarding long working careers. The pension reform passed in Germany (2001) replaced the existing pay-as-you-go state pension system with a dual pension scheme where employees are obliged to pay a proportion of their income into company or other private funds. In France, the 2003 pension reform paved the way for the development of third pillar pension funds. Finally, a parametric reform of the state retirement pension scheme to take account of the whole contribution history was introduced in Portugal (2000), while a rationalisation of the pension system intervened in Greece (2004), to extend pension coverage to all categories of workers, including self-employed and workers in the agricultural sector. An individualisation of pension's rights to increase female labour market participation was passed in Austria, Germany and the Slovak Republic.

#### *4.2.6. Wage bargaining*

In those countries among the EU15 where a centralised bargaining system operates, central income policy agreements were signed providing for wage moderation at industry level (e.g. Belgium, Finland, Greece and Spain). Such agreements were often supported by state interventions providing for income tax

reductions on labour targeted at low-income earners, while the interventions on the level of minimum wages were accompanied by other make-work-pay policies. Reforms to bargaining structures were substantially absent and little effort was made to promote a widening of wage differentials so as to make wage settlements more sensitive to productivity differentials at local and company level. More precise criteria for deciding of the general validity of collective agreements, i.e. their binding application on all employees and employers in a given sector, were defined in Finland in 2001 and in France in 2004. In the latter country, the possibility was introduced at company-level of departing from sector-level agreements. In Spain a new procedure was set in 2005, providing for the administrative extension of collective agreements to uncovered sectors. Performance-related pays systems were introduced in Denmark and Belgium.

Statutory minimum wage settings were used as a policy instrument to attract more people into the labour market, especially in those among the new Member States where the observed average wage growth seemed to remain in line with productivity growth and minimum wage levels not yet to represent a binding constraint on the labour market. Countries such as Cyprus, Estonia, Hungary, Latvia and Lithuania set multi-annual programmes to ensure a sustained and constant increase of the minimum wage, so as to reach a certain target level as compared to the national average wage in the medium term. Similarly, in the Czech Republic the minimum wage was brought to about 40% of the average wage in 2006. In Hungary, a medium term plan for monthly national minimum wage increases and pay policy guidelines were agreed by the government and the social partners for the period 2006-2008, together with a three-tier minimum wage system, implying higher minimum wage rates for jobs requiring a secondary school/ vocational training qualification or a university-level education. In Poland, a new mechanism for setting the minimum wage was defined in 2005, by means of which it will increase each year by the forecast inflation rate plus 2/3 of the forecast GDP growth rate until it reaches 50% of the national average wage. In those among the EU10 where minimum wage stood at already relatively high levels it was feared that it could negatively affect employment levels in low-wage labour-intensive sectors or in geographical areas where unemployment rates are high and the living costs/ productivity levels much lower than in the rest of the country. Such is the case for the Slovak Republic and Slovenia, where the minimum wage, which has become a central reference for the whole pay structure, has continued to increase by more than average pay over the period, beyond the lowest rates of some basic 'starting pay' set out in collective agreements.

## **5. CHARACTERISING LABOUR MARKET REFORMS: AN EXPLORATIVE ANALYSIS**

This section identifies common features in the measures enacted in 2000-2006 across countries. We are using percentages of reforms with a certain characteristic over the total number of reforms during the whole period 2000-2006. The characterization of the reforms is done by considering: 1) whether it is embedded in a broad policy package, 2) whether it is targeted to specific socio-economic groups, 3) if the



measure has an expected direct impact on matching, 4) wages, 5) labour demand (Ld) and/or on labour supply (Ls). The correlation between numbers of measures with different characteristics provides a synthetic description of the main features of the reform process. Table 2.1 displays the correlation based on the percentage (out of total reforms), while table 2.2 displays the correlation based on their ranks.<sup>34</sup> Positive correlation indicates that countries where a large proportion of policy interventions with one characteristic are enacted are associated with large numbers of measures with another characteristic. Conversely, negative correlation indicates a small proportion of reforms with one characteristic is associated with a large number of reforms with the other characteristic, From these correlations it is possible to identify the following patterns:

- Countries where measures are often part of long-term policy packages also have a relative high number of policy interventions that are targeted to specific groups. The correlation with the number of measures expected to have an impact on matching, on wages and on labour demand is negative. However, the correlation is not significantly different from zero.
- The orientation of broad policy packages is towards measures that favour labour market participation. These correlations reflect the large focus of reform programmes on measures that improve the matching between unemployed and vacancies. In contrast, measures expected to have an impact on wages are most of the time geared to modify the contractual or statutory (minima) wages and, as such, are one-off measures.
- A large number of countries has taken initiatives in the area of taxation, often with the aim of reducing the tax burden at the lower end of the income distribution. This explains the positive correlation between targeting and measures that are expected to have an impact on the labour supply. Hence, when labour supply has been the focus of policy action, targeting also represents a significant percentage of total measures. Conversely, measures enacted to improve the labour demand have been less selective;
- Countries where a large number of policy measures are expected to have a positive effect on the labour supply are also countries where less policies interventions are enacted in the area of wages or matching.

**Table 2**

<b>Correlation between percentage of reforms according to specific characteristics</b>					
	Embedded	Matching	Wages	Expected impact on LS	Expected impact on LD
Targeted	0.3	-0.4*	-0.3*	0.4**	-0.5***
Embedded		-0.2	-0.2	0.0	-0.2
Matching			-0.1	-0.5**	0.1
Wages				-0.5**	0.2
Labour supply					-0.2

Source: Authors' calculations on LABREF database; \*, \*\*, \*\*\*statistically significant at 10%, 5% and 1% .

<sup>34</sup> Simply, after having calculated the proportion out of total reforms of those with certain characteristics, the correlation between these ratios is calculated or between the ordinal numbers corresponding to these ratios.

**Table 3**

<b>Rank Correlation between percentages of reforms according to specific characteristics</b>					
	Embedded	Matching	Wages	Expected impact on LS	Expected impact on Ld
Targetted	0.2	-0.3	-0.4**	0.4**	-0.4**
Embedded		-0.1	-0.3	0.0	0.0
Matching			0.0	-0.4*	0.0
Wages				-0.5***	0.1
Labour supply					-0.2

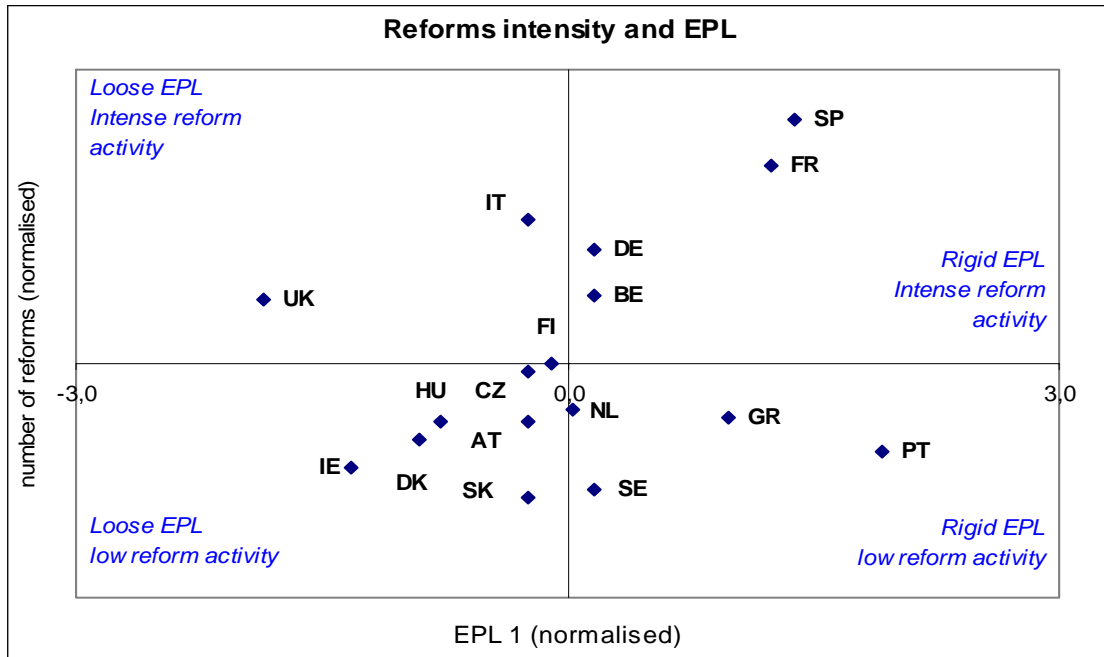
Source: Authors' calculations on LABREF database; \*, \*\*, \*\*\*statistically significant at 10%, 5% and 1% .

One way to describe the reform process is to compare the number of policy actions enacted with the tightness of the employment protection due to government interventions. Graph 6 reports on the vertical axis the total number of measures enacted during 2000-2006 and on the horizontal axis the EPL1 OECD indicator. Graph 7 illustrates the relation of the total number of reforms enacted with the OECD index of difficulty of dismissals of permanent contracts.<sup>35</sup> Member States can be divided in groups, according to the intensity of reform activity, the rigidity of EPL and, the difficulty of dismissals of permanent contracts. A first group of countries is characterised by a number of measures higher than the average and an employment protection stricter than the average. France, Spain, Germany and Belgium belong to this group. When the measure of strictness of labour regulation refers only to the difficulty of dismissal of permanent contracts, this group is composed by Germany, Belgium and Italy.<sup>36</sup> Countries located in the South-East quadrant have labour market legislation that is tighter than the average and a below average intensity of measures. The South-West quadrant reports countries with a below average intensity of reform measures and labour market legislation less strict than the average. Finally, countries that in the 2000-2006 period made a number of measures higher than the average despite an already loose labour market regulation appear in the North-West quadrant.

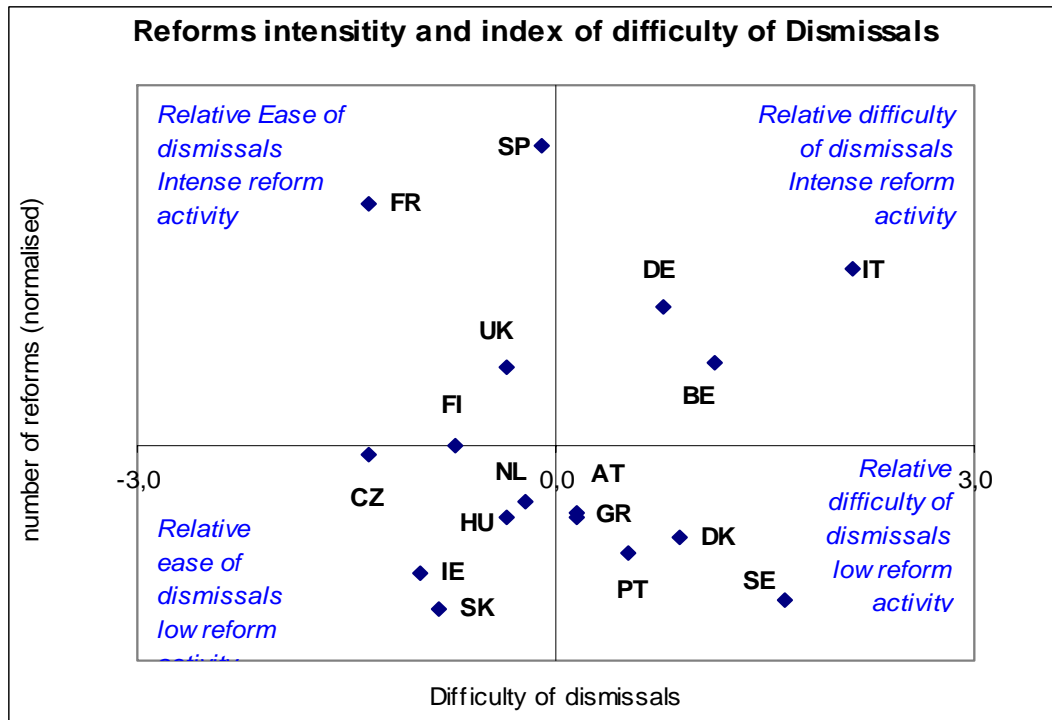
<sup>35</sup> To ease the comparison the data have been normalised transforming the original variable such to have same mean and same variance. The chart does not report the EU countries non-member of the OECD due to lack of information on the EPL for these countries.

<sup>36</sup> For the year 2003, after the UK, Ireland and DK, Italy had the lowest index of EPL among the EU15 Member States. In Italy, the measures introduced have eased the regulation for the temporary workers without changing the tightness for the regular contracts.

Graph 6



Graph 7



## **6. The effect of pension reforms on the participation rate of specific age groups: an event study approach**

The performance of the European labour markets improved significantly during the second half of the 1990s (AER 2003). After having achieved a peak in 1994, the unemployment rate started gradually to decline while both the employment and the participation rates kept rising. From 1995 to 2006 the overall employment and participation rates raised respectively by about 6 and 4 percentage points, from 59.9 to 65.6 and from 67.2 to 71.4. With increases of more than 8 and 7 percentage points, respectively for the employment and the participation rates, the female and the older workers were the most dynamic components. Although these improvements reflect long-term changes in the socio-economic behaviour (e.g. a different aptitude toward female employment and participation), there seems to be broad agreement that they took place in response to the reforms implemented during the period (e.g. ECB, 2007).

For the revised Jobs Strategy, the OECD has conducted an extensive research on the impact of policies and institutions on employment and unemployment in the OECD countries.<sup>37</sup> With the help of cross-country/time series techniques, this work has explored the impact of structural policies and labour market institutions on the unemployment and employment rate, the latter disaggregated by main age groups. It is shown that high implicit taxes on continued work deter older workers from remaining in the labour market, while high statutory retirement ages have the opposite effect. A 10 percentage points cut in the implicit tax and a one-year increase in the standard retirement age are estimated to raise the employment rate of older workers by 1 and 0.6 percentage points, respectively.

Macro-econometric estimates based on panel data have been largely used by researchers to show that labour market institutions and their interactions with macroeconomic developments matter for the overall employment performance (among the most prominent Phelps et al., 2000; Blanchard and Wolfers, 1999), and consequently to identify that certain configurations of labour market institutions are more employment- and participation-friendly than others. Under the assumptions of stable relationships over time and across countries, the elasticities of employment and participation rates to quantifiable policy variables, estimated usually over sufficient long time horizon to be statistically reliable, are used in policy simulations to detect, for the average representative country, the contribution of quantifiable policy measures on labour market outcomes. Thus, the approach is appropriate when policy measures do not entail changes in the underlying institutional parameters. In contrast, they are less able to capture fundamental changes in the deep parameters, i.e. occurring at relatively short- horizons after a reform has been implemented.

This note investigates the effect of pension reforms on the participation rates of specific age groups belonging to the 50-64 age class with a cross-country event-study approach. The idea is simple. Each

policy intervention is considered as a discrete event that occurred at a specific time for each country. The event-study compares the value of one variable of interest after a certain reform or legislation has taken place with its value before such institutional change has occurred. To control for other determinants not related to specific policy interventions, the findings of the before-after comparison are compared with the average for a control group made of those countries which did not implement a reform at least in one year covered by the sample period. With the event-study approach we will verify whether after pension reforms the participation rate rises.<sup>38</sup>

The last decade witnessed important changes in the pension system. Indeed up to 1995 only few countries implemented pension reforms. By 2006 almost every European country had enacted reforms of the pension system. This richness of reforms can be used to conduct a "policy experiment" of the effects of pension reforms. To conduct an event-study, we first need to identify the relevant dates the events occurred. We exploit the information available from the LABREF database to identify the date at which a pension reform was enacted.<sup>39</sup>

Of course, there is no direct relationship between each formal act, which we call a reform, and its effectiveness. The formal dimension captured by the database represents only the first layer of the reform policy. Implementing decrees often follows more general laws establishing principles, which implies lags between the policy action and the final outcomes. This has two consequences which should be interpreted with caution before final conclusions could be drawn. Firstly, since pension reforms are usually phased in only gradually over a long period of time, their effects on the retirement decision after the relative short horizon considered in this note (either because of the data availability or because reforms occur at the end of the sample) are expected to be small, perhaps capturing the effect of the change in the rules to retire on the annualised expected income. They should increase over time as the rules for retirement become effectively binding. Secondly, cross-countries comparisons provide only a description *de jure* of the reform design and not a way to rank countries according to the effectiveness and efficiency of the reform. Also, simple accounting of the measures enacted would be misleading as it would neglect important aspects of the reform process. However, the distribution of policy measures enacted by area of intervention and/or reforms' characteristics provides a description of the reform intensity, although, to reiterate, not of its quality.

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<sup>37</sup> Bassanini, A. and R. Duval (2006), "Employment Patterns in OECD Countries: Reassessing the Role of Policies and Institutions", *OECD Economics Department Working Papers*, No. 486, OECD Publishing

<sup>38</sup> The event-study method has been applied to study market response to changes in the law, both as a result of court decisions and legislative reforms.

<sup>39</sup> LABREF records, on an annual basis, information on labour market and welfare reforms. The database provides information on the design and scope of reforms, on selected characteristics of reform measures and on their expected implementation phase. As of April 2007, the database covers the years 2000-2006 for the EU25. Data collected for the years 2004 and 2005 have already been validated by national authorities, while information for years 2000 to 2003 and 2006 is still provisional. The database can be freely accessed at: [http://europa.eu.int/comm/economy\\_finance/indicators/labref\\_en.htm](http://europa.eu.int/comm/economy_finance/indicators/labref_en.htm).

## 6.1 Overview of early retirement and pension reforms undertaken in the EU in 2000-2006

A preliminary analysis of the information on reform measures enacted in the EU25 over the period 2000-2006 shows a progressive shift of policy action from passive to active policies, with a majority of measures being taken in the field of active labour market policies, followed by unemployment benefits, taxation and pensions. Policy packages usually included a combination of cuts on labour taxes targeted at low-incomes and a redirection of active labour market policies towards more effective job search and early activation, accompanied by an on-going restructuring of the public employment services and by various interventions on the unemployment and welfare-related benefit systems. Stimulating the supply-side of the labour market was indeed at the centre of policy action in a majority of member states. Substantial reforms of the old-age insurance systems were also adopted in a number of countries to improve the labour market participation of older workers.

The EU15 were the most active in this field, due to the strong pressure stemming from ageing population and persisting low participation rates of older workers. Enacted measures were often embedded in long-term reform packages, dating in some cases from the Nineties (e.g. Italy), and generally involved the establishment of a stronger actuarial link between contributions and pension benefits and the possibility for workers to retire later. With a very few exceptions (e.g. the Slovak Republic), no major reforms were on the contrary passed in the EU10, where substantial reshufflings of the old-age pension systems had already occurred in the 1990s following the transition to a market economy. Enacted measures were in some cases even aimed at increasing the generosity of the system, for instance by introducing new early retirement schemes where they did not exist (e.g. in Lithuania, where an early retirement scheme which had been abolished in 1995 was re-introduced in 2004 for the long-term unemployed), or at reinforcing them (e.g. in Hungary), to help absorb the shocks of ongoing employment restructuring and economic change.

Major structural pension reforms were adopted in Austria, Finland, France, Germany and the Slovak Republic. The reform launched in Austria in 2003 involved the introduction of a defined-contribution individual 'pension account' per working person, a single maximum limit on earnings liable to social insurance contributions instead of the previous differing limits for various categories of people and the reassessment of the levels of pension insurance contribution for all occupational groups, including the self-employed. In Finland, the reference contribution period and wages used for the calculation of the old-age pension were both extended in 2003, and the annual pension accrual rates were modified in such a way to discourage early exits from the labour market and financially reward long working careers. Greater flexibility was also given to older workers to decide on their retirement age (abolition of the general retirement age at 65), while it was decided that starting from 2009 pension levels will begin to reflect changes in average life expectancy. The pension reform passed in Germany in 2001 replaced the existing pay-as-you-go state pension system with a dual pension scheme, where employees are obliged to pay a

proportion of their income into company or other private funds. The reform also provided for the stabilization of the contribution rate on a long-term basis and for a long-term decrease of the pension level. In France, the 2003 pension reform paved the way for the development of third pillar pension funds, based on employees' own savings. It also provided for an increase in the contribution period by one-quarter every year to take account of the expected increase in life expectancy, and for the convergence of private and public pension schemes. The reform of the Slovak pension system passed in 2003 provided for the gradual increase in the retirement age to 62 for both men and women, for the elimination of the maximum pension and the guaranteed minimum pension, and for main changes in the benefit formula and contribution rates. Finally, a parametric reform of the state retirement pension scheme, extending the contribution period to 40 years for a full pension, was introduced in Portugal in 2000 for the private sector, and further extended to public sector employees in 2005.

Incentives to early-retirement were discontinued and the eligibility conditions tightened in a large number of countries<sup>40</sup>, while the possibility to work beyond the official retirement age or to integrate the state/occupational pension with pension contributions completed after entitlement were introduced or expanded in both the EU15 and - to a lesser extent - the new Member States<sup>41</sup>. Partial retirement was introduced in Germany (2001) and the UK (2004) and gradual retirement in France (2006). In the latter country, a new form of fixed-term contract for job seekers aged 57 or more was introduced in 2006, while the so-called 'Deladande Contribution' - a tax to be paid by companies dismissing employees aged 50 years and over - was gradually phased-out to improve the employability of older workers. Incentive schemes for workers who decide to remain in the labour market after reaching the official retirement age were also decided in Italy, France, Spain and the UK. In Sweden (2000), the possibility was introduced for early retired people to return to work. In Poland, the "pre-retirement allowance" was discontinued in 2001, while the eligibility conditions for obtaining "pre-retirement benefits" were made more stringent in 2004. Both schemes had been introduced in 1994 to accompany employment restructuring in the waning branches and outdated sectors of national economy. Their liquidation is part of the general reform of the Polish old-age pension system launched in 1999, which replaced the pay-as-you-go (PAYG) general pension scheme with a three pillar system including a first notional defined-contribution (NDC) pillar linking contributions to future pensions; a second pillar that capitalises individual contributions and is mandatory for the younger generations; and a voluntary third pillar based on company plans or other savings vehicles.

The retirement age was increased from 65 to 67 in Denmark, Germany and Sweden. In the UK, the earliest age to take a pension was raised in 2004 from 50 to 55 and a default retirement age was fixed at 65

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<sup>40</sup> Namely: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, the Netherlands, Poland, Portugal, Slovak Republic and Spain.

<sup>41</sup> Notably in Belgium, the Czech Republic, France, Hungary, Italy, Slovak Republic, Spain and the UK.

in 2005, with unjustified retirement ages of below 65 years being prohibited. The retirement age was also progressively increased in the Czech Republic, up to 63 years for men and childless women (where women get one-year bonus per child varying between 59 and 62 years), and in Cyprus, where the retirement age for civil servants was increased from 60 to 63, the same as in the private sector (where retirement ages range between 63 and 65). The statutory retirement age was abolished and flexible retirement ages introduced in Finland and Spain.

A rationalisation of the pension system intervened in Greece in 2004 to extend pension coverage to all categories of workers, including self-employed and workers in the agricultural sector. Similarly, a basic contribution rate for self-employed was introduced in the Czech Republic and France in 2003, and its levels increased in Spain in 2004. Various measures aimed at improving individual pension coverage for women - and thus increasing female labour market participation - were also passed in Austria, France, Germany, Greece and the Slovak Republic. These mainly included the recognition of career breaks and increased pension credits for periods spent rearing a child, and the reduction of survivor's benefits. The German pension reform of 2001, besides providing for a decrease in the pension of widows and widowers who have never worked or brought up children, introduced the possibility to split pension entitlements for spouses who continue to live together as a way of improving the individualisation of pension rights.

Finally, support measures to supplementary pension schemes, mainly in the form of tax incentives, were introduced/increased in those countries where second and/or third pillar pension schemes had been recently set up (e.g. in Germany). To strengthen the role of supplementary pension schemes in the overall pension system - thus to increase the link between contributions and pension benefits and therefore the incentives to work longer - a percentage of the contributions rates of employers and employees were shifted from state pension to pension funds in the Czech Republic (2003), while pension contributions to collectively agreed occupational pension schemes were regularly increased in Denmark. Measures introduced in Italy in 2004 and beyond - including an increased tax support to the development of supplementary pension schemes and the transfer of the end-of-service allowance (TFR) to occupational pension funds - should be seen in the context of the major reform of the Italian pension system undertaken in the 1990's, involving the development of second pillar pension funds and the generalised introduction as of 2008 of a pre-funded NDC pension system in place of the existing PAYG defined-benefit (DB) first pillar.

## **6.2. A tentative evaluation of the effect of pension reforms on the current and the incoming older workers' participation rates**

The rationale of this exercise is to treat each measure in the field of pension systems as a single event chosen by the policy makers with aim of increasing the participation rates of specific target groups, namely of the 55-59 and 60-64 age groups. The sample covers the 25 European countries over a time period which is dictated by the availability of the Eurostat LFS Statistics, (i.e. the sample is unbalanced) and covers the years from 1985 to 2006. For the years 2000-2006, the chronology of pension reforms is taken



from LABREF. For the previous years the information draws on different sources (e.g. EIRO, MISSOC, NATLEX). The chronology of the pension reforms provides a sequence of events where years of reform and non-reform years alternate to each other (Table 1).

Table 1

	Year of pension reforms	Sample period of LFS Statistics
<b>Austria</b>	1993, 1997, 2000, 2001, 2003, 2004	1995-2006
<b>Belgium</b>	1986, 1994, 1997	1985-2006
<b>Cyprus</b>	2005	2000-2006
<b>Czech</b>	1995, 2001, 2006	1997-2006
<b>Denmark</b>	1987, 1998, 1999, 2006	1985-2006
<b>Estonia</b>	1998, 2001	1997-2006
<b>Finland</b>	1993, 1995, 1996, 1997, 2000, 2003, 2004	1995-2006
<b>France</b>	1993, 2001, 2003, 2006	1985-2006
<b>Germany</b>	1992, 2000, 2001, 2002, 2006	1985-2006
<b>Greece</b>	1990, 1992, 1998, 2000	1985-2006
<b>Hungary</b>	1997, 2004	1996-2006
<b>Ireland</b>		1985-2006
<b>Italy</b>	1992, 1994, 1995, 1997, 2003, 2004	1985-2006
<b>Latvia</b>	1995	1998-2006
<b>Lithuania</b>	1995	1998-2006
<b>Luxembourg</b>		1985-2006
<b>Malta</b>		2000-2006
<b>Netherlands</b>	1995, 1996, 2004, 2005	1985-2006
<b>Poland</b>	1998, 2004, 2005	1997-2006
<b>Portugal</b>	1993, 1997, 1998, 2000, 2003, 2005, 2006	1986-2006
<b>Slovakia</b>	2003	1998-2006
<b>Slovenia</b>	1999	1996-2006
<b>Spain</b>	1997, 1999, 2001, 2006	1985-2006
<b>Sweden</b>	1992, 1994, 1998, 1999, 2001	1995-2006
<b>United Kingdom</b>	1988, 1999, 2003, 2004, 2005, 2006	1985-2006

We assume that if a reform is successful, the participation rate of our target group should significantly change after the reform. One way to detect this is to compare the change in the participation rate after a pension reform has been implemented with the change in the participation rate in all periods but those

that followed a reform. In formal terms, we split the countries in two groups. Countries that made at least one reform of the pension system during the sample period belong to this group. The second group is composed by countries that either never did a pension reform or by the years where no reforms were actually enacted in countries that at least made one pension reform during the period.

We consider only those measures that reduce the incentive to early retirement by changing the eligibility conditions or the eligibility conditions and one or all of the following: level, coverage, tax treatment and contributions. Hence, in our definition of reforms, changes in the eligibility conditions are assumed to be necessary to influence workers' retiring decision.

For a country taking one pension reform as just defined, the change in the participation rate can be modelled as follows:  $\Delta PR_{it} = \alpha I_{it} + v_{it}$ , where  $I_{it}$  is an indicator function taking the value of 1 if country  $i$  does a reform in period  $t$  and zero otherwise. A similar expression holds for a country  $j$  which never did a reform or did not reform in any other different year  $t'$ : i.e.  $I_{jt'} = 0$  for all  $j \neq i$  or for  $j = i$  and  $t' \neq t$  being one of the non reform years. The average change of the participation rate in reforming countries relative to change of the participation rate in countries that never did a reform or for the years where no reform

occurred can be written as follows  $\frac{\sum_t \sum_i \Delta PR_{i,t}}{IT} - \frac{\sum_s \sum_j \Delta PR_{j,s}}{JS} = \alpha$ . The reform in country  $i$  is

successful if  $\alpha$  is statistically different from zero. We evaluate the effect of pension reforms comparing the average change in the participation rate after a pension reform with the average change of the participation rate over the sample period excluding those years where a reform occurred.<sup>42</sup>

For each target group, the first column of table 2 reports the average change in the participation rate for the years (up to 6) following some pension reform<sup>43</sup>. Column 2 shows the average change calculated for all periods and countries where no pension reform occurred. The z-test in the third column gives the probability that the difference between the two means is caused by chance.<sup>44</sup> Compared with no-reforms' years, the z-test supports the hypothesis of a statistically significant increase after a pension reform of the participation rate for the 55-59 and 60-64 age groups. For the two sub-groups, the difference between reforms and non-reforms years growth with the average age of each group.

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<sup>42</sup> In contrast, we do not look at the effect on the participation rate of changes in one specific element of the system (i.e. contributions, eligibility conditions, retirement age, indexation formula, and the like). We leave this for future work.

<sup>43</sup> Since it may take some time for a pension reform to have visible effects on the participation rate, we calculated the average change in the participation rate over a period of 6 years following a pension reform.

<sup>44</sup> The numbers in the first two columns of table 2 represent the change in the participation rates averaged over each group. The third column is the difference between these changes and corresponds to the value of  $\alpha$ .

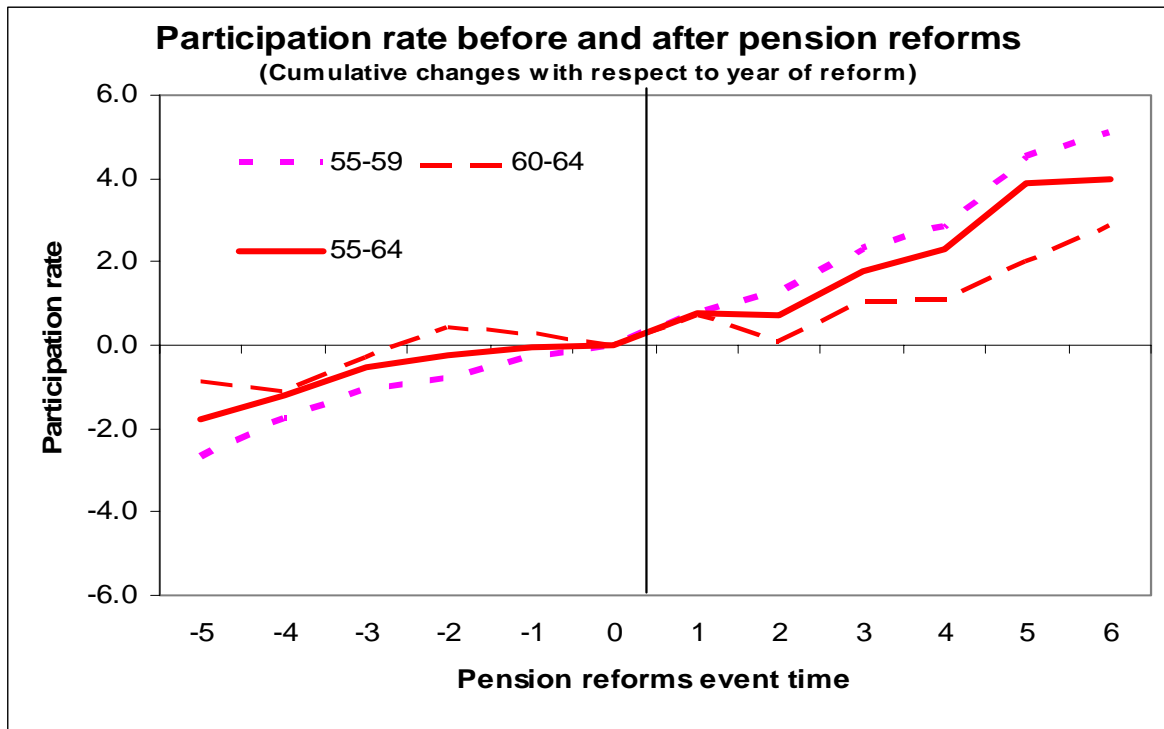
**Table 2**

Average annual change of the participation rate after reforms' years and years where no reforms occur			
	No reforms' years	Reforms' years	z-test: same mean changes
Participation rate 55-59	0.4	0.8	2.1
Participation rate 60-64	0.1	0.5	2.5

Source: Authors calculations on LABREF database; the difference between the participation rates of the no-reforms and reforms years is statistically different from zero at 5% of confidence when the value of the z-test is above 2

Graph 3 shows the time pattern of the participation rate around the reform event. We consider only those reforms that are followed at least by one year; hence, measures taken in 2006 are excluded from the sample. The figure plots for the different age-groups the average change in the participation rate compared with the year in which the reform occurred. Hence each point of the chart gives the cumulated change up to and since the enactment of the reform. Before the pension reform, all groups have participation rates lower than or as big as the rate observed at the time of reform. After the reform, the participation rate increases and after 5 years is on average 5 percentage points higher than at the time the pension reform is enacted.

Graph 3



The findings in Table 2 and graph 3 are suggestive of a positive impact of pension reforms on the participation rate of specific groups of older workers. Of course, changes in the participation rates are driven not only by reforms but also by the business cycle. In line with the cyclical ups and downs, people out of the labour force may be induced to start searching actively for a job when they perceive improved employment chances. Similarly, unemployed people may stop searching for a job when their employment prospects weaken and leave the labour force (the so-called discouraged worker effect). Since

the participation rate rises when the economy improves and falls when the cyclical conditions deteriorate, to identify the effects of pension reforms on the participation rate we should control for the state of the economy. In addition, average changes in the participation up to 6 years following a pension reform (as in table 4) tell nothing about the lags needed for a reform to have an effect on the participation rate. Since pension reforms are gradually phased-in, their impact may become visible only after some years.

To capture the effect of reforms we build a dummy variable equals to 1 only in the years of reforms and 0 otherwise. This dummy is introduced as an explanatory variable in a panel regression where the dependent variable is the change in the participation rate respectively for the 55-59 and 60-64 age groups.<sup>45</sup> Uncertainty and learning are important elements of pension reforms and need to be taken into account. The delayed effects of a pension reforms are estimated introducing the dummy with 0 up to 6 lags at a time (columns 1 to 7) and with 0 to 6 lags altogether. Hence, we estimate the following equation

$$Dpr_{it} = \beta u + \alpha_j DU_{it-j} + \varepsilon_{it} \text{ for } j=0,1,2\dots 6$$

$Dpr_{it}$  : the year over year change in the participation rate;

$u_{it}$  : the unemployment rate;

$DU_{it}$  : a dummy taking the value of 1 if a reform occurs a time  $t$  in the country  $i$  and zero otherwise. So for example the effect of a reform occurred for years earlier is captured by a value of  $DU_{it-4}$  equal to one.

The maximum impact of a reform of the pension system on the participation rate of a specific age group should be reached when those belonging to this group approach the average exit age from the labour force. For example, this implies a lag of at least 2 years for the 55-59 age-group, corresponding to the time needed for those in this group to come near to the exit age<sup>46</sup>. The panel is estimated with OLS (table 5) and instrumental variables (TSLS) to correct for the endogeneity of the unemployment rate with respect to shocks to the participation rate (table 6). In both cases, we control for country specific characteristics with country fixed effects. Pension reforms start having a small impact on participation rates in the year of reform (graphs 8-9). This overall impact on the participation rate is age-group specific and grows with the average age of each group. The effect turns out to be significant when those belonging to one specific age group approach the average exit age. Let's consider these findings with some detail.

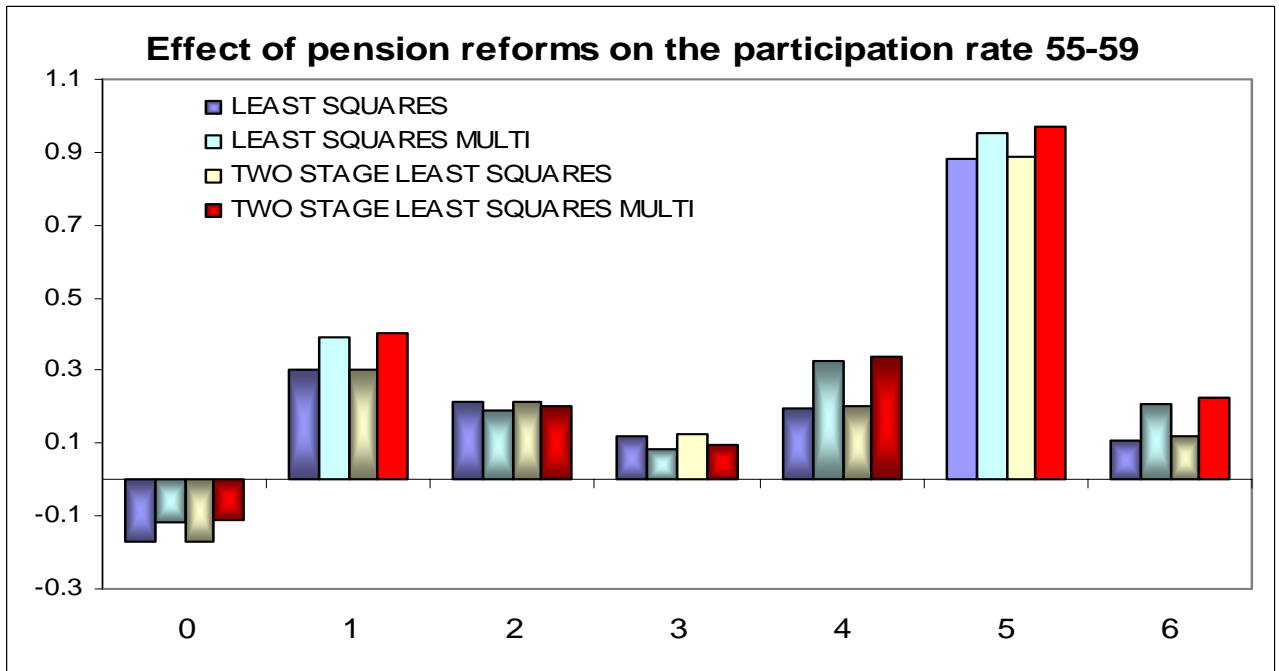
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<sup>45</sup> Preliminary data analysis revealed that it is not possible to reject the hypotheses of a panel unit root for the participation rate. For this reason we took the first difference of the participation rate to get a stationary variable. The formulation chosen implies that the reform modifies the trend in the older workers' participation rate.

<sup>46</sup> Over the period covered by our sample, for the EU25 the exit age from the labour market is below 61. This indicator gives the average age at which active persons definitely withdraw from the labour market. It is based on a probability model considering the relative changes of activity rates from one year to another at a specific age. The activity rate represents the labour force (employed and unemployed population) as a percentage of the total population for a given age. The indicator is based on the EU Labour Force Survey. The survey covers the entire population living in private households. The definitions used follow the guidelines of the International Labour Office.

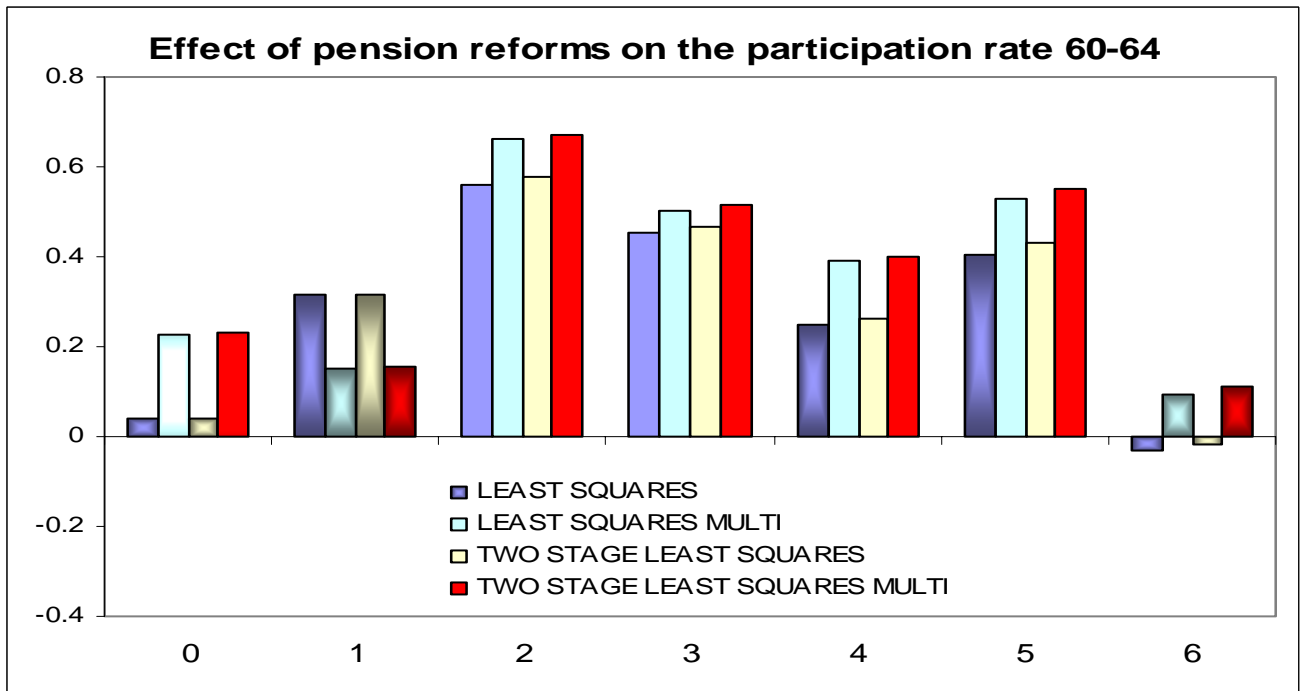
For the 55-59 age group, the findings of the estimates differ across estimation methods. In two out of four specifications - LS and TSLS with reform dummy included up to 6 lags (i.e. column 8 of tables 5 and 6) –the participation rate rises by about 0.4 percentage points after 1 year a pension reform has been enacted. In all the specifications adopted, the impact of a pension reform on the participation rate reaches its maximum of about 0.9 percentage point after 5 years. If one makes the unrealistic assumptions that no further effects can be expected ahead of the 6 year horizon considered in this exercise, the long term impact of a pension reforms on the participation rate of the age group 55-59 is about 1.2 percentage points. Given that in practice the pension reforms are phased in gradually, this number should be considered as a lower threshold. Finally, the impact of a pension reform on the participation rate of the 60-64 age group reaches the maximum of about 0.6 percentage points after 2 years and declines gradually over time for the following 2 years, whereas it keeps up when those age 60 exit from this age class (i.e. at fifth year of reform).

Graph 8



Source: tables 7 and 8. Fuzzy bars denote coefficient statistically not different from zero

Graph 9



Source: Tables 9 and 10. Fuzzy bars denote coefficient statistically not different from zero

Table 5

Change in the Participation rate 55-59 and the pension reforms: LEAST SQUARES								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Unemployment rate (-1)	-0.09*** (-3.25)	-0.09*** (-3.3)	-0.08** (-2.7)	-0.09*** (-2.84)	-0.08*** (-2.48)	-0.07*** (-2.3)	-0.08*** (-2.61)	-0.07*** (-2.5)
Dummy for reforms years	-0.17 (-0.93)							0.12 (0.5)
Dummy for reforms years(-1)		0.30 (1.32)						0.4* (1.63)
Dummy for reforms years(-2)			0.21 (1.08)					0.2 (0.9)
Dummy for reforms years(-3)				0.12 (0.5)				0.08 (0.34)
Dummy for reforms years(-4)					0.19 (0.66)			0.33 (1.01)
Dummy for reforms years(-5)						0.88 (4.12)		0.95*** (4.5)
Dummy for reforms years(-6)							0.11 (0.41)	0.21 (0.90)
Country Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observation	358	358	346	333	319	305	291	291
Sample period	1986-2006	1986- 2006	1987- 2006	1988- 2006	1989- 2006	1990- 2006	1991-2006	1991- 2006
R <sup>2</sup>	0.17	0.14	0.14	0.14	0.15	0.17	0.15	0.18

*Note:* Dependent variable is  $\Delta \ln(\text{participation rate})$ ; estimates are corrected for heteroskedastic residuals. White cross-section standard errors and covariance (d.f. corrected); \*, \*\*, \*\*\* denote respectively significance at 10, 5 and 1 per cent level  
*Source:* Authors calculation on the LABREF database.

Table 6

Change in the Participation rate 55-59 and the pension reforms: TWO STAGE LEAST SQUARES								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Unemployment rate (-1)	-0.05 (-0.54)	-0.05 (-0.54)	-0.06 (-0.7)	-0.06 (-0.63)	-0.05 (-0.54)	-0.05 (-0.54)	-0.03 (-0.32)	-0.02 (-0.29)
Dummy for reforms years	-0.17 (-0.93)							-0.11 (-0.47)
Dummy for reforms years(-1)		0.30 (1.35)						0.40* (1.69)
Dummy for reforms years(-2)			0.21 (1.08)					0.20 (0.99)
Dummy for reforms years(-3)				0.12 (0.57)				0.10 (0.40)
Dummy for reforms years(-4)					0.2 (0.68)			0.34 (1.07)
Dummy for reforms years(-5)						0.89*** (4.14)		0.97*** (4.69)
Dummy for reforms years(-6)							0.12 (0.45)	0.22 (0.94)
Country Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observation	357	357	345	332	318	304	290	290
Sample period	1988- 2006	1988-2006	1988- 2006	1988- 2006	1989- 2006	1990- 2006	1991-2006	1991-2006
R <sup>2</sup>	0.13	0.13	0.14	0.14	0.15	0.17	0.15	0.18

*Note:* Dependent variable is  $\Delta \ln(\text{participation rate})$ ; estimates are corrected for heteroskedastic residuals. \*, \*\*, \*\*\* denote respectively significance at 10, 5 and 1 per cent level. Instruments are output gap at lags 1 to 3 and dummy for reforms with the appropriate lag(s) depending on the specification; in (8) instruments are lags from 1 to 5 of the output gap.  
*Source:* Authors calculation on the LABREF database.

Table 7

Change in the Participation rate 60-64 and the pension reforms: LEAST SQUARES								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Unemployment rate (-1)	-0.10*** (-3.33)	-0.11*** (-3.33)	-0.10** (-3.05)	-0.11*** (-3.07)	-0.10*** (-2.78)	-0.10*** (-2.41)	-0.11*** (-2.73)	-0.09 (-2.59)
Dummy for reforms years	0.04 (0.19)							0.22 (1.27)
Dummy for reforms years(-1)		0.31 (1.5)						-0.15 (0.66)
Dummy for reforms years(-2)			0.56*** (2.40)					0.66*** (2.66)
Dummy for reforms years(-3)				0.45* (1.71)				0.50*** (2.17)
Dummy for reforms years(-4)					0.25** (1.04)			0.39 (1.65)
Dummy for reforms years(-5)						0.40 (1.51)		0.53*** (2.18)
Dummy for reforms years(-6)							-0.03 (-0.10)	0.09 (0.31)
Country Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observation	358	358	346	333	319	305	291	291
Sample period	1986-2006	1986- 2006	1987- 2006	1988- 2006	1989-2006	1990- 2006	1991-2006	1991- 2006
R <sup>2</sup>	0.13	0.13	0.14	0.14	0.13	0.14	0.15	0.19

*Note.* Dependent variable is ; estimates are corrected for heteroskedastic residuals. White cross-section standard errors and covariance (d;f. corrected); \*, \*\*, \*\*\* denote respectively significance at 10, 5 and 1 per cent level  
*Source.* Authors calculation on the LABREF database.

Table 8

Change in the Participation rate 60-64 and the pension reforms: TWO STAGE LEAST SQUARES								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Unemployment rate (-1)	-0.05 (-0.50)	-0.05 (-0.50)	-0.01 (-0.14)	-0.04 (-0.36)	-0.02 (-0.17)	-0.02 (-0.18)	-0.05 (-0.42)	-0.04 (-0.6)
Dummy for reforms years	-0.04 (-0.2)							0.23 (1.25)
Dummy for reforms years(-1)		0.31 (1.5)						0.16 (0.68)
Dummy for reforms years(-2)			0.6*** (2.33)					0.67*** (2.6)
Dummy for reforms years(-3)				0.5* (1.80)				0.51*** (2.2)
Dummy for reforms years(-4)					0.26 (1.05)			0.40 (1.64)
Dummy for reforms years(-5)						0.43 (1.64)		0.55 (2.3)
Dummy for reforms years(-6)							-0.01 (-0.05)	0.11 (0.37)
Country Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observation	357	357	345	332	318	304	290	290
Sample period	1986- 2006	1986-2006	1987- 2006	1988- 2006	1989- 2006	1990- 2006	1991-2006	1991-2006
R <sup>2</sup>	0.13	0.13	0.14	0.14	0.13	0.13	0.15	0.19

*Note.* Dependent variable is ; estimates are corrected for heteroskedastic residuals. \*, \*\*, \*\*\* denote respectively significance at 10, 5 and 1 per cent level. Instruments are output gap at lags 1 to 3 and dummy for reforms with the appropriate lag(s) depending on the specification; in (8) instruments are lags from 1 to 5 of the output gap.  
*Source.* Authors calculation on the LABREF database.



## Summary of the findings

In this exercise we have tested for the impact of pension reforms on participation rates of the 54-59 and 60-64 age groups. Our findings suggest:

- The average participation rates of all the age groups increase in the years that follow a pension reform.
- For the older workers as a whole, the participation rate rises after five years that a pension has been enacted by about 4 percentage points. For the 60-64 age group this effect is lower (2.9 p.p.) than for the 55-59 age group (about 5.1 p.p.)
- Preliminary econometric estimates controlling for the cyclical conditions suggest that for the 55-59 and for the 60-64 age group a pension reform starts having an impact on participation rates respectively about 5 and two years later the reform has been enacted.
- The above finding implies that a reform start having its effect when the youngest people belonging to each of this group approach the retirement age, and, with this metric the pension reform can be considered as successful.
- For the 60-64 age group, the impact of a pension reform on the participation rate reaches its maximum after two years.
- With the lag structure assumed in the (instrumental variable estimates), the impact of a pension reform on the participation rates of the 55-59 and 60-64 age groups amounts to an annual increase in the respective participation rates of about 1.4 and 2.1 percentage points.

## 7. SYNERGIES WITH THE EUROSTAT LMP DATABASE

LABREF is an inventory of policy interventions taken by relevant actors in areas likely to have an impact on labour market performance. Compared to the LMPs database LABREF collects information on all policy interventions (targeted and non targeted, general employment policies, fiscal policies, and policies that regulate labour market functioning). The focus of the LMPs on specific target groups makes it a useful tool to identify the consequences in terms of expenditure and participant of certain policy actions, especially as the measurement period of the LMPs is all years when the intervention is active (including when this is active but not used). Cross-checking the information in LABREF with that in the LMPs database may help to interpret if policy shocks identified by econometric models are due to reforms introduced in Member States.

Graph 11 illustrates the relation between total spending and the number of reforms undertaken within 2004 for a number of countries. Excluding the Netherlands, Denmark and Germany, a systematic relation between the number of reforms and the corresponding expenditure appears to be present. About 30% of the heterogeneity in the number of reforms enacted in 2004 is explained by the expenditure on LMPs. Of course, simple correlations do not identify causality. Hence, it can be argued that more policy interventions cost more. Similarly, it cannot be excluded that the higher is the per capita expenditure in

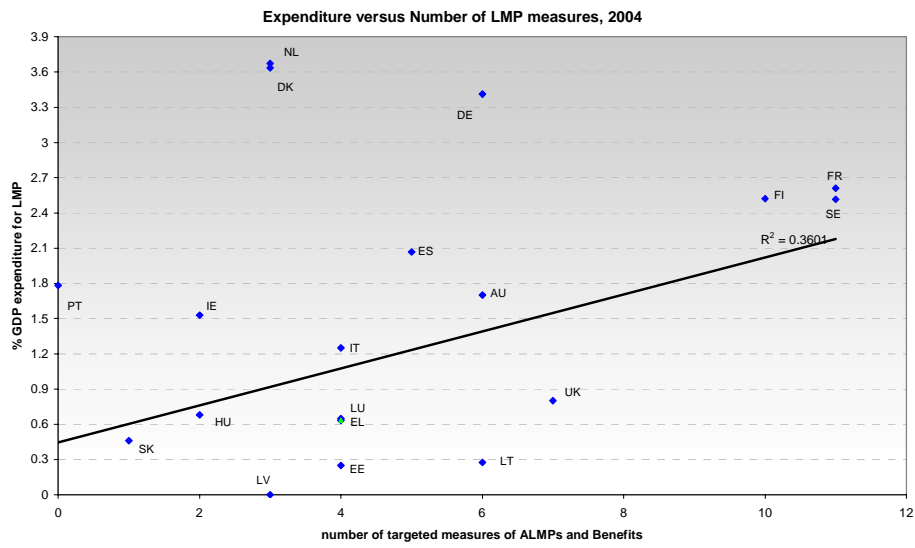
LMP, the stronger the pressure to increase their efficiency through a continuous fine tuning of the existing legislation. This explanation seems also more convincing as the LMP database records all expenditures done in one year independently of whether they were decided on the very same year or years before. In contrast the LABREF inventory collects information only on policy decisions enacted in the current year.

Graph 12 illustrates for 2004 the relation between participation in labour market policies and the number of reforms. The finding here is that the relation seems to preserve the same scheme as in the relation between expenditure and number of reforms: more measures are associated with greater participation in targeted measures and vice-versa. However, in this case only 16% of all heterogeneity in the number of participants is explained by differences in the number of enacted reforms. At this point we have to point out two types of problems involved. One source of problems is the impossibility of annual splitting for some type of financing the LMP expenditures. A second type of problems may stem from the matching-up of the LABREF and the LMP classifications. The results dragged by the charts are no more than illustrative. Nevertheless, we can safely argue that they testify for the use of expenditure and participation as variables related with the frequency of policy intervention in the labour market. A cross country and during several years study of the above relationships may provide a better insight of the functioning of labour market measures.

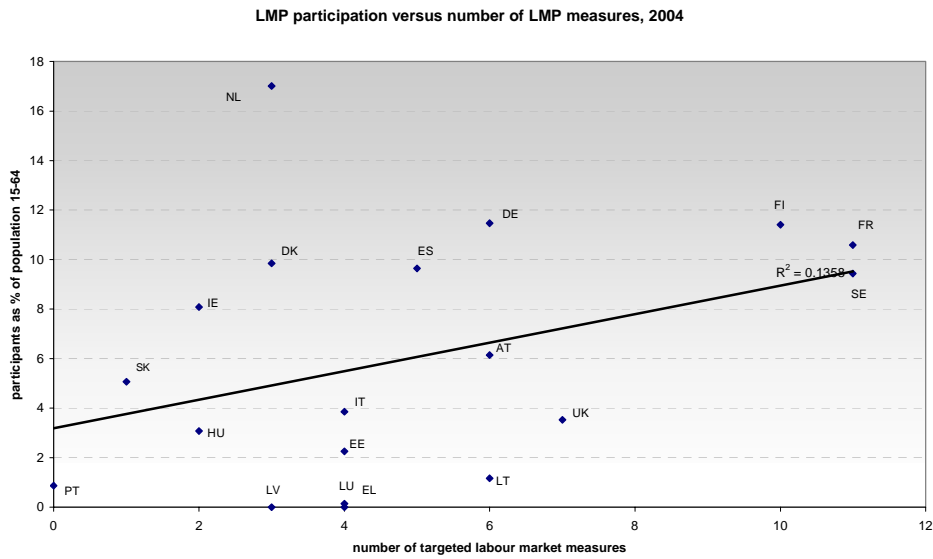
#### Differences between the LMPs database and the LABREF inventory

	<b>LMPs' database</b>	<b>LABREF inventory</b>
<b>Scope</b>	Public interventions in the labour market aimed at reaching its efficient functioning and correcting disequilibria and which can be distinguished from other general employment policy interventions in that they act selectively to favour particular groups in the labour market	All policy interventions likely to have an impact on labour market performance, including those initiated by social partners, and local authorities when their decisions set the pattern at the national level. Policy decisions which involve no disbursements or foregone revenues are included. General policy intervention may be included (i.e. no reference to target groups).
<b>Types of interventions</b>	All interventions that aim to benefit identifiable groups	All targeted and non-targeted policy interventions (general employment and fiscal policies)
<b>Measures</b>	Other than job-search related activities aimed at changing labour market status	All policy interventions in the labour market. A single law may cover several areas of policy intervention. What matters is not the legislative format but the type of actions taken by new legislation or policy decision
<b>Measurement period</b>	Data on each intervention are collected with reference to each calendar year in which the intervention is active (i.e. the law allows for its application), including years when the intervention is active but not used. When an intervention becomes inactive (i.e. the law no longer allows for its application) then data should continue to be reported until there is no further expenditure and all participations have ended.	Information on each policy intervention is collected with reference to the calendar year in which the intervention is enacted independently of whether its consequences will be in that year or in the future (because of phasing-in).

Graph 11



Graph 12



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