Labour market policy spending in the EU

Re-assessment from a social investment perspective

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Abstract

In the context of the debate on social investment, the paper analyses monetary efforts made by European countries in terms of active and passive labour market policy (LMP). Drawing on spending data by Eurostat/DG EMLP of the years 2006-2015, it asks: How does expenditure differ between European countries and how does it evolve in the context of the social investment discourse and the 2008 crisis? Can we distinguish European countries along the lines of active and passive LMP? Which concrete measures of ALMP do governments choose out of the ALMP toolbox? How can we explain national differences in LMP spending, and can we observe any convergence of spending in Europe? One result is that despite the discursive dominance of the social investment paradigm, no shift from 'passive' to 'active' expenditure occurs in the observation period. 'Resource competition' is rather observed between job seekers: the amount of LMP spending per person wanting to work shrinks when labour market strain rises. Another finding points to the sustained inequality of LMP expenditure per person wanting to work between richer and poorer European countries, despite some convergence. Whether this asymmetric LMP investment is likely to nurture socioeconomic inequality between European countries is not certain: we find only limited evidence that higher ALMP (as it is currently designed) spending positively impacts aggregate employment. What comes out clearly are favourable distributional effects of LMP spending on employment, benefitting disadvantaged groups in the labour market. Our results also show that more generous social security benefits foster participation in the labour market, while more intensive ALMP tends to drive part of the unemployed into inactivity. Possibly, improved designs of ALMP could do better in keeping job seekers in the work force and eventually in employment.

Executive summary

- Along our observation period from 2006 to 2015, the trend in many European countries is the combination of rising labour market policy (LMP) spending on aggregate and declining spending per person wanting to work. This means that even though the public faced an increased cost of LMP, the resources channelled to the individual job seeker shrunk on average.
- As for the balance between active and passive (cash benefits) expenditure, we find no evidence of one crowding out the other. Expenditure on cash benefits and on ALMP remain highly correlated, with benefits receiving more resources in most countries. Much more than between ALMP- and PLMP-countries, we can distinguish between countries spending little and countries spending much on LMP. A higher GDP and a larger government budget correlate with a higher share of the budget dedicated to LMP and a higher real LMP spending per person wanting to work.
- At the level of individual countries, we observe changing spending profiles, but no common trend. There is some convergence of labour market policy spending in the observation period, but it is mostly a 'convergence from above' in the sense that some big spenders drastically cut their expenditure. This holds in particular for cash benefits, but also for ALMP. Some CEE countries increase their LMP spending, starting partly from very low initial levels.
- While training remains the most important spending category among the different types of ALMP, spending slowly shifts away from this costly, but long-term investment in human capital. This is for us the most important sign that the discursive dominance of the social investment paradigm in Europe since the early 2000s is not reflected in the trends of LMP spending.
- Despite the asymmetric spending on LMP in Europe, we do not postulate further socioeconomic divergence between European countries *as a consequence*: Our multivariate analysis does not unequivocally confirm *aggregate* positive effects of ALMP or PLMP on employment. A positive effect of ALMP spending on employment, if it exists, remains small according to our estimates. The econometric literature on the macro-economic effects of LMP is also divided.
- We used an innovative approach to evaluate the impact of LMPs on the level as well as the distribution of employment (taking on board externalities such as substitution or crowding out) by combining country-level statistics on LMP expenditure with individual data on labour market status drawn from EU-SILC. We separately estimated the effects of LMP expenses on (a) the probability of participating in the labour market (= activity rate), either employed or unemployed); and (b) the probability of employment. This yielded the following results:
- Contrary to the predictions of the (neoliberal) 'making work pay' or the (conservative) 'dependency' theory, more generous spending on cash benefits (PLMP) has no negative effect on the probability of employment. The alleged disincentive effect on job search may be offset by a positive 'social investment' effect: higher unemployment benefits allow job seekers to invest more in their human capital and in job search. Concerning the probability of economic activity, more generous benefits do have a positive effect. This can be explained by the fact that a better social protection attracts more people into the (formal) labour market.
- As regards the effects of ALMP, our results are more critical: higher expenditure on such measures tends to go in pair with higher employment rates (as expected) but these effects are not robust across different specifications. More intensive ALMP also goes in pair with lower activity rates, which is more surprising. The most straightforward interpretation of the latter effect would be reverse causality: governments may decide to invest more in ALMP when they consider activity rates as insufficient. However, we tried to rule

out such reverse causality by taking into account a time lag of one to two years between ALMP spending and the probability of economic activity. Plausible alternative interpretations are 'threat effects' of ALMP and sanctions that drive persons who do not find jobs into inactivity. This suggests that ALMP do have substantial perverse effects, which raises concerns about the design and implementation of ALMP.

- The most positive aspect of ALMP appears to be their redistributive effect. Female, older, and low educated workers benefit most from LMP: their economic activity and employment is promoted, in contrast to younger, better educated or male workers. Systematically privileging the more disadvantaged groups highlights LMP as a promotor of equality at the labour market.

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Introduction

The cascade of interconnected crises after 2008 put European countries and the European Union at a stress test, challenging both social security and public budgets in most countries. This fuelled the discussion about social policies for the future, part of which is the debate on *social investment* and its place in the European Social Model. In its core, the social investment approach to social policy heralds that the 'new' welfare state should help persons succeed in the market, rather than just compensating unwanted market outcomes. Instead of waiting for damage to be caused and then to repair it, the welfare state should prevent damage by investing in people (in their human capital in particular) early on and assure their activity in the labour market (cp. Morel, Palier, and Palme 2012, 9).[1] In 2013, with its Social Investment Package, the European Commission (2013b) encouraged EU Member States to pursue further the social investment track, which had been proclaimed in the year 2000 in the context of the Lisbon Agenda (Vandenbroucke and Vleminckx 2011).[2]

As is almost necessarily the case with policies formulated for a constituency as diverse as the European Union, there remains an inherent programmatic vagueness. This leaves ample space for discussion to what degree social investment is intended as a complement to or as a replacement of traditional social protection.[3] Further criticism addressed a potential blindness of social investment to predominantly social (thus non-economic) goals, as well as a 'Matthew effect' in the sense that only persons close to the labour market might benefit (Kazepov and Ranci 2017, 92 et seq.). A shifting of resources from the old to the young, who promise higher pay-offs on human capital investment, is also made a topic (Kuitto 2016, 443). In this context, the EU-funded European network project Re-InVEST (www.re-invest.eu) explores the philosophical and institutional underpinnings of social investment.

Our present report concentrates on labour market policy (LMP), a field of social policy next to family, education, and old age policy. We cover two main subjects: Firstly, the efforts in terms of LMP made by European countries in recent years. Secondly, we seek to contribute to the scientific evidence on the effectiveness of LMP in terms of promoting economic activity and employment. Within total LMP, we distinguish passive (PLMP) from active (ALMP) policies, taking them as the equivalents for social protection and social investment in the field of LMP. We are aware that the dividing line between them is partly blurred, and we underscore that passive intervention supports workers' capacity to investment in themselves and their families in times of hardship (Nicaise & Schepers, 2014).

Our first subject, LMP expenditure, is addressed in *Section 1* by a descriptive exercise using data from Eurostat/DG EMPL: How does expenditure differ between European countries and how does it evolve in the context of the social investment discourse and the 2008 crisis? Can we distinguish countries along the lines of active and passive LMP? Which concrete measures of ALMP do governments choose out of the ALMP toolbox? How can we explain national differences in LMP spending, and can we observe any con-

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1 Taking the example of unemployment, the traditional approach is to mitigate the impact on the workers by granting a replacement income of a certain amount under certain conditions. Such intervention has been termed 'passive' intervention. In contrast, 'active' intervention can prevent unemployment from striking by boosting the worker's human capital at an early stage (by training), or it can 'help' him return into employment quickly (by activation and employment subsidies).

2 It did so in spite of a discussion whether a shift to social investment was part of the reasons why the poverty targets of the Lisbon process were missed (Cantillon 2011; Vandenbroucke and Vleminckx 2011).

3 Social investment might enter into 'resource competition' (Vandenbroucke and Vleminckx 2011) with traditional welfare state activity, in particular in the context of European countries sovereign debt crisis. Evidence first showed that this was not the case (Kuitto 2016, 454), but there are some indications of it recently (Ronchi 2018, 15).

vergence of spending in Europe? These questions gain special salience in a context where a common ambition - a European Social Model - hits the reality of constraints that have increased in general, but also diverge(d) strongly between countries.

While economic growth had since long been considered as key to solve many social problems (e.g. very strongly by the Lisbon Agenda), growth was one of the victims of the 'Great Recession'. Social investment is expected to unlock the productive potential of social policy. In the field of LMP, its contribution can be measured in terms of activity or employment rates.[4] Our analysis of LMP effectiveness in *Section 2* looks for systematic empirical links between (active and passive) LMP spending and employment statuses by way of comparative quantitative analysis, drawing on the above-mentioned macro data and on the EU-SILC. The section begins by an overview on the long-standing debate on which policy, if any, can have a positive effect on employment. Central to this debate are general assumptions on market (mal-)functioning and on human behaviour. We review scientific contributions to resolving the question of policy effectiveness empirically, with special emphasis on the difference between micro- and macro-level effects of interventions. We then present our own macro-level analysis of LMP effects on levels of economic activity and employment, but also on the distribution of these effects across socio-economic groups.

We are indebted to colleagues from the Re-InVEST network and beyond for their fruitful suggestions. In particular, we want to thank Anna Ruelens and Tuba Bircan for their input on statistical modelling. We also thank GESIS for their publicly available EU-SILC setup routines. We gratefully acknowledge the funding of a research stay by the (EU-funded) InGRID project.[5]

1. Expenditure on labour market policy in European countries: levels and trends

In this section, labour market policy (LMP) expenditure in European countries is analysed for the period between 2006, the eve of the 'Great Recession', and 2015, the year with the most recent data available at the time of writing. Using descriptive, graphical means, the analysis will show the heterogeneity of levels and trends between European countries, but also some common patterns. The timing of our study has the advantage that we need not compare spending between 'normal' times and 'extraordinary' times: Unlike some recent studies, we consider that no conclusions on spending trends and welfare state recalibration can be drawn from taking the peak of the 'Great Recession' as a reference point. Instead, we compare the situation before 2008 with a moment when the grip of the crisis on European countries has started to loosen.[6]

Patterns and trends in Europe as a whole

Averaging over 27 European countries,[7] Figure 1.1 highlights levels and trends of the main spending categories of LMP: services, measures (ALMP) and supports (PLMP), i.e. cash benefits. It depicts relative spending, thus the mean share of countries' wealth dedicated to LMP. On the left is aggregate expenditure, on the right need-adjusted expenditure, deflated by the share of the population who need LMP intervention.[8] (For further methodological explanation see below.) There are three main observations we can make in this cross-country perspective:

1. Expenditure on passive LMP dominates active expenditure in all observed years by a factor of between two and three. Labour market services are the smallest among the main spending categories. A shift in the relationship between active and passive spending is not visible for the European average in the observation period, in spite of the Lisbon Agenda and the Social Investment Package.

2. The predominant reaction to the crisis was in terms of supports rather than measures: For the years 2009 and 2010, we see a much stronger bulge in PLMP spending as compared to ALMP. This can be explained by the distinction between 'mandatory' and 'discretionary' spending (Streeck and Mertens 2011), as job seekers are legally entitled to a certain level of supports for a certain period of time, while training programmes, employment subsidies etc. are not automatically offered by the public employment services (PES).

3. Aggregate expenditure becomes stronger in the course of the observed period, while spending per head declines. As percentage of GDP, PLMP and to some extent also ALMP expenditure are greater at the end of the observation period than at its beginning, whereas need-weighted expenditure (right side of graph) shrinks. This means that LMP becomes heavier fiscally, while the value of measures and supports that reaches the individual recipient shrinks. The latter can be due to entitlements running out, but also to reforms.

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6 Which does not mean negating the persistent youth unemployment in Southern Europe and the fiscal debt accumulated by anti-crisis measures.

7 We take an unweighted average of our sample countries: AT BE BG CY CZ DE DK EE EL ES FI FR HU IE IT LT LU LV MT NL NO PL PT RO SE SI SK. Not all of them are in the EU. In turn, some EU countries are not included for lack of data.

8 Due to different scaling, levels cannot be compared between both views, but trends can.

Figure 1.1   Relative LMP spending in Europe* (mean)
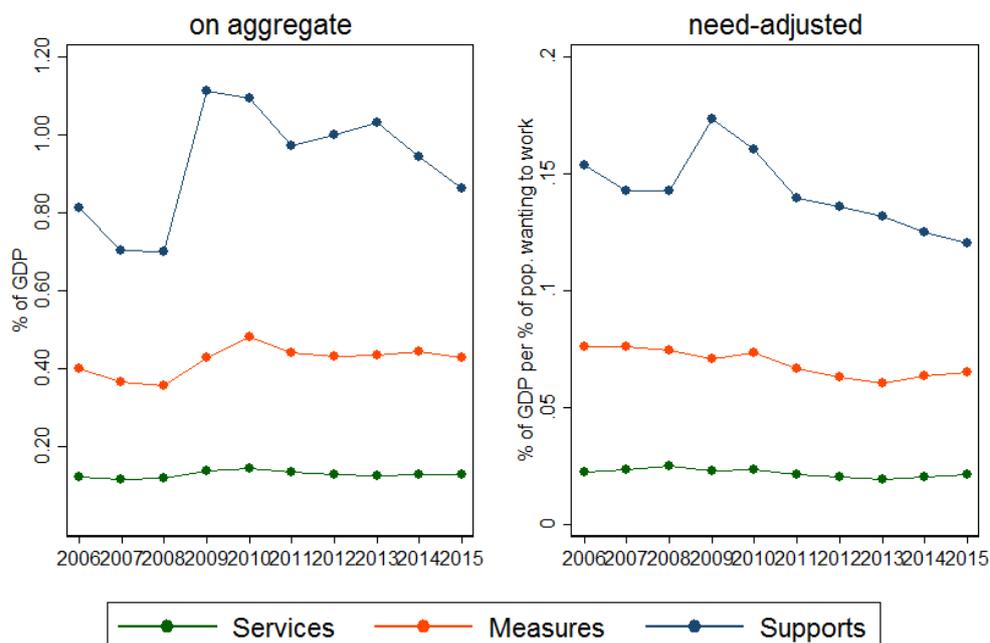
Source: Eurostat/DG EMPL, own calc. * Includes: AT BE BG CY CZ DE DK EE EL ES FI FR HU IE
IT LT LU LV MT NL NO PL PT RO SE SI SK. Some values imputed.

Behind the mean European pattern of LMP expenditure, there are heterogeneous national paths. Examining the different levels and trends of LMP spending at country level is crucial for answering to the questions named above. But before this, we will explain our data and approach in detail.

LMP spending data from Eurostat/DG EMPL

At the basis of this investigation is a database on LMP expenditure provided by Eurostat and the DG Employment, Social Affairs & Inclusion of the EU-Commission.[9] For comprehension, it is useful to cite some extracts of the data documentation: 'The scope of the LMP database covers all labour market interventions which can be described as: 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.' (European Commission 2013a, 7 et seq.) These groups include:

- 'Unemployed - persons usually without work, available for work and actively seeking work.
- Employed at risk - persons currently in work but at risk of involuntary job loss due to the economic circumstances of the employer, restructuring, or similar.
- Inactive - persons currently not part of the labour force (in the sense that they are not employed or unemployed according to the definition above) but who would like to enter the labour market and are disadvantaged in some way.' (Ibid., see also Melis 2007, 3 and 7.)

It is thus important to note that the figures used in the analysis do not include all expenditure on labour market and social policy. In particular, expenditure that benefits the working population in general (like training vouchers for all workers) comes on top.[10] LMP expenditure is classified by Eurostat into three main groups, two of which contain several different spending categories (European Commission 2013a, 13):

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9 http://ec.europa.eu/eurostat/web/labour-market/labour-market-policy/main-tables#, last visited 2018-04-16.
10 All the programmes giving rise to registered expenditure are documented in an online database.

- *Services* ('Category 1' in the Eurostat database) include the money spent on the PES, which interact with job seekers e.g. by profiling and counselling them, and on the administration of measures and supports (often by the PES).
- *Measures* include five sub-categories of spending: training ('Category 2'), employment incentives ('Category 4'), sheltered and supported employment and rehabilitation ('Category 5'), direct job-creation ('Category 6') and start-up incentives ('Category 7').[11]
- *Supports* include two sub-categories of spending: out-of-work income maintenance and supports ('Category 8'), and early retirement ('Category 9').

According to the established terminology, *measures* are referred to as *active* labour market policy (ALMP) in the analysis. They seek to bring participants into employment. *Supports* are referred to as *passive* labour market policy (PLMP). They 'provide financial assistance [...] to individuals for labour market reasons or [...] compensate individuals for disadvantage caused by labour market circumstance' (ibid., 8). In principle, all spending can consist in payments either in cash (reimbursements or reduced contributions/taxes) or in-kind. As pointed out by the OECD, which also uses the Eurostat categories for LMP classification, '[a] large proportion of active spending takes the form of income support payments to participants in active measures. [...] Moreover, spending of the Eurostat type 'transfers to employers', which is reported particularly in Category 4 *Employment incentives* and Category 6 *Job creation*, is in large part further transferred to participants in these measures in the form of wages.' (OECD, n.d., 3)

Part of the expenditure on *services* could be counted either to ALMP or PLMP spending, yet a disaggregation and clear attribution is not possible. Services are therefore not considered when reporting on ALMP and PLMP spending in the present analysis, but they are included when speaking of LMP expenditure in general.

It should be noted that there can be harmonisation problems in the data, in the sense that not all countries report their expenditure in a consistent manner. In particular, some spending may be reported as LMP spending by some countries and not by others. In this analysis, we cannot control for this kind of inaccuracies.[12] For a discussion of the strengths and weaknesses of analysing policy with expenditure data, see Ronchi (2018, 8).

Levels and units of analysis and their meaning

Expenditure data comes in two different units: *Percentage of GDP* and *Purchasing Power Standard (PPS)* (see also below). The former is *relative* spending, it reflects the share of a countries' wealth that is dedicated. The latter is in *absolute*, thus real terms. Each can be expressed either as *aggregate* spending or as spending per head.[13] Spending per head is *not* calculated here as the aggregate amount of spending in one year divided by the number of persons in the whole population (neither just by the active population or the number of unemployed). Rather, the concept of spending per *person wanting to work* is used here, in line with Eurostat. This denominator includes both the unemployed and the labour reserve. The unemployed are those who fulfil the ILO definition of being without work, currently available for work and actively seeking work. The labour reserve denotes inactive persons wanting to work, a subset of all inactive persons (persons neither employed nor unemployed). Thus, overall spending on LMP or a specific sub-category of LMP is reported as one of the following four units, see Table 1.1.

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11 The difference between services and measures is that for measures, 'the main activity of participants is other than job-search related and [...] participation usually results in a change in labour market status' (ibid.). For more information on measures see the box in Section 1.33.

12 For a discussion by the OECD on comparability problems of their ALMP data, see
http://www.oecd.org/els/emp/ALMPdata-Scope-and-Comparability.pdf. Last accessed 2018-08-01.

13 On the importance in comparative research to adjust national expenditure for need, see Kuitto (2016, 448).

Table 1.1   Metrics of LMP expenditure

	Relative	Absolute
Aggregate	Total spending, as percentage of GDP	Total spending, in PPS14
Need-adjusted	Spending per percent of the population wanting to work, as percentage of GDP	Spending per person wanting to work, in PPS

The difference between relative and absolute expenditure can be important in country comparison: a poor country can make a big policy effort, spending a 'high' share on LMP compared to its GDP, but the real monetary value of its spending can still remain small compared to countries with a much higher GDP. In turn, rich countries can mobilise considerable resources for LMP without using a large share of their wealth. (We will see below that the latter example is the more realistic one.) Whether to look at relative or at real spending thus depends on whether one is more interested in the policy priority or in the impact of LMP. A problem with the relative spending indicator is its sensitivity to fluctuations in the business cycle: in a recession, spending as percentage of GDP automatically rises due to the drop in GDP. It thus seems useful for most questions to look at absolute spending when analysing the evolution of spending in an individual country. An issue with absolute expenditure is that it requires deflation for price differences between countries and over time (see below).

As for the difference between aggregate and need-adjusted expenditure, it depends on whether we take a macro- or a micro perspective. Fiscally, the former is more relevant, but from the perspective of the individual person, it is the need-adjusted amount: it captures the governments' investment in his or her individual employability (predominantly ALMP), respectively the resources dedicated to mitigating the calamity of his or her current labour market position (predominantly PLMP). Aggregate spending depends very much on the current labour market strain, but we will see that also per-head expenditure is not absolutely independent from the total number of persons wanting to work.

The spending amounts that we will look at in this report may appear small. It is important to consider that LMP spending is but a small part of total social spending, an even smaller part of the total government budget and again smaller compared to GDP.

Deflation of absolute spending: adjusting for price differences between countries and over time
Differences in price levels make comparisons in absolute terms methodologically more difficult than comparisons of spending as percentage of GDP. This applies both to comparisons over time and to comparisons between countries. Spending data has to be modified in order to get comparable.

1. To offset the effect of inflation, nominal spending in each countries' national currency (NAC) is deflated by each year's consumer prices, using the Harmonised Index of Consumer Prices (HICP).[15] Here, the price level of the year 2011 is taken as the basis (2011 = 1). All spending amounts thus express what could be bought at the prices of 2011.
2. The resulting time series of real national spending on LMP are further divided by the country's Purchasing Power Parity (PPP) of the same year 2011. PPPs 'are indicators of price level differences across countries. They indicate how many currency units a particular quantity of goods and services costs in different countries.' (Eurostat 2008, 49).

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14 One of the influences of absolute spending in PPS is population size, which is analytically irrelevant for our purposes. This indicator is therefore rarely used in our analysis, and not used at all for comparing spending *between* countries.

15 'Consumer price indices (CPIs), which are the best known price indices, measure changes in the prices of goods and services from a consumer's perspective. CPIs are based on the prices of the goods and services which households typically buy. In order to ensure consistency of price indices at the European level, the Harmonised Index of Consumer Prices (HICP) was developed, which is a harmonised consumer price index for all EU countries and the official measure of consumer price inflation in the euro area.' (Eurostat 2008, 12)

The two steps of data transformation lead to a panel of spending data in the artificial currency unit of Purchasing Power Standard (PPS).[16] It has to be noted that these PPS are in terms of the year 2011. Expenditure is expressed in PPS of 2011 even when describing the spending of any other year. The advantage of this is that while the unit of PPS is usually valid only for each single reporting period (e.g. the year 2012), comparisons are made possible both between countries and over time.

1.2 Countries' paths of LMP spending since 2006

There is a bulge of LMP spending in most countries during the crisis years from 2009 on, but the steep increases are soon reversed and spending returns to its pre-crisis level or trajectory in many countries. To determine the longer-term direction of LMP spending, we abstract from the special situation in the midst of our observation period. We compare amounts spent in the years 2006 and 2007, the eve of the crisis, with amounts in 2014 and 2015.[17]

Table 1.2 reports trends of aggregate absolute expenditure by country, distinguishing between ALMP and PLMP. A trend towards rising aggregate expenditure in the past decade is evident: 19 out of 27 observed countries spend at least 5% more on ALMP at the end of the reference period, and 16 out of 27 raise their PLMP expenditure by at least 5% (metric: PPS). In 10 countries, both ALMP and PLMP expenditure are increased. At the opposite side, there are only two countries with decreased ALMP and PLMP expenditure on aggregate, Germany and Romania. No country shows overall stability of expenditure.

Table 1.2   Trends in LMP spending (PPS) on aggregate, from 2006/2007 to 2014/2015

		ALMP		
		Rising	**Stable**	**Falling**
PLMP	**Rising**	AT, CY, EE, FI, FR, IE, LT, LU, SI, SK	NO	BG, ES, IT, LV, NL
	Stable	CZ, EL, MT, PT	-	-
	Falling	BE, DK, HU, PL, SE	-	DE, RO

*   Stability defined as no more than 5% difference between initial and final amount. PPS = Purchasing Power Standard (currency unit).
Source Eurostat/DG Empl, own calculation.

In principle, changes of aggregate spending can be caused either by altered labour market challenges, thus the number of persons eligible for LMP interventions, or altered generosity, i.e. changed amounts spent per head. Table 1.3 reports on the latter. This time, the picture is more balanced between rising and falling expenditure than in Table 1.2, but the tendency is pointing downward, especially for PLMP: we have 10 countries with rising and 14 with falling PLMP expenditure per person wanting to work. On the ALMP side, there are 10 countries with rising and 15 with falling expenditure. The largest group, ten countries, show both falling ALMP and falling PLMP expenditure per person wanting to work. One country, Finland, has stable expenditure, within our definition of stability as less than 5% deviation from the value at the beginning of the observation period.

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16 'PPPs can be interpreted as the exchange rate of the PPS against the euro.' Eurostat glossary:
    http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Purchasing_power_standard_%28PPS%29, last visited 2017-02-24.
17 Using the mean over two years smooths over short-term fluctuation.

Table 1.3   Trends in LMP spending (PPS) per person wanting to work, from 2006/2007 to 2014/2015

		ALMP		
		Rising	**Stable**	**Falling**
PLMP	**Rising**	CZ, EE, LV, SI	LT	BG, DE, IE, IT, NO
	Stable	AT, SK	FI	-
	Falling	HU, MT, PL, SE	-	BE, CY, DK, EL, ES, FR, LU, NL, PT, RO

*   Stability defined as no more than 5% difference between initial and final spending amount. PPS = Purchasing Power Standard (currency unit).

An additional piece of information contained in the tables is on the alignment or dissociation of ALMP and PLMP in the individual countries: There are 15 countries on the diagonal in Table 1.3, which means that ALMP and PLMP either rise jointly or fall jointly, or both remain stable. In contrast, there are 9 cases where ALMP and PLMP per person wanting to work take different directions: In Hungary, Malta, Poland and Sweden, active policy becomes more important while passive policy becomes less. Inversely, in Bulgaria, Germany, Ireland, Italy and Norway, passive policy becomes more important in terms of expenditure per person wanting to work, while active policy becomes less important. As a consequence, the structure of LMP, i.e. the mix of active and passive LMP, changes in these countries. At a first glance, however, our observation period does not seem a time of rising active at the detriment of passive interventions, nor of the contrary: We observe countries with rising and countries with falling ALMP real expenditure, just like there are countries with rising and countries with falling PLMP real expenditure. This mixed result confirms earlier findings, e.g. Kuitto (2016, 453).

We should still take a closer look and compare the magnitudes of changes: Are the changes that happen in favour/at the detriment of ALMP stronger than the increases/decreases in PLMP expenditure? We will verify this for need-adjusted expenditure. It will turn out that the answer depends on whether we look at (a) absolute changes (the distance between final and initial spending) or (b) relative changes (final spending as share of initial spending).[18] In the former perspective (a.) the country average is dominated by countries with high absolute spending amounts (in practice: wealthier countries), in the latter perspective (b.) it is dominated by countries with small initial spending amounts (in practice: the poorer countries of Eastern Europe).

a)   Averaging over the absolute spending changes in our sample countries yields a reduction of both ALMP and PLMP spending (both as percentage of GDP and in PPS) between 2006/2007 and 2014/2015. This reduction is stronger for PLMP than for ALMP (Figure a1.1 in the appendix), but the initial PLMP spending level is also more than double that of ALMP.

b)   Looking at average *relative* changes across countries, we find that they are positive for both ALMP and PLMP, but more strongly positive for PLMP (again both for relative and for absolute spending, see Figure a1.2 in the appendix).

Figure 1.2 plots (a.) percentage-point changes of need-adjusted expenditure as percentage of GDP *by country*, with PLMP on the horizontal and ALMP on the vertical axis.[19] While most countries cluster around the origin, we see strong decreases of PLMP per percentage of the population wanting to work in Denmark, Belgium and Luxembourg. In the former two, decreases in ALMP are not nearly as important as decreases in PLMP. These countries (no matter that they are small countries) have a huge influence on the *average absolute* changes of need-adjusted spending in Europe.

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18 We calculate relative changes by dividing the spending amount at the end of the observation period by the value at its beginning, subtracting 1. The relative change thus signifies how many times more is spent at the end of the observation period.

19 Figure a1.3 in the appendix shows the same for absolute spending. Its scale is strongly influenced by Luxembourg.

Figure 1.2   Percentage-point changes of relative need-adjusted ALMP and PLMP expenditure from 2006/2007 to 2014/2015, by country
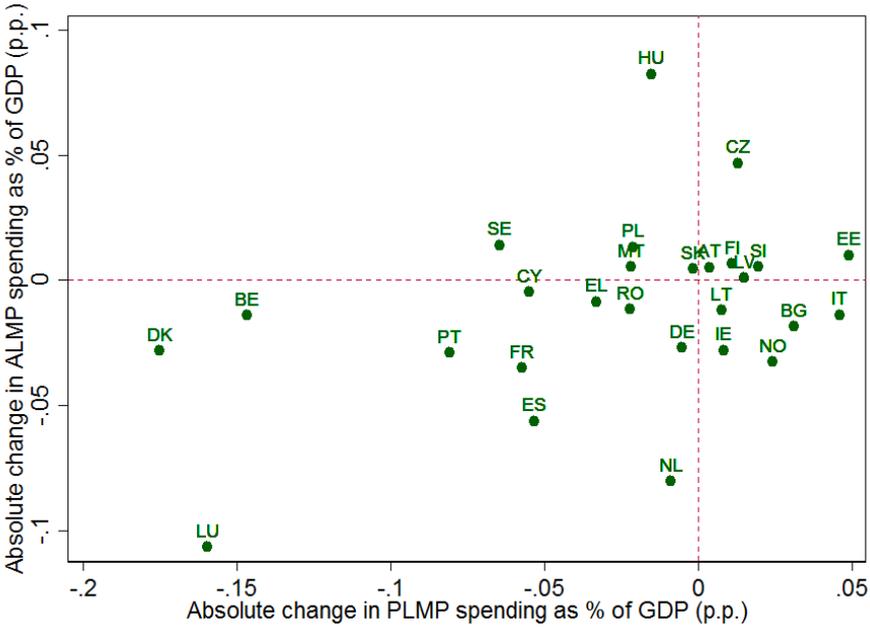
Figure 1.3 shows spending changes not as absolute, but as *relative* changes (b.). As mentioned, relative changes are very sensitive to the starting level, which can be close to zero in some CEE countries. Four countries stand out that feature quite low initial expenditure levels in 2006/2007: Hungary and the Czech Republic strongly increase their active expenditure, while PLMP remains rather stable. Estonia boosts both active and passive expenditure. Bulgaria considerably increases its PLMP spending, relatively spoken, and decreases ALMP. It are those countries that pull the *average relative* changes of spending upwards in Europe. The heterogeneity of countries in our sample makes that averages have to be interpreted very prudently (Figure a.1.1 and Figure a.1.2 are thus in the appendix).

Figure 1.3   Percentage changes of relative need-adjusted ALMP and PLMP expenditure from 2006/2007 to 2014/2015, by country
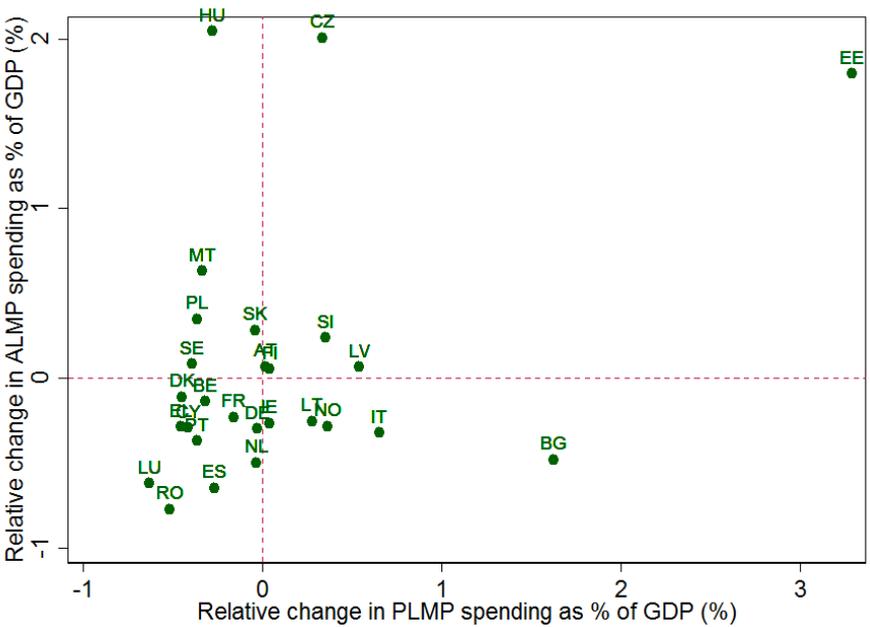
What is the overall picture concerning the evolution of active and passive expenditure? Recalling Table 1.3 above, both active and passive real expenditure per person wanting to work are reduced in a majority of countries. We see few significant absolute increases of ALMP spending compared to GDP, but we do see quite some significant reductions (Figure 1.2). Relative increases of ALMP spending are very significant in three countries (Figure 1.3). For PLMP, absolute decreases of (relative) spending outweigh the increases. Relative negative changes are again comparable in size to relative positive changes, if one abstracts from two outliers with high increases. In sum, spending per person wanting to work is rather at a downward trend in the observation period for both active and passive expenditure. There is no trend towards active forms of policy intervention in the observation period, even though this could be expected in the context of a reigning social investment paradigm.

This result corresponds to the findings of Kuitto (2016, 453), who analyses policy spending trends on different life phases (not only working age, but also children and elderly) in the period between 2000 and 2010. She finds no cross-country trends of social investment relative to social protection expenditure, but rather 'mixed evidence' (ibid., 453). Another study that addresses spending more broadly is presented by Ronchi (2018) on the period from 2000 to 2014. Contrary to the increasing-investment hypothesis, it argues that after a period of parallel extension of spending on social investment and social protection in European countries, the investment type of spending is losing out just in the most recent years (which are not analysed by Kuitto's study), i.e. since 2009. Ronchi questions whether social investment has a chance of being kept up in the future, given the new fiscal conditions. Specifically for LMP spending, analysed in the present report, a downward trend is not observed (yet) after 2009.

In a longer historical perspective, the time *preceding* our observation period, seems marked by rather stable ALMP and declining PLMP: Betcherman et al. (2004, 9) show for OECD countries (large intersection with our sample) that while ALMP expenditure remained rather stable between 1990 and 2002, PLMP expenditure was at a steady decline after 1993. (Both peaked in 1993.) Using the same dataset, Nikolai (2012, 101) accordingly reports a relative stability of aggregate ALMP expenditure in OECD countries even back to the 1980s.[20] In contrast, '[t]he kind of activation strategies that countries have pursued in recent years have involved reductions in access to benefits and in the amount of benefits' (ibid., 103).

In the following, we will look at spending trajectories in individual countries, first with regard to the relationship of aggregate and per-head expenditure, and then with regard to the mix of active and passive expenditure.

Aggregate and need-adjusted expenditure trends in selected countries

Our observation of the European average suggested a drifting apart of aggregate and per head spending on LMP, this can be shown in many individual countries. In the Greek case, Figure 1.4, there is an expenditure hike in the crisis, scaled back after 2010 in the context of the sovereign debt crisis and negotiations with the Troika. Apart from this, we observe that aggregate expenditure for labour market policy in 2014/2015 is bigger (ALMP) or equal (PLMP) to 2006/2007 (cp. Table 1.2). Yet, if aggregate cost is partly contained, this comes at the price of sinking expenditure per person wanting to work. Next to the labour market turmoil, the surge in the number of users of passive benefits is also due to a 2014 reform extending coverage to persons younger than 45 and to freelancers (Bouget et al. 2015, 38).[21]

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20 In 1985, the mean expenditure was at 0.67% of GDP and in 2007 at 0.63% of GDP. The years immediately before the present observation period saw a decline of aggregate expenditure (0.78 % of GDP in 2000).
21 The same applies to the Spanish case with regard to PLMP.

Figure 1.4   LMP expenditure trends in Greece, 2006-2015

in total

per person wanting to work

Services   Measures   Supports

* Amounts calculated at prices of 2011, divided by 2011's PPP.
Source Eurostat/DG EMPL, own calculation
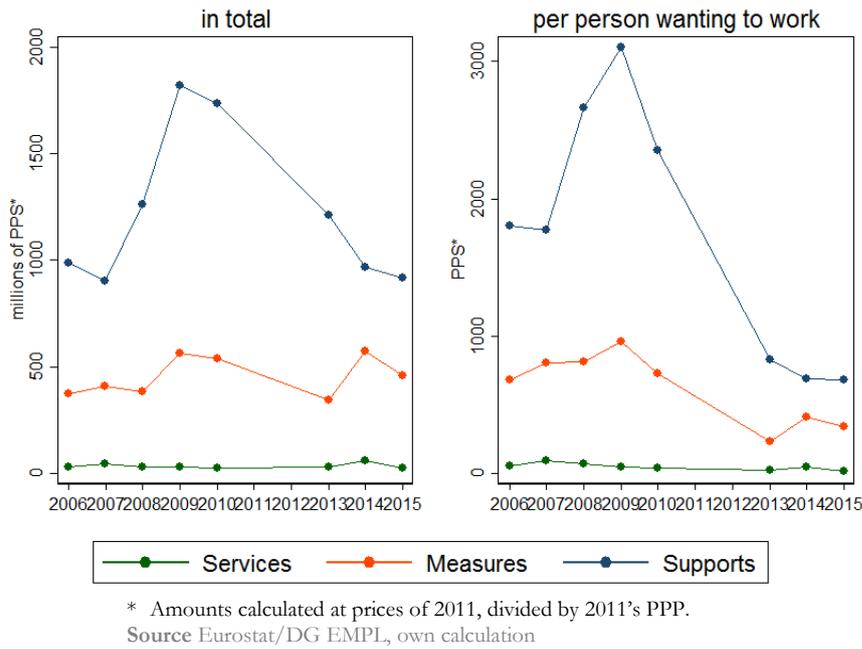
A more drastic case of dissociation is the wealthiest of the observed countries, Luxembourg (Figure 1.5). Here, the explanation probably lies in policy choices. After 2011, per head ALMP and PLMP is held stable, involving slightly rising expenditure on aggregate.

Figure 1.5   LMP expenditure trends in Luxembourg, 2006-2015

in total

per person wanting to work

Services   Measures   Supports

* Amounts calculated at prices of 2011, divided by 2011's PPP.
Source Eurostat/DG EMPL, own calculation
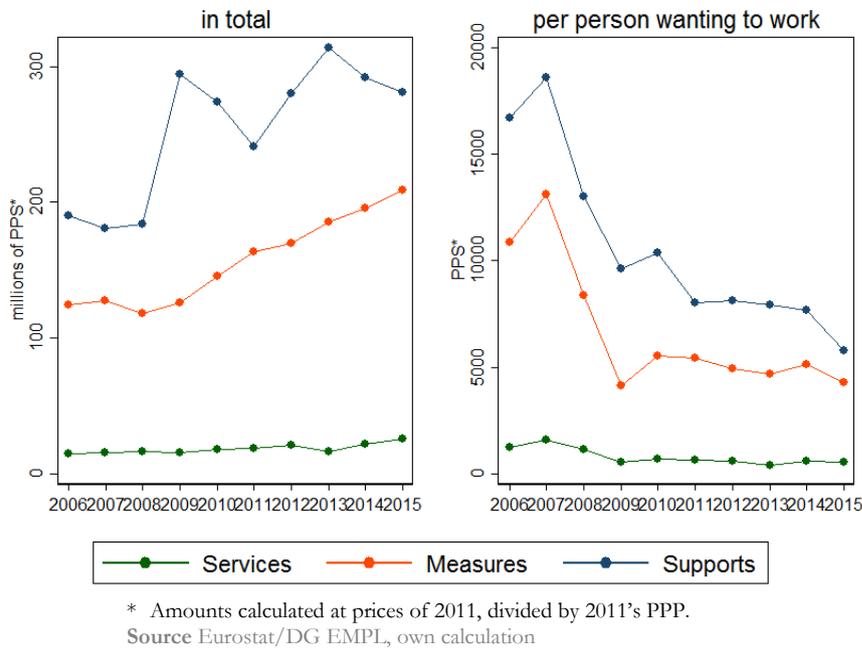
The Irish case features a trend of rising supports granted to individuals already before the crisis. It is first brought to a halt and then reversed in the crisis, after which the upward trend is resumed. The cost implications of keeping up the level of supports are reflected in aggregate spending, which rises considerably in the crisis (see also Italy, Figure 1.8). The reaction to the crisis is less in terms of measures, expenditure on ALMP per person wanting to work drops after 2007, while PLMP expenditure still goes up. Towards the

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end of the reference period, labour market tensions diminish, and a decreasing (PLMP) and stable (ALMP) aggregate spending are combined with rising expenditure per person wanting to work.

Figure 1.6   LMP expenditure trends in Ireland, 2006-2015
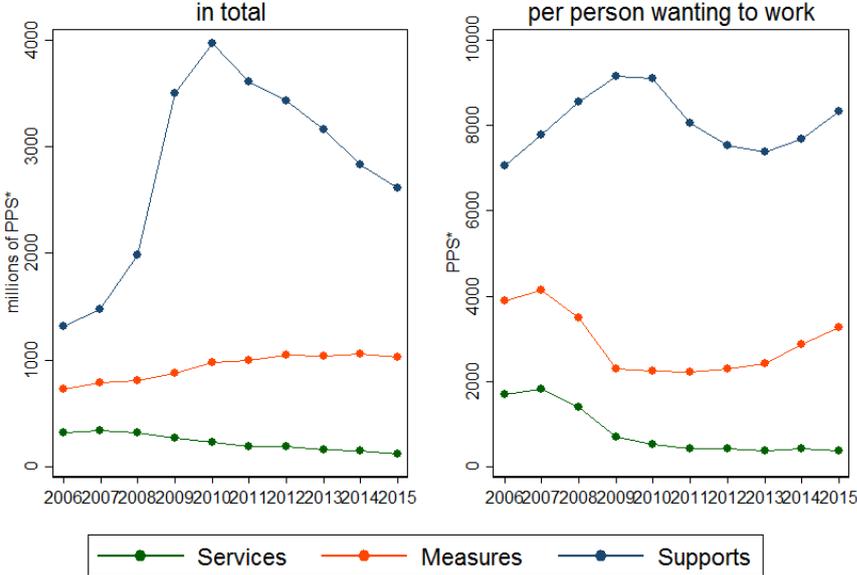
* Amounts calculated at prices of 2011, divided by 2011's PPP.
Source Eurostat/DG EMPL, own calculation

In the observation period, almost no country combines falling aggregate expenditure with rising investment in individuals wanting to work. Only Germany comes close to this situation, with declining expenditure on PLMP on aggregate, while per-head spending is relatively stable. As for ALMP, both aggregate and per-head spending falls, but aggregate spending falls more strongly. This has to do with the improvement of labour market conditions that happens singularly in Germany after 2008 (Sperber and Walwei 2015).

Another feature of the German case is the rising aggregate and per-head expenditure for labour market *services* (green curve in Figure 1.7). As service expenditure also includes the administration of ALMP and PLMP interventions, a rise in times of shrinking aggregate ALMP and PLMP spending can either mean dis-economies of scale (due to fixed administration costs of buildings, salaries, etc.) or a rise in the 'services' offered. (The latter is plausible in the context of the 'Hartz-Reforms', enacted in 2003-2005, which involve a closer monitoring of job seekers.) Other countries with rising expenditure on labour market services are Denmark (also counter to the ALMP and PLMP trend, cp. Figure a1.4 in the appendix), Estonia (possibly a result of administrating rising PLMP expenditure), Norway, and Romania[22] (not shown).

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22 In Romania, service expenditure makes a jump from 2010 to 2011, either as the result of a new kind of service or as a service cost not registered before 2010.

Figure 1.7   LMP expenditure trends in Germany, 2006-2015
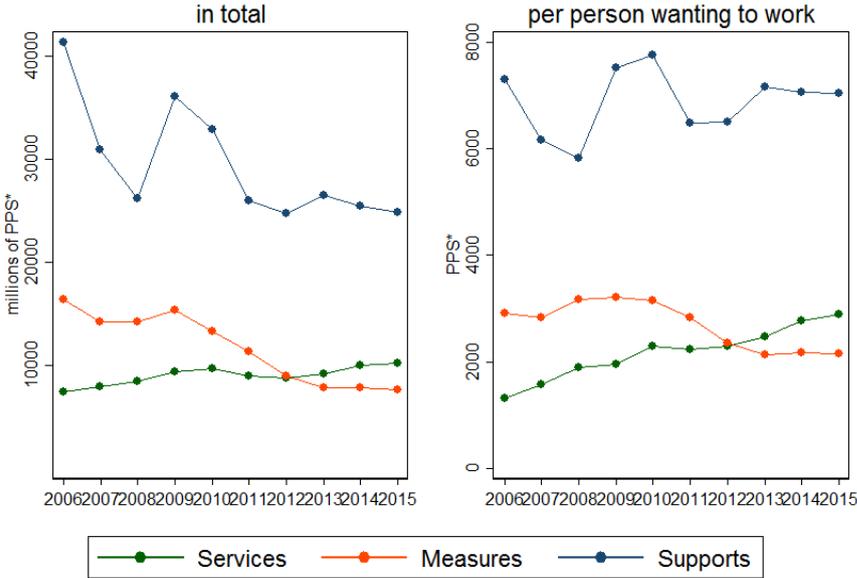
* Amounts calculated at prices of 2011, divided by 2011's PPP.
Source Eurostat/DG EMPL, own calculation

We retain that instead of clearly rising or clearly falling expenditure on labour market policy, developments in European countries tend to diverge between aggregate spending, which more often rises, and need-adjusted spending, which more often falls. We cautiously interpret this as a sign of policy change, in some countries possibly against the backdrop of fiscal strain. While social spending has not been the cause of sovereign debt issues after 2008, as the ILO (2015, 128) insists in a recent report, it was nevertheless cut back in many European countries to make up for the fiscal losses connected to bank bailouts, stimulus packages and economic slowdown.

ALMP and PLMP expenditure trends in selected countries
We saw above that there is no crowding out of passive by active labour market policy in the observed period, neither in the pan-European perspective (Figure 1.1) nor in a majority of countries (Table 1.2 and Table 1.3). Let us look more in detail at the evolution of active and passive LMP in selected countries, to see how the structure of LMP changes significantly in some countries, notwithstanding the static overall picture.

A prominent example for weak and further declining social investment is Italy (Figure 1.8), where the LMP profile shifts towards passive at the detriment of active intervention in the observed period. Accordingly, Ronchi (2018, 12) describes Italy as 'increasing its effort into SP while reducing its effort into SI'. Kazepov and Ranci (2017) describe Italy as an 'adverse case' of social investment, 'a country unfriendly to SI' (ibid., 98).

Figure 1.8   LMP expenditure trends in Italy, 2006-2015

in total

per person wanting to work

Services — Measures — Supports
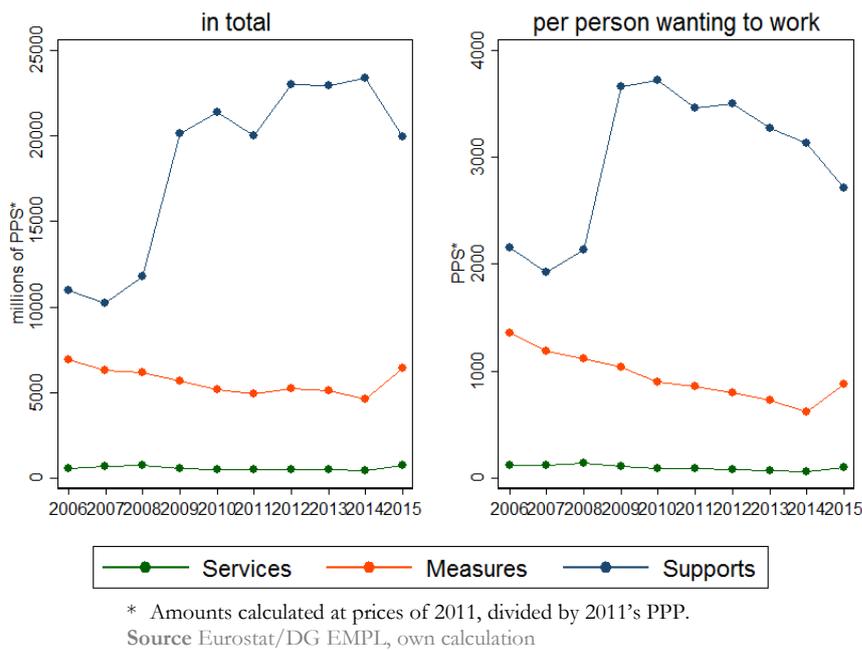
Also in Bulgaria, Germany, Ireland and Norway, we can see a combination of falling ALMP and rising PLMP per person wanting to work (Table 1.3). Figure 1.9 shows how Bulgaria evolves from an ALMP- to a PLMP-leaning country (note, however, the small absolute amounts spent). The curve on LMP measures depicts mainly spending on direct job-creation, virtually the only type of measure Bulgaria deploys (cp. Table a1.2 in the appendix).

Figure 1.9   LMP expenditure trends in Bulgaria, 2006-2015

in total

per person wanting to work

Services — Measures — Supports
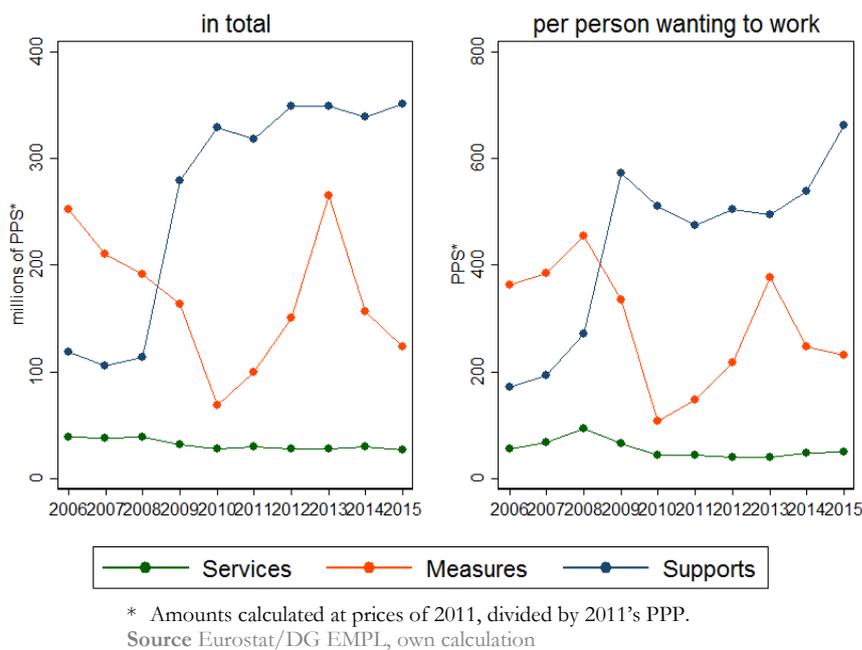
In the Norwegian case (Figure 1.10), rising PLMP leads to losing an initial ALMP-leaning spending profile, getting to a more balanced profile with rather similar spending amounts on ALMP and PLMP. The inverse development occurs in Denmark (Figure a1.3 in the appendix), which loses its PLMP-leaning profile during

the observation period. In Norway and Denmark, ALMP and PLMP expenditure are approximately equal by 2015.

Figure 1.10   LMP expenditure trends in Norway, 2006-2015
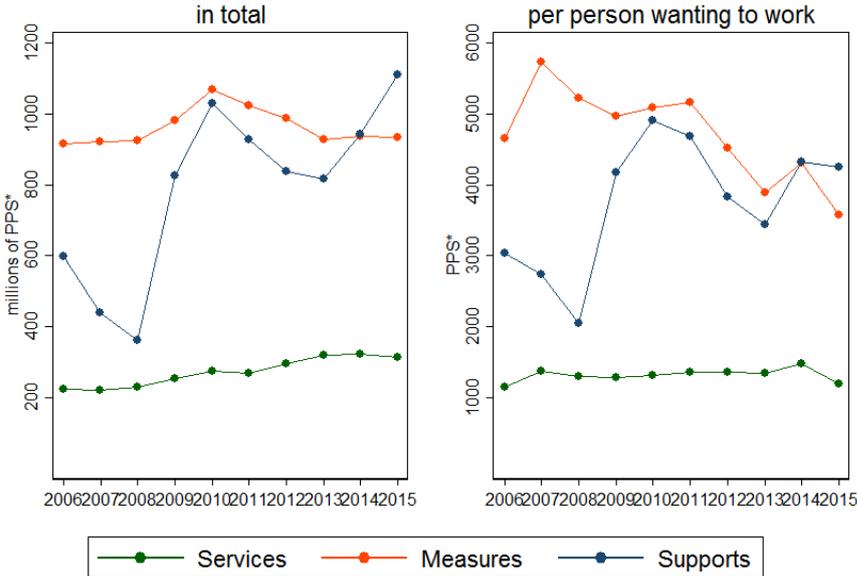
* Amounts calculated at prices of 2011, divided by 2011's PPP.
Source Eurostat/DG EMPL, own calculation

A rather spectacular case of rising ALMP and declining PLMP is Hungary (Figure 1.11). As we will see below (1.3), behind the rising ALMP expenditure is a boost in public job-creation; yet, this measure comes in the form of a large-scale workfare programme that cannot be seen as an example of social investment. (Moreover, reforms to lower unemployment benefits are being reported (Bouget et al., 2015, 38)). A similar surge of ALMP spending occurs in the Czech Republic (Table a1.1 in the appendix).

Figure 1.11   LMP expenditure trends in Hungary, 2006-2015
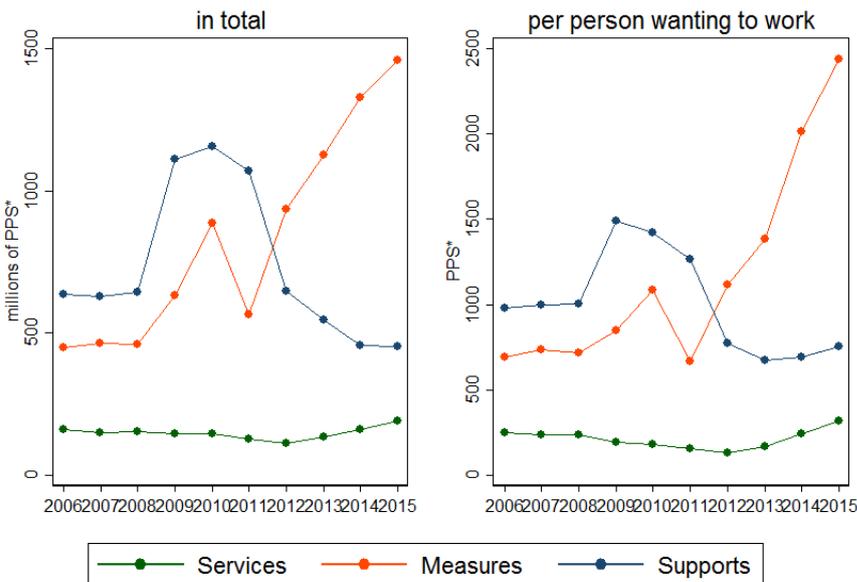
* Amounts calculated at prices of 2011, divided by 2011's PPP.
Source Eurostat/DG EMPL, own calculation

We sum up our two main findings of this sub-section: first, the discursive environment of social investment in recent years thus did not shift general policy orientations away from traditional welfare state activities, although we find examples of a changing policy mix in individual countries. Second, there is a trend concerning the relationship between aggregate and per-head expenditure: even though less is spent on the individual person wanting to work, there is a growing total cost of LMP in the course of our observation period. This hints that welfare states face augmenting challenges: in the face of budgetary strain (especially after the crisis), the growing number of persons who need to be covered leads to a crowding out. It is possible that in some countries, reductions in spending per head would have been effectuated even without the crisis, while the crisis just made that they did not lead to the intended fiscal savings. According to a recent report to the European Commission, spending cuts predate the 2008 crisis in a number of countries.[23]

1.3   Which kinds of ALMP are prioritised by European countries?

Historically, the aims pursued by governments when enacting ALMP have continued to evolve. Bonoli (2012) distinguishes three periods of active LMP after WW2.[24] In the 1950s-1960s, measures aimed at upskilling workers in the context of labour shortage. As of the mid 1970s (after the oil shocks), reducing unemployment was the main objective, pursued mainly by 'keeping people busy' - i.e. without much attention to the content of programmes. '[S]ince the mid-1990s, labour market policy aims essentially at encouraging and facilitating labour market re-entry of unemployed persons and other non-working individuals.' (ibid., 188). Bonoli dubs this latter orientation/phase 'incentive reinforcement'. The historical account given in Pierre (1999, 25) accordingly describes for the US that the focus of politicians in the seventies and early eighties was on getting the unemployed back into work. 'Since the mid-eighties, with the aggravation of the situation of certain categories of people, they have searched for policies which avoid 'social exclusion'.' (ibid.) Social inclusion often being translated as labour-market integration, the characterisation of ALMP as 'incentive reinforcement' seems to apply here as well. For the case of Europe today, it is argued (by GekBoo Ng in Pierre 1999) that active labour market policies are also 'aimed at the creation of a high-skilled and knowledge-based economy'.

As explained above, Eurostat distinguishes five ALMP spending categories: training, employment incentives, sheltered and supported employment and rehabilitation, direct job-creation and start-up incentives (see box 1 for definitions). ALMP measures are, or should be, chosen in function of the political aim pursued. What kinds of measures would have to be privileged from the perspective of social investment? De Deken (2013) argues: 'the kinds of returns that the social investment paradigm seeks to generate: raising labour force participation and productivity'.[25] Based on that definition, we should expect a broad use of the measures in the above toolbox in Europe, with the exception of direct job-creation (as it does not raise participation in the regular labour market). From the viewpoint of productivity extension - and equally with regard to the extension of human capability - the particular importance of training is obvious.

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23 Bouget et al. (2015: 37) mention 'cuts in the amount and/or duration of [unemployment] benefits (e.g. BE, CZ, DK, EL, ES, IE, HU, PT, RO). Furthermore, in many cases eligibility conditions have been tightened and benefits have been made more conditional. Importantly, while these developments have often been the consequence of fiscal consolidation measures implemented in the context of the economic crisis, it should be noted that, on the one hand, they do not only concern the countries hardest hit by the crisis and, on the other hand, that they have sometimes been part of a longer trend, which began well before the crisis.'

24 ALMP as such existed already long before WW2. See Janoski (1990) for a comparison of ALMP in the US and Germany, reaching back to the 19th century.

25 He further concretises: 'The social investment state seeks to go beyond merely reproducing the existing labour force, in order to come to terms with the problem of worsening dependency ratios that come with an ageing population.' (De Deken 2012, 8)

We will in the following observe our sample countries' ALMP spending, using the spending categories provided by Eurostat. Looking first at the average aggregate spending on the different ALMP categories in European countries (unweighted, relative spending, left part of Figure 1.12), we see a clear hierarchy: expenditure on training is most important in volume. Employment incentives and the category sheltered and supported employment and rehabilitation share rank number two. Much less is spent on direct job-creation and again much less on start-up incentives. In the per-head view, the advance of the training category over employment incentives and sheltered and supported employment and rehabilitation is smaller than in the aggregate view, else the relationships between spending categories are similar.

Figure 1.12   Relative ALMP spending, European mean, 2006-2015
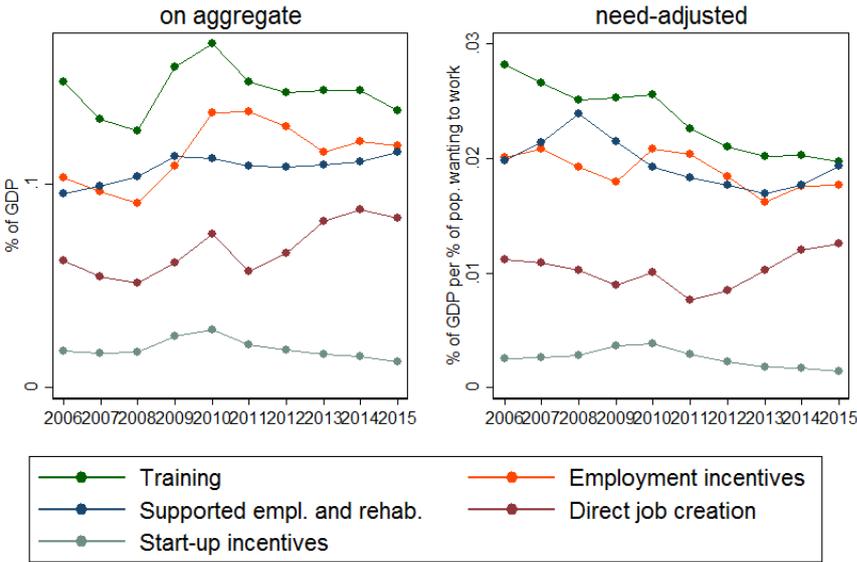
*   Includes: AT, BE, BG, CY, CZ, DE, DK, EE, EL, ES, FI, FR, HU, IE, IT, LT, LU, LV, MT, NL, NO, PL, PT, RO, SE, SI, SK. Some values imputed.
Source Eurostat/DG EMPL, own calculation

Still in the cross-country view, Figure 1.13 concentrates on the change between the first and the last 2 years of the observed period. On aggregate, we have rising expenditure for the categories employment incentives, sheltered and supported employment and rehabilitation, and direct job creation. There is approximately stable aggregate spending on training and start-up incentives. Compared to the evolution of the number of persons wanting to work, the evolution of expenditure again appears in a more negative light.[26] Especially the training expenditure declines in the course of the observed period, but also employment incentives and sheltered/supported employment & rehabilitation, in spite of the rise in aggregate spending. Only for direct job-creation - where aggregate expenditure rises most - we also see a rise in need-adjusted spending. This is not a leftover from anti-crisis policies: Taking another look at Figure 1.12, we see that the rise of direct job-creation mostly occurs after the year 2011. The analysis of individual countries' trajectories will illustrate that direct job-creation expenditure rises mostly in two countries: Hungary and the Czech Republic.[27]

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26 Against the intuition, the relationship between trends of aggregate and per capita expenditure needs not be identical across spending categories. The reason is that we are looking at the European mean over national differences in spending, not at the difference of mean spending in across Europe between both points in time. This makes that the denominator for calculating the per-head value is not identical for each spending category. If a country spends a lot on a specific ALMP category, the development of the number of persons wanting to work in this country will have a particular impact on the European mean difference per head.

27 Without these two, Figure 1.13 would look quite different, with stable aggregate spending and decline in spending per person wanting to work comparable to employment incentives and supported employment/rehabilitation.

Figure 1.13 Mean change in relative ALMP spending in European* countries, from 2006/2007 to 2014/2015[28]
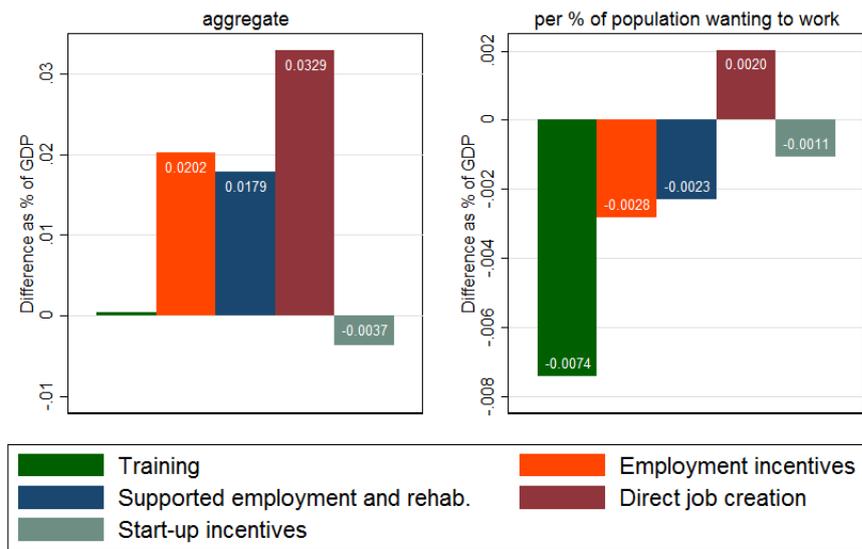
* Includes: AT, BE, BG, CY, CZ, DE, DK, EE, EL, ES, FI, FR, HU, IE, IT, LT, LU, LV, MT, NL, NO, PL, PT, RO, SE, SI, SK. Some values imputed.
** Real spending at prices of 2011, divided by 2011's PPP.
Source Eurostat/DG EMPL, own calculation

In the following, we group countries by their dominant (combination of) forms of ALMP. This inevitably leads to putting countries with high and small spending together in the same group. Levels of spending - in PPS metric - can be found in Table a1.2 in the appendix.

One group clearly spends much more on training than on any other measure. It includes Austria, Finland, Germany, France and Estonia. In Austria and Finland, the emphasis on training becomes even stronger in the observation period, this is also true for Estonia, though other ALMP measures are strengthened as well. In the German case (Figure 1.14), aggregate spending for training is going down, while expenditure per head stays the same. The prominent short-time working allowance ('Kurzarbeitergeld') is visible by the bulge of expenditure for employment incentives in 2009 and 2010.[29] Start-up incentives, which gained in popularity for a short while in the context of the 'Hartz-reforms', are at a downward trend again.[30] In France (Figure a1.5 in the appendix), even though training is the dominant measure, the array of ALMP tools used is more diverse. Especially, expenditure on direct job-creation is relatively strong compared to other countries. France increased its aggregate spending on training in 2009 and sustained it. More recently, per-head spending has been at a downward trend for training, while spending on direct job-creation is rising.

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28 The graph is based on absolute differences of spending at country level between two points in time (each point is calculated as the mean over two years). It displays the mean value across these differences in each observed country. Countries are thus unweighted, which gives special importance to the trends in smaller countries.

29 Cf. online documentation, last accessed 2018-06-07, cp. also Vlandas (2013, 6).

30 Our observation period begins after the introduction of the Hartz-reforms. In a longer-term perspective, Bouget et al. (2015, 42) note a 'conceptual reorientation' of ALMPs in Germany, away from sustainable training and integration programmes towards short-term oriented workfare and budget consolidation measures.

Figure 1.14   Spending on ALMP in Germany, by type of measure
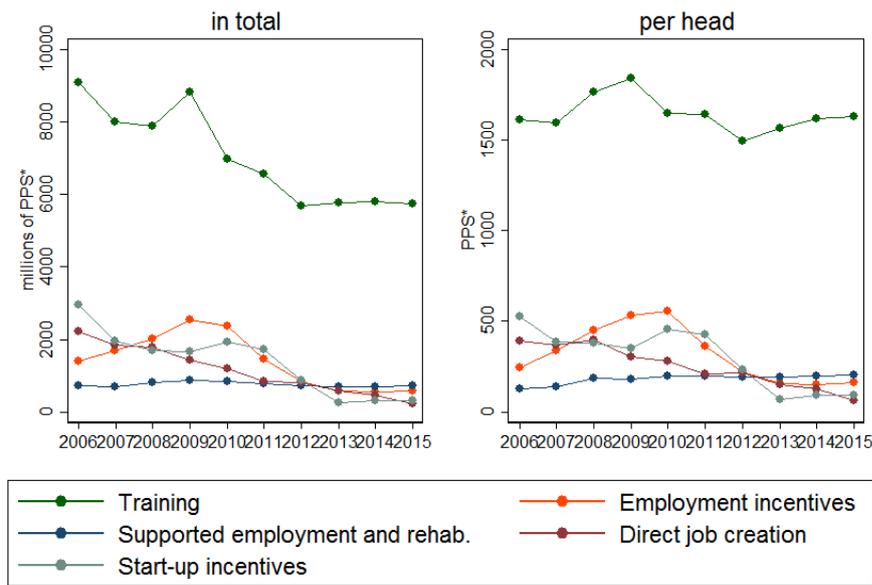
in total   per head

Training
Supported employment and rehab.
Start-up incentives
Employment incentives
Direct job creation

*   Amounts calculated at prices of 2011, divided by 2011's PPP.
Source Eurostat/DG EMPL, own calculation

There is a second group of countries where training is also relatively important, but is complemented by employment incentives. This is the case in a number of Southern European countries (Portugal, Italy, Malta, Cyprus) and in Lithuania (Table a1.2). In the latter, employment incentives become the dominant form of ALMP after 2009, they are twice as important as training in terms of expenditure at the end of the observation period. In Cyprus, employment incentives are boosted as a reaction to the crisis, but expenditure is then brought back to its initial level. We also see a slightly increased effort in training on aggregate and per head since 2010 in Cyprus. In Portugal, there is a marked drop in per-head spending, while aggregate spending increases. Also in Italy, per-head ALMP spending is at a downward trend for most of the observation period, yet there is recovery from 2014 to 2015, as spending on employment incentives jumps upward. In Malta, spending soars particularly in the years 2011-2012 and 2014.

Figure 1.15   Spending on ALMP in Lithuania, by type of measure
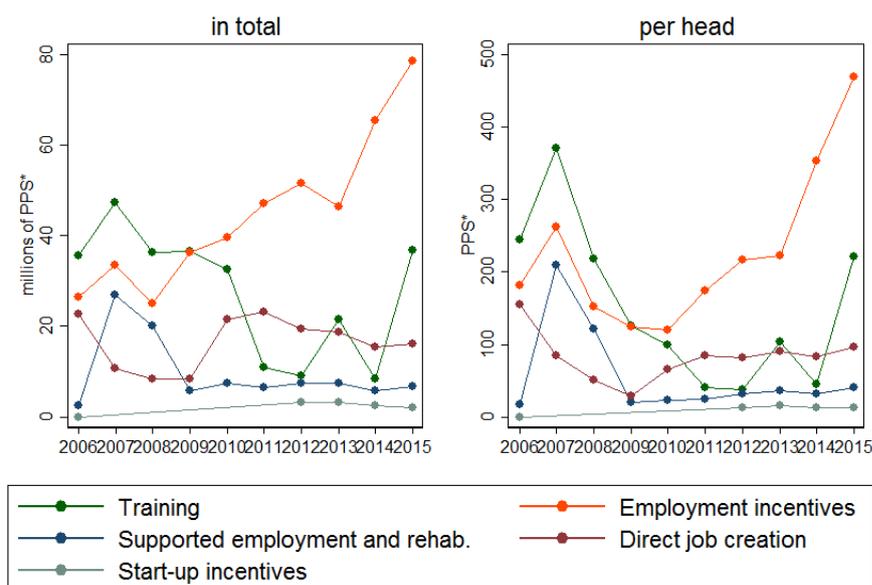
in total   per head

Training
Supported employment and rehab.
Start-up incentives
Employment incentives
Direct job creation

*   Amounts calculated at prices of 2011, divided by 2011's PPP.
Source Eurostat/DG EMPL, own calculation

28

Countries that prioritise employment incentives over other types of measures are Luxembourg, Romania and Sweden. In Luxembourg, there is a constantly rising investment in employment incentives on aggregate, which does still not suffice, however, to counter the downward per-head trend. A downward trend of ALMP both on aggregate and per head occurs in Romania (Figure 1.16), where employment incentives remain the only form of ALMP worth mentioning at the end of the observation period. Curiously, the country thus gains a clear spending profile by an unbalanced shrinkage of expenditure. In Sweden, employment incentives are the dominant measure, spending is again on the rise after a dip in 2008-2009 (Table a1.2 in the appendix). Also training expenditure recovers after a decline until 2009, and expenditure for sheltered/supported employment & rehabilitation is constantly rising (on aggregate and per person wanting to work).

Figure 1.16   Spending on ALMP in Romania, by type of measure
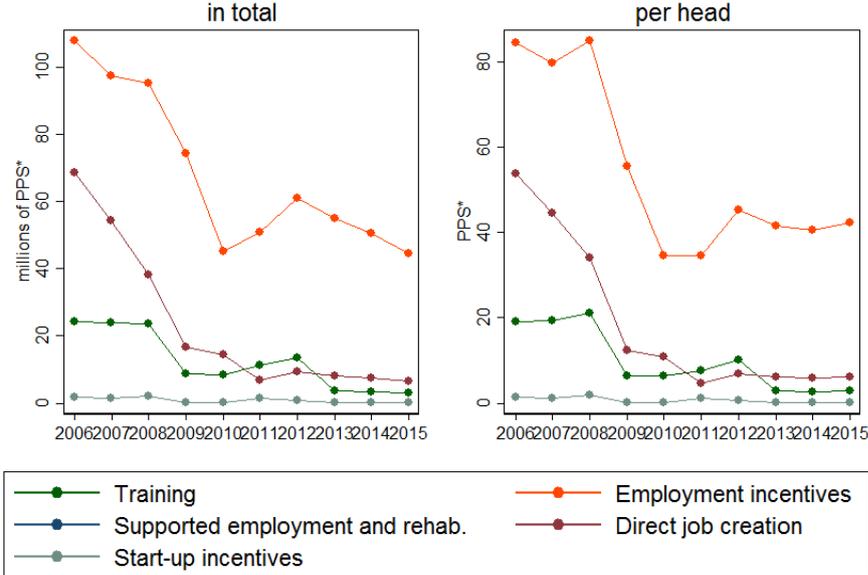
* Amounts calculated at prices of 2011, divided by 2011's PPP.
Source Eurostat/DG EMPL, own calculation

Direct job-creation is favoured in Bulgaria, Hungary and Slovenia. In Bulgaria, it is the only measure playing a significant role. We can observe a huge fluctuation of expenditure during observed years. Hungary (Figure 1.17) features an exceptional spending profile: Direct job-creation expenditure has been skyrocketing, while the other ALMP categories continue to play a minor role. This policy shift (connected with declining PLMP, see above) has sparked a host of critical (but sometimes also prudently optimist) assessments of the Hungarian case (see Lakner & Tausz 2016; Asztalos Morell, 2014; Keller et al., 2016). To the extent that measures can be qualified as 'workfare' - and this seems to apply to a large part - they cannot be considered as social investment: instead of just occupying or even policing jobless persons, the money could rather be used to finance activities that enhance the human capital and/or the capabilities of participants.

Figure 1.17   Spending on ALMP in Hungary, by type of measure
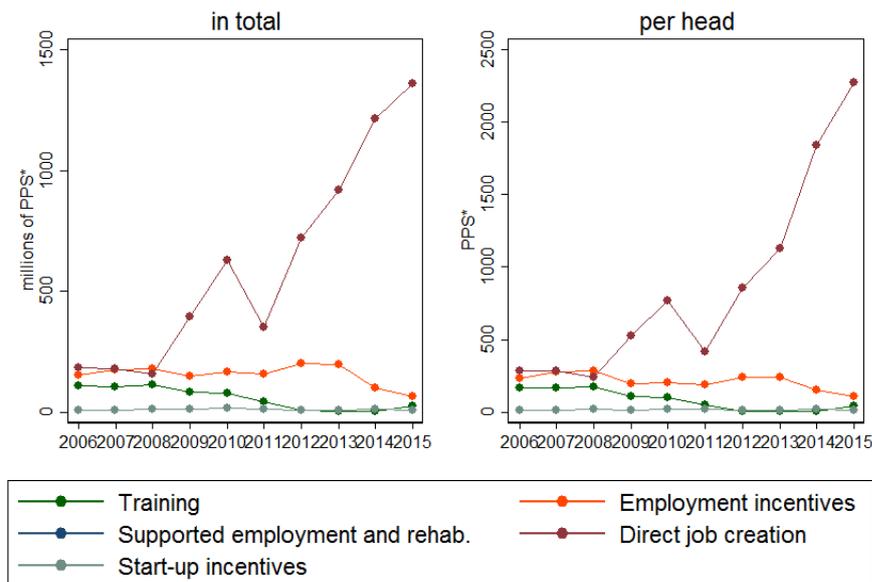
* Amounts calculated at prices of 2011, divided by 2011's PPP.
Source Eurostat/DG EMPL, own calculation

Sheltered/supported employment & rehabilitation is the biggest spending category in Denmark and the Netherlands. While in the former, expenditure has been on the rise recently, we have decreasing expenditure in the latter (especially in the per-head perspective, cp. Figure 1.18). For both countries, no expenditure at all for start-up incentives and direct job-creation is registered.

Figure 1.18   Spending on ALMP in the Netherlands, by type of measure
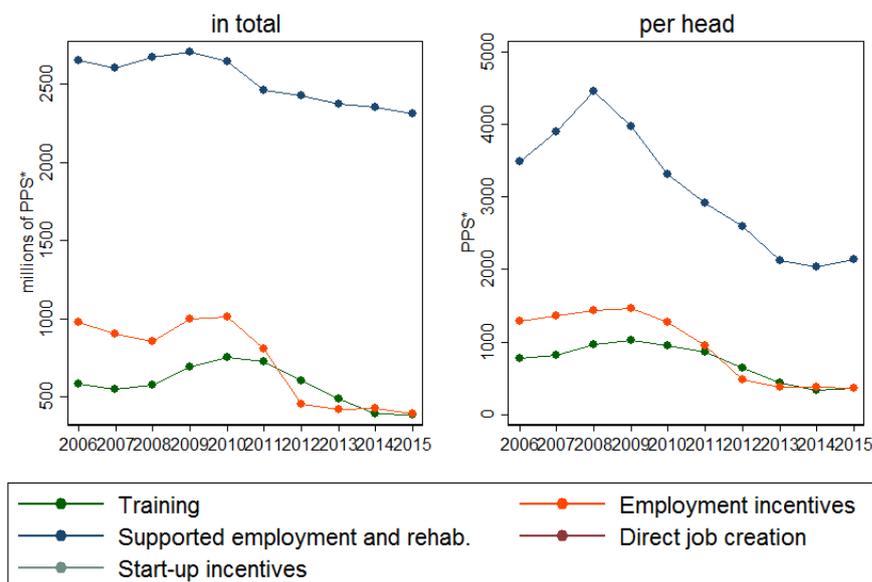
* Amounts calculated at prices of 2011, divided by 2011's PPP.
Source Eurostat/DG EMPL, own calculation

Some ALMP mixes are rather specific to individual countries. In the Czech Republic, we observe an increase in ALMP expenditure (cp. Table a1.2). Sheltered/supported employment & rehabilitation is a major spending category already at the beginning of the observation period and is then being reinforced. It is overtaken by a rapidly growing expenditure on employment incentives at the end of the observation period. Also

spending for direct job creation is on the rise in the Czech Republic as of 2013 (comparable to Hungary in this respect, see above).

In Ireland, ALMP consists mostly of training and direct job-creation. Spending on aggregate rises slightly during the observation period, per head it drops strongly at the beginning of the crisis and has not yet regained its initial level. Also in Latvia, training and direct job-creation are the dominant couple of measures, and they have been the main ALMP response during crisis years.

In Poland, where ALMP expenditure is also at an upward trend, sheltered/supported employment & rehabilitation continues to be the most important spending category. In addition, after 2009 and a second time as of 2012, spending on employment incentives is increased considerably. Also, start-up incentives play a relatively large role compared to other countries.

A bit like Poland, Belgium features a large array of ALMPs (Figure 1.19). Apart from start-up incentives, which do not seem to play any role, all types of measures receive substantial funding. Spending is relatively stable across the observation period, except a bulge of spending on employment incentives between 2010 and 2012 (and a slight increase of aggregate amounts).

Figure 1.19   Spending on ALMP in Belgium, by type of measure
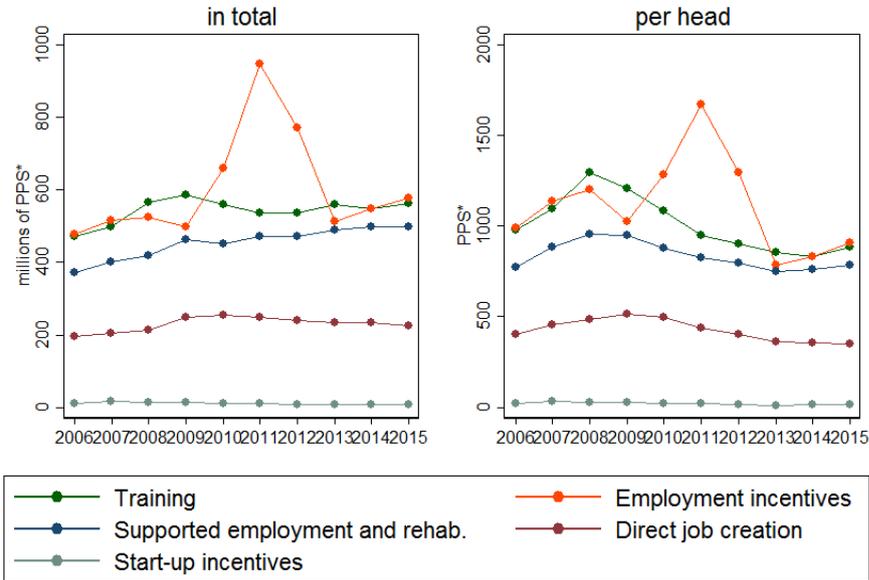
* Amounts calculated at prices of 2011, divided by 2011's PPP.
Source Eurostat/DG EMPL, own calculation

For Spain, Figure 1.20 illustrates the strong compression of ALMP between 2006 and 2013. It concerns all spending categories, in particular employment incentives (which started to drop before the crisis already). After 2013, the trend is reversed and there is a (very) small recovery.

Figure 1.20   Spending on ALMP in Spain, by type of measure
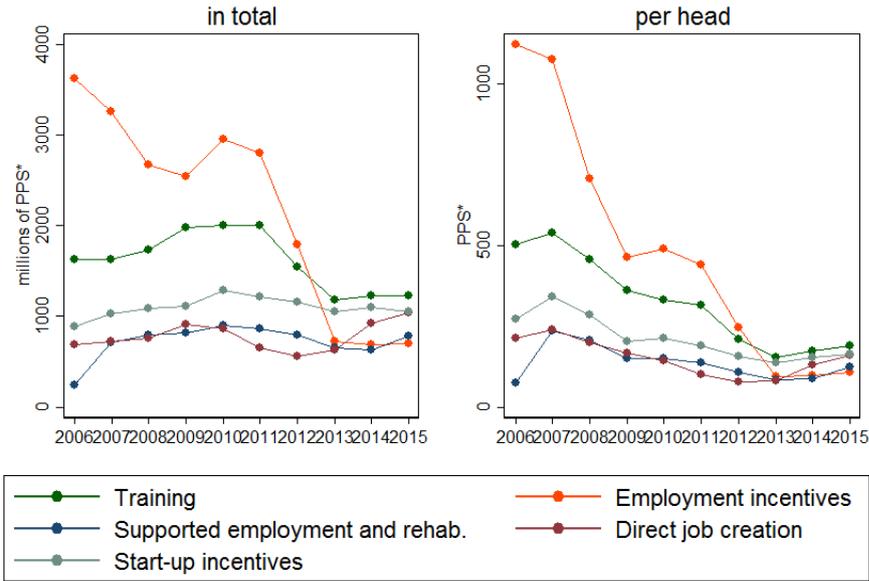
in total	per head

Legend:
- Training
- Supported employment and rehab.
- Start-up incentives
- Employment incentives
- Direct job creation

* Amounts calculated at prices of 2011, divided by 2011's PPP.
Source Eurostat/DG EMPL, own calculation

The evolution of Greek ALMP is particularly interesting, given the turmoil in public finance and the labour market during the observation period. Figure 1.21 reflects this, showing strong fluctuations. If there is any trend, it is the trend of sinking absolute spending (PPS) per head on active LMP.

Figure 1.21   Spending on ALMP in Greece, by type of measure

in total	per head

Legend:
- Training
- Supported employment and rehab.
- Start-up incentives
- Employment incentives
- Direct job creation

* Amounts calculated at prices of 2011, divided by 2011's PPP.
Source Eurostat/DG EMPL, own calculation

At the beginning of this section, we identified training as the form of ALMP most suited to Europe's ambition of becoming a more and more knowledge-based economy. It was shown that expenditure on training actually dominates in ALMP budgets in Europe: the 'average' European country spends more of

its wealth on training than on other ALMP categories.[31] However, the advance of training shrinks during the observation period: while aggregate expenditure on training stays stable, the budget of most other ALMP categories increases. In addition, the training budget per person wanting to work plummets between 2006 and 2015 (Figure 1.12). At the end of our observation period, not much more is spent on training per head than on employment incentives or sheltered and supported employment and rehabilitation.

On average across European countries, there is only one ALMP type that experiences gains both in terms of aggregate and per-head spending: direct job-creation. This rise is driven by developments in Hungary and the Czech Republic. On the one hand, the risk of social exclusion looming over part of the population, there certainly is a place for the state as an 'employer of last resort'. On the other hand, direct job-creation does not have much impact on workers' qualification and is not good at bringing workers back into ordinary employment (see Section 2.1). If public works take the form of workfare, their social and psychological effects can even be detrimental for participants and their children (Brady and Cook 2015).

Overall, it seems that on Europe's way to the knowledge economy, the crisis has shifted the attention to cheaper and more short-term investments. Now that the 'Great Recession' is starting to become history, the importance of training as part of a longer-term strategy for employment in Europe should not be forgotten. This is also paramount from a social investment perspective, which is not sufficiently implemented by bringing job seekers into no matter what kind of employment. As argued above (De Deken), productivity is also an objective of social investment, and this, in turn, requires skills.

1.4   Are there 'ALMP-' and 'PLMP-countries' in Europe?

We saw above that while ALMP amounts to less than half of PLMP spending in European countries on average, there are some countries where ALMP dominates PLMP spending. In this sub-section, we look for 'ALMP-' and 'PLMP-countries' in Europe. Figure 1.22 and 1.23 compare spending structures synoptically for our sample, the former for the years 2006/2007 and the latter for 2014/2015.[32] The (red) diagonal marks all points where ALMP and PLMP spending are equal in size. All dots above it stand for higher ALMP, all dots below for higher PLMP expenditure. There are two dashed lines above and two below the diagonal. The two upper dashed lines mark an ALMP expenditure 50% respectively 100% higher than PLMP spending, and vice versa.[33]

Clearly, a majority of countries are South of the diagonal, both at the beginning and at the end of the observation period. In 2006/2007, most countries are situated in the area where PLMP is between 50% and 100% higher than ALMP, thus between the two Southern dashed lines. Three countries clearly go beyond this and reach into the area where PLMP is more than double ALMP expenditure: Belgium, Cyprus, Malta, and also Portugal. Some years and a 'Great Recession' later, in 2014/2015, there are quite many countries with a PLMP expenditure twice as high as ALMP expenditure: Italy, Spain, Germany, the Netherlands, and also Estonia and France, have joined. Norway, which is the only country with at least medium-sized spending leaning ALMP in 2006/2007, balances its expenditure between ALMP and PLMP in 2014/2015. Lithuania and Bulgaria, also leaning ALMP in 2006/2007 (though at a much lower spending level), have split towards 2014/2015: Lithuania stays ALMP-leaning, Bulgaria switches to the PLMP side.

Also Denmark has a balanced spending at the end of the observation period, having increased the active share of its LMP. Sweden and Hungary stand out for having gained a real ALMP profile, they are far above the diagonal in 2014/2015. This holds also for Poland and the Czech Republic, but their spending volume is much smaller. In sum, we observe a certain fanning out during the observation period, ALMP and PLMP profiles sharpening a little bit.

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31 Considering spending relative to GDP and giving all countries equal weight, see above.

32 We switch to the relative view on spending, as percentage of GDP, otherwise differentials in living standards, reflected in LMP spending, would cause much meaningless dispersion.

33 The two lower dashed lines thus mark a PLMP expenditure 50% respectively 100% higher than ALMP spending.

Figure 1.22   Active and passive relative need-adjusted LMP expenditure, mean of 2006-2007
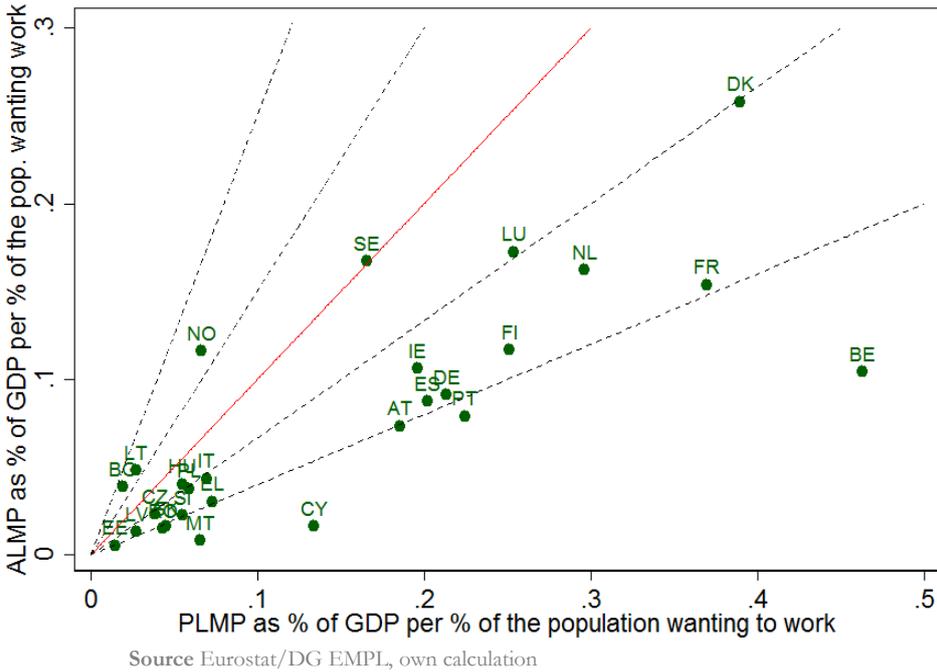
Figure 1.23   Active and passive relative need-adjusted LMP expenditure, mean of 2014-2015
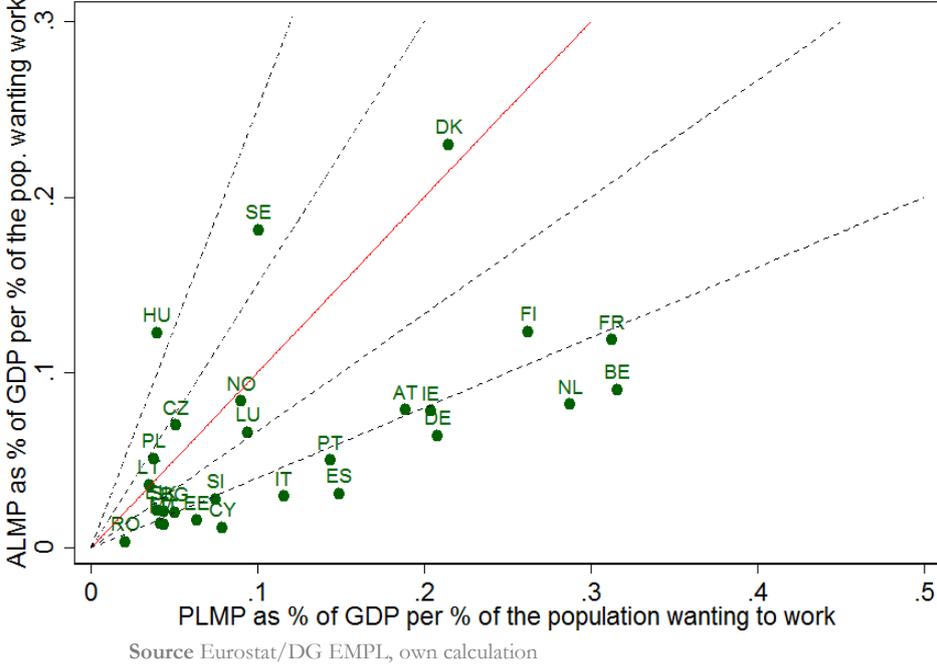
Another observation to make from the above two graphs is that the big spenders on PLMP reduce their spending significantly (we will cover the question of convergence in 1.6). Still, the distinction between strong and weak LMP remains important, maybe more important than the distinction between ALMP- and PLMP-countries. We can see this in Figure 1.24, which reproduces the scatterplot of Figure 1.23, but with dashed lines for the medium spending on active and passive LMP. This graph follows a different logic compared to above: it accepts that ALMP spending does not match PLMP spending in most countries. Instead of

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looking for a parity of ALMP and PLMP expenditure, it uses separate reference points for identifying high/low active and high/low passive spending.

In 2014/2015, there are countries clearly below (above) the median in ALMP spending, but above (below) in PLMP: Hungary and the Czech Republic on the active side and Italy and Spain on the passive side. This makes that at the end of the observation period, the two countries in the ALMP quadrant are Eastern and the two in the PLMP quadrant are Southern European. While Hungary and the Czech Republic move into the active quadrant by increasing ALMP spending after 2006/2007, Italy and Spain enter the passive quadrant by reducing their active expenditure, thus leaving the group where both active and passive LMP are above average (compare to Figure a1.6 in the appendix).

Figure 1.24   Active and passive relative need-adjusted LMP expenditure, mean of 2014-2015 (medians highlighted)

Source Eurostat/DG EMPL, own calculation
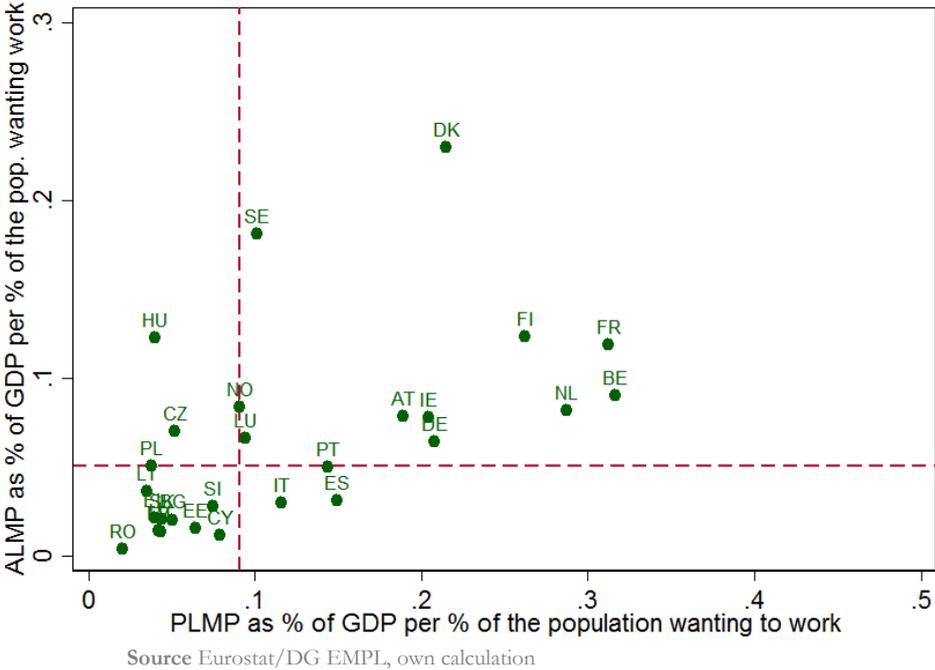
If we thus accept that the large majority of countries are 'PLMP-countries', we can agree with Bruno and Rovelli (2010, 670) that '[c]ountries that engage in active programmes also devote considerable resources to passive policies (unemployment benefits and early retirement schemes)' [34]. In Figure 1.24, the 2nd (high active and high passive spending) and 4th (low active and low passive spending) quadrants are by far the most crowded. Our observations thus confirm for the field of labour market policies the findings of Kuitto (2016, 454) that 'rather than a trade-off [between compensating and social investment welfare policies], there is (still) a distinction between those countries spending less on welfare policies in general (most of the CEE countries) and those spending more in both compensating and social investment policies and offering more generous benefits.'

While in principle it makes sense to assume some 'resource competition' (Vandenbroucke and Vleminckx 2011) between active and passive expenditure, LMP is but a small fraction of total expenditure, so it is not a big threat to the financing of passive policies (ibid.). Beyond this, there are also reasons why active and passive expenditure should be correlated: Bassanini and Duval (2006, 9) observe that 'the impact of generous unemployment benefits on unemployment appears to be mitigated by high public spending on ALMPs, perhaps because high spending on ALMPs is often accompanied with a strong

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34 Bruno and Rovelli (2010, 670) find that 'in 2006 the cross-country correlation between the two types of expenditures was 93 per cent.' But this is the aggregate perspective. For expenditure per person wanting to work, it is $\rho = 0.526$ (relative spending) respectively $\rho = 0.649$ (absolute spending) in the data we use.

emphasis on 'activation'.' According to Nickell, Nunziata, and Ochel (2005, 6), this can be an explanation of countries spending patterns: 'Turning to the numbers, we see that, by and large, the countries of Northern Europe and Scandinavia devote most resources to ALMPs. It might be hypothesised that they do this because high expenditure on ALMPs is required given their rather generous unemployment benefit systems and to push unemployed individuals into work. Such additional pressure on the unemployed is not required if benefits are very low relative to potential earnings in work.' However, this does not explain why high ALMP expenditure rarely appears without high PLMP expenditure. As for the contrary impacts of ALMP and PLMP on unemployment, we find some evidence backing this hypothesis, see sub-section 2.1.4.

1.5   What drives LMP expenditure per job seeker?

We learned above that countries differ at least as much in the *amount* of LMP spending than with regard to the *type* (active/passive mix). This sub-section asks what it is that drives expenditure on LMP per job seeker. We start from two hypotheses: *(Hyp 1)* National wealth is positively related to LMP spending per person wanting to work. *(Hyp 2)* The number of job seekers is negatively related to LMP spending *per person* wanting to work. We will test this by way of multivariate analysis because of the correlation between GDP per capita and the number of job seekers in our country sample. [35] The correlation is negative, in other words, richer countries feature lower labour market strain.

The reasoning behind our first hypothesis is simply to assume that governments of wealthier countries can afford higher spending per job seeker and use this leeway to answer to the demand of the electorate to solve labour market problems. Indeed, Figure 1.25 (relative spending) and Figure 1.26 (absolute spending) hint that the higher the GDP per capita of a country[36], the more it spends on LMP per job seeker.[37] For the two particularly wealthy countries of Luxembourg and Norway, the relationship does not hold, however.

Figure 1.25   Mean LMP expenditure per person wanting to work as percentage of GDP and GDP per capita, 2006-2015
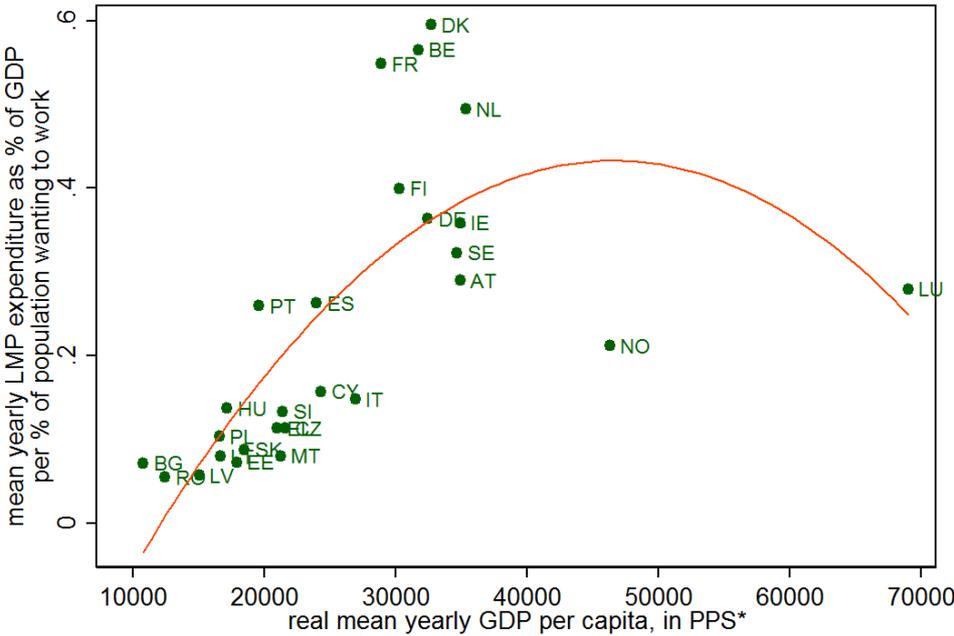
*   Amounts calculated at prices of 2011, divided by 2011's PPP.
Source Eurostat/DG EMPL, own calculation

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35 GDP per capita and the share of job seekers in the population are correlated by ρ = -0.398 in our country sample.
36 Mean values between 2006 and 2015, at prices of 2011.
37 The same pattern also holds individually for each component of LMP (services, ALMP and PLMP, not shown).

Figure 1.26   Real mean LMP expenditure per person wanting to work and GDP per capita, 2006-2015
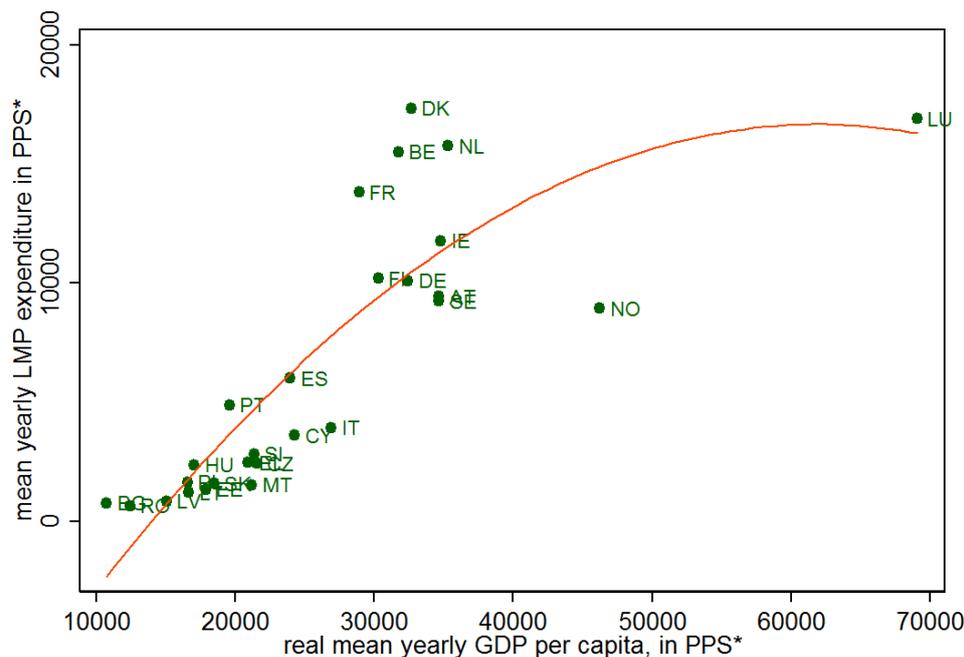
* Amounts calculated at prices of 2011, divided by 2011's PPP.
Source Eurostat/DG EMPL, own calculation

As for our second hypothesis, we consider that a crowding out phenomenon could be at work in situations with many job seekers, in the sense that they compete for LMP resources. Less remains for each individual job seeker on average.[38] This would correspond to what Amable *et al.* (2006) find in a comparative study based on data from the 1980s. They conclude that 'Unemployment has a significantly negative effect on replacement rates. [...] The consequence(s) of a high number of unemployed are high social expenses and strong budgetary pressures, which translate into the necessity of structural spending cuts.' (in Howell and Rehm 2009, 65)

Fitting our panel data[39] with a multilevel regression model reveals that *both* national wealth and labour market strain influence LMP spending per head. The dependent variable of our regression model is need-adjusted LMP expenditure. There are two versions, relative spending (% of GDP) and absolute spending (PPS), which stand for substantially different things (see above): the share of available resources vs. the real purchasing power dedicated to LMP. The independent variables are the GDP per capita and the share of the population wanting to work. Alternatively to GDP per capita, we include a measure for the government budget per capita, as spending should be even better predicted by the share of national wealth that is at the government's disposition.[40] Control variables are a dummy for the year, and a random intercept capturing the country effect (multilevel model, years nested within countries). We use the generalised least squares estimator, which permits discerning between-country and within-country effects.[41]

Looking at the between-effect columns in Table 1.4, we see that per-head spending differences of our sample countries can be explained by unequal resources. This holds for both relative and absolute spending (left half and right half of the table). The effect of having more resources on spending tends to be positive:

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38 Inversely, we would of course assume a higher number of job seekers to *raise aggregate* LMP spending.

39 Unbalanced panel: 29 countries * 11 years (2005–2016), with some missing values. We thus add one year compared to the descriptive analysis.

40 It is calculated by multiplying the GDP of each country and year with the share of taxes and contributions of that country and year. The latter information is provided by Eurostat (item: gov_10a_taxag).

41 Between-country effects are based only on difference between countries, regardless of variations over time. Within-country or also fixed effects abstract from difference between countries and draw exclusively on the variations of dependent and independent (and control) variables over time.

a higher GDP per capita and a higher government budget are connected to both higher relative (% of GDP) and higher absolute spending (PPS), in need-adjusted terms.

The variable that captures labour market strain is never significant in the between-country perspective, but it is always (highly) significant in the *within*-country perspective, for both relative and absolute spending. This signifies that if the number of persons wanting to work increases, the average LMP spending on each person declines. Looking once more at the variables capturing resources, they are statistically significant in the within perspective only with regard to relative spending, not absolute spending. A change in GDP or the government budget is thus not associated to changes of the average amount of PPS dedicated to each person wanting work, but to the share spent on LMP per person wanting to work. Interestingly, the association is negative. Our reading is that if resources grow in a country during the observation period, the country keeps real spending stable per person wanting to work and thus reduces the position of LMP in the overall budget.

Table 1.4   Regression on LMP expenditure per person wanting to work

Independent variables	DV: Spending per percent of the population wanting to work, as percentage of GDP				DV: Spending per person wanting to work, in PPS (log)			
	Between effect		Fixed effect		Between effect		Fixed effect	
Share of persons wanting to work in total population	()	()	-	-	()	()	-	-
GDP per capita (PPS, log)	+		-		+		()	
Government budget (PPS, log)		+		-		+		()
...	...	...	...	...	...	...	...	...
R²	0.4259	0.4824	0.3739	0.3964	0.8330	0.7341	0.3834	0.3851

* Part of the output omitted. In the regressions on real spending, all monetary units are in logarithmic form. N = 302.
Source Eurostat/DG Empl, own calculation

One of our results was that in wealthier countries, there is a higher LMP spending in real terms (PPS). It seems obvious to think that where more resources are invested, the quantity and quality of LMP must be higher. Yet, there is one reason to doubt this: higher real LMP spending in wealthier countries may be imposed on the welfare state by their higher living standards: Much of the cost of LMP is caused by wages (e.g. earned by workers in subsidised jobs, by administrators of the PES, teachers in training programmes, etc.) and wage replacements (pre-retirement and unemployment benefits) in particular. Considering that the cost of granting workers a sufficient degree of social participation is higher in richer countries, a higher LMP expenditure need not imply a higher investment in terms of more and better ALMP programmes and more generous benefits: 'doing labour market policy' may just be more expensive in wealthier countries.[42] Figure 1.27 illustrates the close association between GDP per capita and wages levels in our country sample.

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42 These differences are not levelled by the PPS metric, which controls just for prices, but not living standards.

Figure 1.27 Countries' wage levels and GDP per capita (2006-2015)
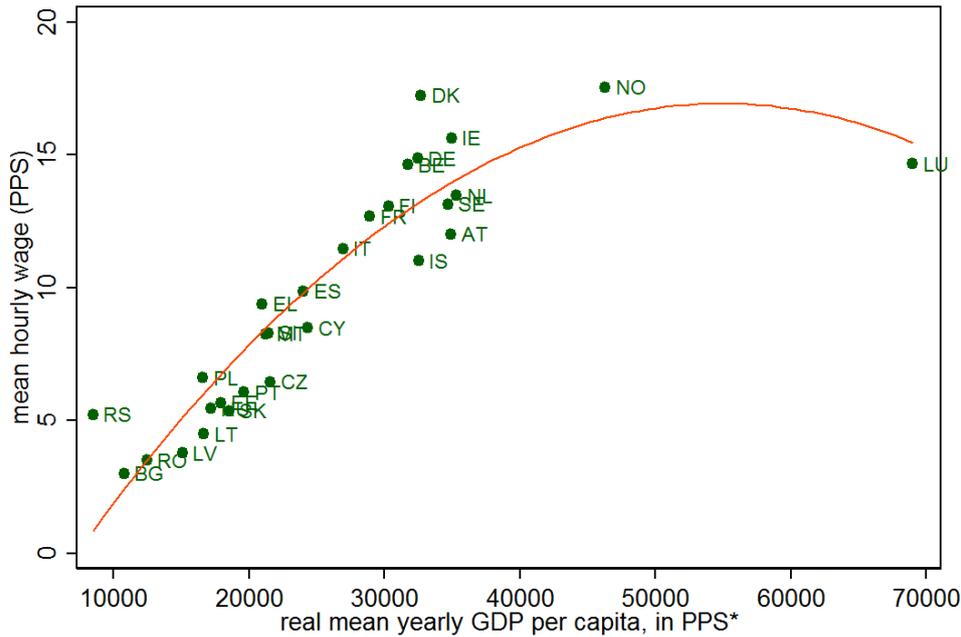
* Amounts calculated at prices of 2011, divided by 2011's PPP.
Source Eurostat/DG EMPL, own calculation

Taking account of the impact of living standards on the cost of LMP, we modify our regression model in such a way that real LMP spending is deflated by median wages (a proxy for the living standard).[43] Table 1.5 shows that when fitting this model, the above results remain unchanged, except that the influence of the government budget turns negative on per-head spending in the living-standard adjusted view: at least with regard to our sample, it seems that governments with gains/losses in public budgets reduce/increase LMP spending in the observation period.

Table 1.5 Regression on absolute LMP expenditure per person wanting to work, adjusted by national living standards

Independent variable	DV: Absolute spending per person wanting to work, deflated by the median wage			
	Between effect		Fixed effect	
Share of persons wanting to work in total population	()	()	-	-
GDP per capita, deflated by median wage	+		()	
Government budget, deflated by median wage		+		-
...	...	...	...	...

* Part of the output omitted.
Source Eurostat/DG Empl, own calculation

If we repeat the above regression for active and passive LMP separately, we find that they are both associated in the same way as total LMP spending to labour market strain and public resources (Table a1.3 in the appendix).

To sum up our main findings: while an increasing number of persons wanting to work obviously increases the aggregate resources a country dedicates to LMP, it *decreases* the LMP resources dedicated to

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43 This means that absolute spending amounts are not in PPS metric any more, they are now a proportion of the median wage. Logarithm format is therefore not used.

each individual job seeker. Need-adjusted LMP spending on both measures and supports suffers from a *crowding out effect* in situations with a growing number of job seekers. In the static comparison between countries, we find that differences in labour market strain do not explain differences in per-head LMP spending. It is rather national wealth or the size of government budgets that influences LMP spending per person wanting to work. Wealthier countries and better-resourced governments endow their job seekers with more measures and supports: the LMP budget is higher both compared to GDP and in real terms. This holds also if expenditure is adjusted to the living standard of the country, and it holds for both ALMP and PLMP.

1.6   Is there convergence of LMP in Europe?

It became clear in the preceding sub-sections that LMP expenditure is quite unequal between European countries. What trend can we identify along the observation period, do spending gaps widen between European countries, or is there convergence? Figure 1.28 shows LMP expenditure relative to GDP. On the horizontal axis, we have the initial expenditure at the beginning of the observation period. On the vertical axis, we have the *change in percentage points* between beginning and end of the observation period. (Dots above the horizontal red line thus mark countries with increased expenditure.) In the right half of the graph, among the bigger spenders, there is a clear trend of decreasing investment. In the left half, where countries initially spend a smaller part of their GDP on LMP, there is no uniform trend: both increases and decreases are observed, but increases seem to dominate. In sum, the %-of-GDP perspective conveys the impression of some spending convergence in Europe.[44]

Figure 1.28   Initial spending amount and subsequent absolute change. Relative LMP expenditure per person wanting to work
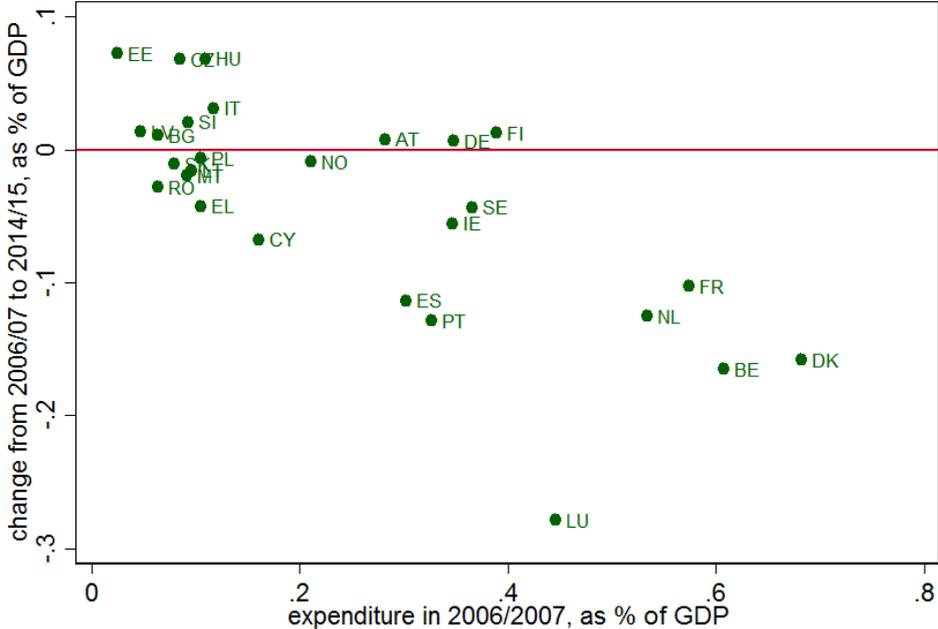
Figure 1.29 disaggregates the above into active (orange) and passive (blue) expenditure. Among the small spenders, we see relative stability in ALMP spending, and a certain upward trend in PLMP spending. The bigger spenders reduce both their ALMP- and their PLMP spending per person wanting to work, with PLMP reductions being more important in size (but starting at higher initial levels). Overall, convergence

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44 Figure a1.7 in the appendix shows the same graph in PPS metric. The scale is compressed by the extraordinary reduction of spending per head in Luxembourg.

concerns more the spending on supports than the spending on measures, thus in particular social protection expenditure, and it is a *convergence from above*, especially for ALMP, part of which can be counted as social investment expenditure.[45]

Figure 1.29   Initial spending amount and subsequent absolute change. Relative ALMP and PLMP expenditure per person wanting to work
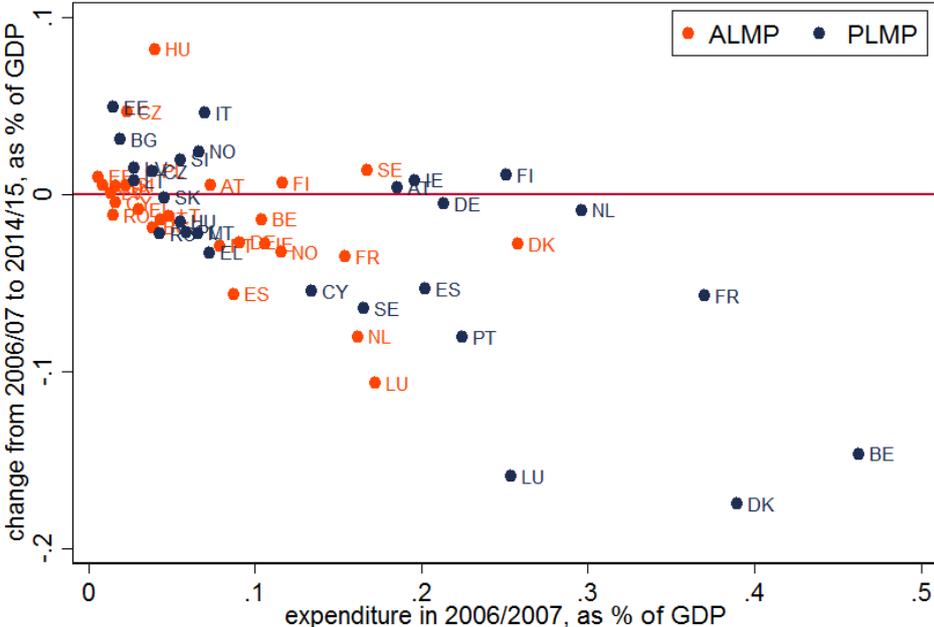
The impression of convergence raised by the above graphs can be quantified: Table 1.6 presents the variation coefficients of spending across countries at beginning and end of the observation period. In the relative perspective (spending as % of GDP) the variation coefficient of overall LMP spending shrinks from 0.770 to 0.682. Distinguishing between active and passive LMP, convergence concerns virtually only supports (PLMP), not measures (ALMP). In the absolute perspective (PPS), we see convergence as well (LMP variation coefficients decreases from 0.998 to 0.837). Here, both ALMP and PLMP expenditure get more similar between countries. (The steep decline of spending in Luxembourg plays a big role in the PPS perspective, cp. Figure a1.7 in the appendix.)

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45 Comparison to earlier findings shows that the latter result is very sensitive to the timing of the observation period. Some years earlier, upward spending trends in low-spending countries of Eastern Europe had given the impression of a more positive convergence. Kuitto (2016, 450), for example, states for her observation period 2000 to 2010: 'levelling effects are obvious particularly with regard to working- and old-age spending, as countries which featured lower levels of social investment at the beginning of the period have been catching up with the high spenders. [...] The CEE countries feature the highest relative increases for social investment policies for working-age populations and have been continuously catching up from their previously low levels, thus investing more in supporting the employment chances of their labour force.' Yet, positive trends are reversed in many Eastern European countries after 2009.

Table 1.6   Convergence of need-adjusted LMP spending in Europe* (variation coefficient)

	% of GDP		PPS	
	2006/2007	2014/2015	2006/2007	2014/2015
LMP	0.770	0.682	0.998	0.837
ALMP	0.829	0.823	1.129	0.990
PLMP	0.841	0.743	1.015	0.864

*   Countries considered: AT BE BG CY CZ DE DK EE EL ES FI FR HU IE IT LT LU LV MT NL NO PL PT RO SE SI SK.

In sum, the observed countries' LMP expenditure per head in 2014/2015 is more similar than in 2006/2007. A majority of countries with small initial expenditure raise spending in the observation period, while all countries with large initial expenditure tend to reduce it. Despite these signs of convergence, a significant gap in LMP expenditure remains between European countries.[46]

1.7   Summary and outlook

Along our observation period between 2006 and 2015, we find both welfare state expansion and retrenchment in Europe: abstracting from spending peaks in the midst of the crisis, the long-term trend in many countries is the combination of rising LMP spending on aggregate and declining spending per person wanting to work: *on aggregate*, a majority of observed countries spend more on ALMP in 2014/2015 compared to 2006/2007, but also, a majority of countries reduce their ALMP spending *per person* wanting to work in the same period (cp. Table1.2 and Table 1.3). The same holds for PLMP. This means that even though the public faces an increased cost of LMP, the resources channelled to the individual job seeker are reduced on average.

There is an ongoing debate on a possible 'resource competition' between social protection and social investment, in particular in the context of European countries' sovereign debt crisis. In the domain of LMP, we find no evidence of active expenditure crowding out passive expenditure. The discursive dominance of the social investment paradigm in Europe since the early 2000s is not reflected in the trends of LMP spending: on average across European countries, between two and three times more is spent on passive than on active policy throughout our observation period. At the level of individual countries, we observe changing spending profiles, but no common trend. The number of countries that shift toward ALMP is equal to the number of countries that strengthen PLMP in their policy mix, and the changes of ALMP and PLMP are comparable in size for most countries.

Looking not at tends but at levels, a distinction of European countries in terms of active- vs. passive-leaning policy would not be accurate both at the beginning and the end of the observation period. Active and passive expenditure are highly correlated, with passive LMP receiving more resources in most countries. Much more than between ALMP- and PLMP-countries, we can discern between countries spending little and countries spending much on LMP.

Notwithstanding, we do observe some sort of 'resource competition': it is not between types of LMP, but between job seekers. In particular, the amount of LMP resources granted to the average job seeker shrinks if labour market strain rises in a country. This affects the value of training programmes, job subsidies,

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46 To see this, cp. Figure1.24 above, or also Figure a1.8 and Figure a1.9 in the appendix: the latter give an overview on the state of affairs at the beginning (sorting order) and at the end of the reference period. The former looks at policy effort, thus spending as percent of GDP (per percent of the population wanting to work), the latter at real investment per person wanting to work (PPS).

etc. but also of wage replacement payments endowed to each job seeker on average.[47] It is thus not surprising that spending per person drops as the crisis unfolds after 2008. We conclude that 'spending per person' is not, as Hemerijck et al. (2013, 21) argue, 'largely independent of the state of the economy'.[48]

LMP spending per head also varies with national wealth and with the government budget. While growing resources in the observation period do not translate into growing LMP spending, the analysis yields that a higher GDP and a larger government budget correlate with a higher share of the budget dedicated to LMP (need-adjusted), and also with a higher real LMP spending per person wanting to work (which is the logical consequence). This is an unwanted finding from the point of view of a desirable convergence of living conditions in Europe and the European Union in particular: It is not only that smaller wealth, lower government budgets and larger labour market problems presently concentrate in some (peripheral) countries of Europe: the smaller resources that can be invested in each job seeker in countries already worse off might cause further divergence in the future (but only under the condition that LMP spending has a productive value, see Section 2).

We did find some convergence of labour market policy spending in the observation period. The dispersion across our country sample is weaker in 2014/2015 than in 2006/2007. Yet, it is mostly a 'convergence from above' in the sense that the big spenders reduce their expenditure. This holds in particular for PLMP, but also for ALMP. The small spenders, mostly Eastern European, remain with a stable, but very low ALMP spending (except Hungary and the Czech Republic, which boost ALMP spending). Concerning PLMP, there are a number of CEE countries with initially low but increasing spending per person wanting to work, e.g. Estonia, while the most generous (Scandinavian and Continental) welfare states feature particularly strong reductions (e.g. Belgium, France, Luxembourg). The account would not be complete without evoking the case of some medium-level spenders that have been forced to reduce spending, in particular Greece, Spain and Portugal. These developments have to be understood not only in the context of the macro-economic implications of the crisis, but also of the management of these implications in the national and supra-national sphere (bailout programmes tied to constraints, i.e. structural reforms). Moreover, and in spite of some convergence, large differences remain between European countries in terms of LMP spending.

Falling expenditure per person wanting to work, stagnation of active LMP, an accumulation of labour market problems and a lack of resources: our findings do not convey a particularly favourable picture with regard to social investment in the realm of labour market policies in Europe. This impression is reinforced if one looks at the composition of active spending. While training remains the most important spending category among the different types of ALMP, our figures show that spending slowly shifts away from this costly, but long-term investment in human capital. Four out of five ALMP categories analysed suffer cuts during the observation period in the per-head perspective, with training being the most affected. The only ALMP category that garners rising spending (at the mean across European countries) per person is public job-creation. This rise is due to special developments in two Eastern European countries. Public job-creation may be an immediate solution to pressing problems of unemployment and social exclusion,[49] but it is hardly a contribution to Europe's objective to become a thriving knowledge-based economy. Not to mention adverse effects of workfare-like measures on the psychological well-being, social participation and occupational prospects of job seekers who are motivated and trying hard to find an employment - some of them highly, but specifically qualified.

Arguably, the years 2014 and 2015, which served as a reference in our analysis, are just a point in time in an ongoing process of welfare state development and change. Moreover, they brought some recovery of LMP spending. Possibly, the coming years can bring Europe some more positive convergence of LMP spending. The CEE countries may resume their positive development, interrupted in 2009 in the context of

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47 The number of job seekers of course plays inverse role for the aggregate LMP spending, which it increases, all other things being equal.

48 Quite in general, we argue in Lehwess-Litzmann and Nicaise ((unpublished)) for a stronger emphasis on macro-economic conditions in welfare state research.

49 Or, in the more negative case, a means of pushing job seekers into formal inactivity and thus out of the unemployment statistics and off the payroll of the welfare state.

the 'Great Recession'. As far as this report is concerned, we will close this mostly descriptive part on LMP spending and turn to a connected topic: the capacity of LMP spending to influence labour markets. We alluded above to the possible consequences of unequal LMP spending in the present for socio-economic divergence between European countries in the future. This has to be qualified: First, the development of living conditions depends on many things apart from labour market policy. Second, whether or not LMP spending really has a productive value (as the social investment paradigm suggests) is a contested question (see sub-section 2.1). In the next section, we will test the link between (active and passive) LMP spending and economic activity and employment by multivariate comparative analysis.

2. Effectiveness of active and passive labour market policy interventions

We have distinguished above a traditional function of social policy, attenuating the impact of social risks, from a progressive function, preventing or overcoming adversities in the labour market. It is immediately convincing that labour market policy, as a part of social policy, can accomplish social protection, but what is its contribution when it comes to preventing unemployment or helping workers to overcome it? This has been scientifically examined since the 1970s at least, a whole discipline of evaluation research has evolved.

In this chapter, we will give an overview on the theoretical arguments, the methods and the state of knowledge of evaluation research (2.1). We will then add to the state of knowledge by an empirical analysis which connects the information on LMP spending analysed in the preceding chapter with micro-data of the EU-SILC. Sub-section 2.2 explains the approach of the present analysis: it shows how the aggregate effectiveness of LMP spending on economic activity and employment in European countries can be analysed using a combination of macro- and micro-level data. In sub-sections 2.3 and 2.4, we present our findings and interpret them with regard to potential effects of LMP on economic activity and employment. Sub-section 2.3 covers (aggregate) effects on levels and sub-section 2.4 highlights (a bit less aggregate) distributional effects with regard to gender, age and education. Section 2.5 discusses our findings and concludes.

2.1 The state of scientific knowledge on LMP effectiveness

Considering the amount of resources dedicated to labour market policy, one would expect strong scientific evidence for the effectiveness of such policy in reducing unemployment and poverty. Surprisingly, impacts remain the subject of controversial scientific debate. As for ALMP, '[p]roponents argue that they are the most direct instrument for dealing with unemployment and poverty among workers. Opponents counter that ALMPs are largely a waste of public funds and that any observed benefits for participants are usually at the expense of other workers.' (Betcherman, Olivas, and Dar 2004, i; cp. also Bruno and Rovelli 2010, 666). With regard to PLMP, there is a long-standing debate between the neo-liberal school, dwelling on moral hazard, a conservative strand, highlighting the threat of welfare dependency, and progressive arguments that advocate persons' intrinsic motivation to work and the need to enable them to do so by granting sufficient resources and adequate conversion factors (cp. Nicaise 2016).

In the following, we will review the state of knowledge. Sub-section 2.1.1 speaks about research methods, in particular on the distinction between treatment and aggregate LMP effects. It argues that most of the time, the more relevant question is on aggregate effects. This has implications for the research method to be chosen. Sub-section 2.1.2 gives more details on competing theoretical perspectives, which lead to diverging expectations on the effects LMP can possibly have. A (necessarily selective) review of existing studies on ALMP and PLMP follows in sub-sections 2.1.3 (treatment effects) and 2.1.4 (aggregate effects).

2.1.1 Analysing LMP effectiveness: the case for macro-level studies

An obvious requirement for evaluating policy effectiveness is to observe some variance at the policy level. For this, it is necessary to use data on several empirical cases that differ in terms of policy intervention, be it differences of kind or of degree. Under the condition that cases are otherwise similar in all relevant aspects, the differences in outcomes (unemployment duration, transitions between employment statuses, wages after

re-employment, duration of the new employment positions, etc.) can be attributed to differences in policy interventions. There are two types of studies:

1. Micro-level studies[50] working with a treatment and a control group. They can be randomised ('experimental') or matched ('quasi-experimental') studies, according to how persons are selected for the control group. Micro-level studies look for *treatment effects* of policy.

2. Macro-level studies compare outcomes between (sub-)populations exposed to different policies. There is no control group, as all receive some kind of treatment, and no two are the same in all other respects. Control variables are used instead to isolate policy effects. Macro-level studies usually apply to a larger numbers of persons than micro-level studies, but tend to use smaller samples (because the number of higher-level units, e.g. countries, is usually limited to a few dozens). These studies analyse *aggregate effects*.

2.1.1.1   Micro-level studies and their challenges

While macro-level studies have a longer tradition in LMP evaluation, micro-level studies have been more frequently used in the recent past and are by now much more numerous. This can be due to the custom of scientifically monitoring new labour market programmes, or to the increasing availability of micro-level data, but it can also be motivated by the fact that micro-level studies master some methodological difficulties better than macro-level studies can (infra). Micro-level studies have methodological difficulties of their own, however, in particular the composition of an adequate control group. In many fields of science (medical research, physics, etc.) experiments are the usual approach. A sufficiently large number of cases is *randomly* assigned either to a treatment or a control group (who does not receive the treatment). Comparability of both groups is thus assured. In the social sciences, the experimental approach is often not feasible for several reasons: research is not always involved in the process of programme implementation early enough to assure randomisation and it is not always legally and ethically justifiable to deny the treatment (counselling, subsidies, etc.) to a control group. The number of randomised studies in LMP research has been growing recently, but most studies are still quasi-experimental.

In the quasi-experimental case, the data stems from so-called *natural experiments*, i.e. the observation of separate groups of persons, exposed - in real life - to different labour market policies, but otherwise similar. The statistical technique of propensity score matching is usually chosen to identify persons who did not receive the treatment, but resemble those who did (and thus could have received the same treatment). It is expected on that basis that the control group show the outcomes that the treated would have experienced without treatment. If similarity in all relevant aspects is assured, then differences of outcome can be attributed to policy differences.

Causal interpretation has to be very prudent, however, because of potential *unobserved differences* between the groups. They can come into play as alternative causal factors or as catalysts of the impact of the factors analysed, so that measured outcomes are not or not exclusively caused by the policy intervention that is being evaluated. While real experiments eliminate this problem by randomisation, natural (thus quasi-)experiments (and the credibility of their results) remain beleaguered by potential unobserved differences. The question whether the research design has an impact on findings has been quantitatively analysed, but remains open: Kluve (2006, 21) finds that experimental studies - considered as 'more exact than matched studies' - lead to more conservative judgements on programme effectiveness, while the more recent study of Card, Kluve, and Weber (2015, 3) argues that estimates are 'not much different' between randomised and non-randomised studies.

Despite these and other challenges,[51] (quasi-)experimental studies have some important advantages over macro-level studies: When a *cross-sectional* approach is chosen (comparison between cases at one point in time), the restricted number of higher-level units (e.g. countries or regions) and their inherent complexity makes that the issue of unobserved differences can be tackled more easily by micro-level studies, which can

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50   In the literature (e.g. Lehmann and Kluve 2008, 14), the terminology of 'microeconomic' studies and 'macroeconomic' studies is commonly used (though studies need not necessarily focus on *economic* questions).

51   Both experimental and quasi-experimental studies face the technical problem of possible control group 'contamination': the non-treated may receive some other treatment in the meantime (see Betcherman, Olivas, and Dar 2004, 14).

usually draw on a much higher number of cases. When a *longitudinal* approach is chosen (comparison between different points in time for the same units of observation), micro-level studies have the advantage that the policy intervention can be observed in a much more immediate and direct way: while it is easy to find persons who receive this or that treatment at a given moment (e.g. some measure taken by the PES), it is a rare chance to observe a major policy reform in a country which has relevance for the given research question.[52] The methodological advantages of micro-level studies may have contributed to the dominance of this research strand in recent decades. Lehmann and Kluve (2008, 14) judge that these studies have received 'the main impulses given to the evaluation literature in the last twenty years'.

2.1.1.2   The case for macro-level studies despite important methodological challenges

While the methodological advantages of micro-level studies now seem to guide the trade of evaluation research, we think that there is still a place for the 'old-fashioned' aggregate effects study. The (often-neglected) reason is that both kinds of studies do not answer to the same questions. Focussing on the control group issue and finding ever more elaborate matching techniques, one should not forget that opting for micro-level studies involves a substantial decision not to research *aggregate effects*. As soon as the outcomes of micro-level studies are used as a basis for policy recommendations on how to raise employment or reduce unemployment not for an individual but for a large group of persons or even in general, there is a mismatch between research question and research design.

This is so because micro-level studies have to rely on the assumption that 'general equilibrium effects do not occur, e.g., the treatment participation of one individual cannot have an impact on the outcomes of other individuals, independent of their treatment participation (stable unit treatment value assumption, SUTVA)' (Caliendo, Künn, and Schmidl 2011, 7). If this assumption does not hold, then studies are biased by the fact that the measured difference between treated and controls is a result of both the positive impact of the programme on the treated and of the negative externalities (of the treated's success) on the non-treated (cp. Crépon et al. 2012). The latter are thus doing worse than they would without policy intervention.

Negative externalities can be created by substitution effects and by displacement effects (cp. Betcherman, Olivas, and Dar 2004, 16). The former applies when an unemployed person who would be hired for a specific job does not get the job because it is given to another unemployed person who benefits from a policy intervention (e.g. a training scheme or employment subsidy) - the treated person 'jumps the queue'. A second case of a substitution effect is when an employer dismisses a jobholder in order to hire an unemployed person and receive an employment subsidy.[53] A displacement effect is realised when a company has to dismiss part of its staff or even close down because it is unable to compete with another company that benefits from policy intervention (e.g. subsidies). In all of these cases, the treatment is successful if one looks only at the treatment group, but there obviously is a much smaller aggregate impact of policy. This flaw cannot be mended even by perfect randomisation of evaluation studies, as it is on a different level. On top of the mentioned cases of substitution, there are cases when the group of the treated create externalities among themselves.[54] Neglecting externalities is harmless as long as the number of treated is small, but the error gets more important the larger the treatment group is, compared to its environment. [55]

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52 Note that the problem of unobserved differences holds also in a longitudinal design: while one can assert that the individuals or countries remain the same throughout the analysis, their features may have changed in observable as well as unobservable ways. E.g., a persons' preferences can change over time, as well as the demographic composition and macroeconomic situation of a country can. These changes can have their own effects on the outcome of interest.

53 If this second worker is dismissed as soon as possible after the subsidised period has run out (possibly in order to hire another unemployed and receive subsidies again), we speak of a 'revolving door' effect.

54 For example, inviting a small number of unemployed persons to take a training as quality managers may help to bring a decent part of those persons into a job after some time. If then, under the impression of this successful labour-market programme, all the unemployed are trained as quality managers, the share of those who get a job in quality management will be considerably smaller for obvious reasons. This can be termed a *crowding-out effect*.

55 An inverse example is formulated by van Ours (in Kluve and Schmidt 2002, 443): Sanctions have an effect on sanctioned job-seekers, but as also job-seekers not yet sanctioned search harder for jobs, the former effect is underestimated.

Results of micro-level studies can thus not be generalised. For the mentioned reasons, it does not work to formulate a policy recommendation to implement treatment X at the national level, just because treatment X has helped a treatment faire group to improve by 10% as compared to the control group. What micro-level studies are good for is to test whether a specific programme X, say, employment subsidies, helps the treated, and whether it helps more than a competing programme Y, e.g. start-up incentives. But again, formulating a general message saying that a country will fare better by enacting employment subsidies than by facilitating start-up incentives is not admissible, because the externalities may be different when these programmes are implemented on a grand scale.

The point we want to make here is that the number of micro-level studies probably exceeds the number of times the relevant question is actually about individual effects, i.e. treatment effects. Assisting specific and small groups in the labour market can be a policy priority, but as soon as the group gets bigger or the general impact counts, we see a much greater use in macro-level studies despite their methodological shortcomings. They may lack exactitude (see below), but at least they ask the right question.

Which types of labour market policy are effective? In the following sub-section, we will first look at diverging theoretical perspectives on this question. Each perspective suggests particular expectations as to the utility, futility or even harmfulness of labour market policy. The succeeding sub-sections then review the empirical evidence.

2.1.2 Theoretical perspectives on LMP effectiveness

We distinguish between three paradigms by which researchers, policy-makers, practitioners and the public have been looking at labour market and social policy in recent decades: the neo-liberal, the conservative, and the social investment paradigm. Each of these paradigms has its own theoretical basis, fundamentally linked to assumptions on the potentials and the orientations of persons in working age. On that basis, each paradigm perceives labour market problems in its own way and gives policy advice accordingly. In particular, the expectations with regard to the effects of both active and passive labour market policy differ substantially between the three paradigms.

The *neo-liberal view* conceives human beings as rational individuals who seek to maximise their subjective utility. As work is believed to yield smaller utility than leisure time (but stands in direct time competition to it), incentive structures have to be designed in a way to 'make work pay'. In particular, too generous social transfers (PLMP) are suspected to generate 'moral hazard', i.e. a change of behaviour in favour of working less or making fewer efforts to find an employment. The neo-liberal advice is to reform tax-benefit systems so that a sufficient gap [is] maintained between earnings from work and social benefits for non-working people. The laissez-faire current among neo-liberals consider that markets would function better if intervention were minimised quite in general: They suggests that 'welfare state generosity, employment protection, high levels of union density, minimum wages, high levels of taxation, or any other nonmarket institutions - prevent the labour market from producing optimal outcomes - low unemployment rates and high employment rates - by raising the cost of labour above its market-clearing level.' (Bradley and Stephens 2007, 1488) In this view, LMP intervention is not the remedy for but the source of labour market malfunctioning. This holds for PLMP, because it manipulates market prices of labour, but also for ALMP due to its fiscal costs: Bradley and Stephens (2007, 1493) explain that 'neoliberal economists have tended to be sceptical of ALMP, arguing that it is not an efficient use of taxpayers' money because it does not, they contend, improve worker employability that much. They do not argue that ALMP ceteris paribus decreases employment but rather that the taxes levied to fund them could cause work disincentives.'[56] However, there are also neo-liberals who do believe in a strong state that steers individual behavior by means of (financial) incentives. (This current could be termed 'interventionist neo-liberals'.) Unlike laissez-faire neoliberals, they

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56 Cp. Estevão (2003) of the International Monetary Fund (IMF): 'even though ALMPs do increase employment, they also weigh heavily on the budget. Institutional reforms to lower production costs and enhance labour market flexibility and work incentives are a better way to increase employment rates.' (ibid., 4). Therefore 'reductions in tax wedges, in benefits replacement rates, in public sector employment, and, more generally, in insiders' wage bargaining power, are a must.' (ibid., 19)

put stronger emphasis on the positive effects of ALMP to combat structural unemployment and wage inflation.

The *conservative view* sees human beings not as rational utility seekers, but as shaped by experiences made in their living environments. These experiences determine values systems and routines of everyday life that endure and are also passed on from parents to children. The conservative view thus has a more sociological and less economistic perspective on society, it even refers to the concept of culture: Generous (or any kind of) decommodification is seen with a critical eye, because it modifies individual behaviour: not only by free and reversible choice of a rational and strategic actor, but permanently as the expression of a 'dependency culture', in which persons unlearn taking responsibility for themselves. The suggestion based on this view aims at changing the behaviour of the poor by instilling them working morale. 'Workfare', i.e. minimising benefits and tying them to participation in (some kind of) employment is considered the right kind of interventions. ALMP and PLMP are combined in a rights and duties (or 'sticks and carrots') framework. The kind of ALMP fitting this approach is activation through sanctioning and public job-creation (also to test the willingness to work). The macroeconomic intention of this policy is to 'compress wages, break the rigidities on the labour market and, indirectly, foster the return to work' (Nicaise 2016, 21), because at a lower wage level demand for labour is higher. Reducing the number of persons depending on transfers also allows smaller fiscal expenditure and, possibly, lower taxes. The conservative and the neo-liberal view join in many aspects; yet, conservatives relies on legal restrictions rather than financial incentives to steer individual behaviour.

The *progressive view*, e.g. the understanding of *social investment* advocated by the Re-InVEST project,[57] has no doubt that people are generally motivated for work, not only for material reasons, but also because employment has become crucial for social participation and self-fulfilment. However, accessing to (decent) employment can be difficult. Social investment emphasises obstacles and focusses on policy interventions that help workers to overcome them. Raising workers' human capital by education, training and health care is at the centre of policy efforts, as well as the promotion of an efficient allocation of human capital, in particular by labour market services like counselling, childcare, mobility etc. In addition, social investment is not a mere supply-side approach: attention is also payed to creating a 'material, social and institutional environment that fosters safe, secure and fulfilling jobs.' Part of this is the maintenance of passive alongside active policy interventions. Instead of perceiving social expenditure as a burden on the taxpayer, the social investment paradigm emphasises the (economically and socially) productive role of social policy. The argument is that security enables workers to develop and deploy their full potential, to their own benefit and the benefit of their family and society at large. The Re-InVEST project argues that generous PLMP can raise labour productivity because skilled job seekers can wait for adequate jobs instead of underperforming in jobs that fail to fully use their potentials. This progressive discourse chimes with other concepts in the European policy arena, like flexicurity (Lehwess-Litzmann 2014) and transitional labour markets (Schmid 2002, 2010).

As the contentions between the competing views outlined above cannot be solved at a purely theoretical level, empirical evidence will need to corroborate, falsify or qualify each stance. In the following two subsections, we will look at the state of empirical knowledge.

2.1.3 Empirical evidence: treatment effects of LMP at the individual level

In this sub-section, the evidence on treatment effects (see 2.1.1) of ALMP will be reviewed. (Aggregate effects covered in sub-section 2.1.4.) A good overview on treatment effects is offered by meta-studies. These studies reviewed by meta-studies differ in their respective approach, quality, time period and geographical

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57 The capability- and human rights-oriented reading of social investment in the project Re-InVEST departs from a purely economical in favour of an ethical foundation of social investment, aiming at workers' capabilities and human rights as ends in themselves instead of as means to economic ends.

setting. Betcherman, Olivas, and Dar (2004) explicitly include studies from developing and transition countries (relevant here because Eastern European countries are covered in the present report). They review 159 studies that evaluate effects of ALMP on employment take-up and subsequent wages (see for example the summary table on p. 53). Some authors even use the large number of studies on ALMP as individual observations and fit a regression model (see Kluve and Schmidt 2002; de Koning and Peers 2007; Card, Kluve, and Weber 2015). The diversity of studies that feed into meta-studies strengthens their relevance for making general conclusions on ALMP effectiveness, yet it also often leads to contradictory results.

One conclusion is that policy success varies strongly by type of measure. De Koning and Peers (2007, 14 et seq.) find significant effects of counselling and sanctions (see also Walwei 2015, 12; Boockmann, Thomsen, and Walter 2009, 2014) and also of training with regard to employment take-up and a shorter duration of unemployment spells. They find no effects for placement subsidies and public job creation schemes. Kluve and Schmidt (2002) agree with the former meta-study on the positive effects of job search assistance programs and, to some degree, also training programs. They also confirm the lack of impact of direct job creation in the public sector. Yet, they disagree on the effects of subsidies in the private sector, for which they do assert unemployment-reducing effects. Also Card, Kluve, and Weber (2015) find positive employment impacts of employment subsidies. In contrast, Betcherman, Olivas, and Dar (2004) join de Koning and Peers in finding 'negative impacts on employment and earnings' (ibid., 53) for subsidies paid to employees or to employers. They share the impression that employment services and training increase employment, but add some qualifications: the positive effect does not hold for young participants in training programmes, and re-training programmes yield rather mixed results when used in the context of mass layoffs. In addition, the positive effect of training programmes on employment does not apply to earnings.

The meta-studies that use an econometric approach are able to compare the *relative strength of effects*. Kluve (2006, 27) finds that labour market services (including sanctions) and private sector incentive programs yield better results than the more traditional approach of training the unemployed. The positive impact of sanctions on re-employment rates holds both for actually imposing sanctions and for having a benefit system including sanctions (ibid., 11). It is important to heed the time dimension, however: There are indications that the low-cost approach of sanctions brings rather short- to medium-term, but no long-term victories: while sanctions give job seekers an additional incentive to leave the state of unemployment as soon as possible, they tend to either push the unemployed directly into economic inactivity or into jobs which do not fit their profiles optimally. The latter suggests renewed unemployment after some time or prolonged employment under conditions of low(er than necessary) productivity and wages. Therefore, studies will overestimate the effects of sanctions if they 1) ignore transitions into inactivity, 2) leave wages or productivity out of consideration and/or 3) fail to observe a sufficiently long time-period. Unfortunately, 'evaluations usually do not track post-program outcomes beyond a couple of years so little evidence exists on longer-term impacts.' (Betcherman, Olivas, and Dar 2004, 3). This may often be due to data constraints. Possibly owing to the increasing availability of longitudinal data, the recent meta-study by Card, Kluve, and Weber (2015) finds 'larger gains for programs that emphasise human capital accumulation', which contradicts earlier results (Kluve 2006). These gains materialise only in the longer run (while employment services yield returns rather in the medium-term). In the short term, training measures may still be counterproductive due to lock-in effects (ibid., 10).

From the viewpoint of policy-makers and society in general, the success of programmes has to be considered also in the light of their *cost*. Betcherman, Olivas, and Dar (2004) observe that many studies 'do not fully consider program costs and, as a consequence, cannot inform on the key policy issue of efficiency.' All authors agree that training is one of the more costly ALMPs, whereas services are rather inexpensive (see also Walwei 2015, 12). In the case of sanctions, i.e. when benefits are withheld, costs incurred by public budgets are of course especially low. 'Job counselling, sanctions and intensified job search control and subsidies for job entry appear to be most effective. Job creation schemes perform poorly, while training holds an intermediate position.' (de Koning and Peers 2007, 1) However, exclusively looking at cost would obviously be as one-sided as only looking at effects.

The definition of what is considered as success is crucial for policy evaluation. Rarely considered are non-economic benefits, as they are difficult to quantify. In the case of training, high-quality programmes do more than just increasing job prospects. Their contribution to the knowledge and skills of participants and the effects in different domains of life could be part of a comprehensive cost-benefit-analysis. Similarly, direct job-creation schemes are more attractive if policy success is defined also in terms of social participation beyond employment (cp. Betcherman, Olivas, and Dar 2004, 1). Even though public works can lower the chances of participants to find a job in the private sector (again due to lock-in effects), they are also found to improve the subjective experience of partaking in society (Christoph and Hohmeyer 2012) and may thus be 'justified for equity reasons' (Kluve 2006, 10 et seq.).

2.1.3.1 Solutions need to fit to the problem

As mentioned, the effectiveness of ALMP differs much between *types of programmes*, maybe even more than who is targeted and what the general economic context is like. 'Once the type of the program is taken into account, the analysis shows that there is little systematic relationship between program effectiveness and a host of other contextual factors, including the country or time period when it was implemented, the macroeconomic environment, and a variety of indicators for institutional features of the labour market.' (Kluve 2006, 27) Many authors would agree with Kluve's suggestion that the type of programme is the most important determinant of ALMP success. Still, they also discuss the moderating impacts of context factors in order to explain differential outcomes of programmes of the same type.

Employment services, for example, are considered more helpful when matching problems are an issue in a labour market, thus a situation where there are both vacancies and job seekers, but a problem of bringing both together. In contrast, some argue that employment services 'are of limited use in situations where structural unemployment is high and there is a lack of demand for labour' (Betcherman, Olivas, and Dar 2004, ii). The inverse argument is put forward by de Koning and Peers (2007, 14). In order to explain their finding of a positive relationship between the unemployment rate and ALMP effectiveness, they meditate that 'in situations of low unemployment many unemployed will find a job anyhow.' Kluve (2006, 17) finds a slightly different explanation for the latter phenomenon, which he also observes: 'in times of high unemployment the share of better qualified individuals in the unemployment pool will be higher, so that the estimate might result from 'cream skimming' of the potentially more successful program participants.'

It is unclear whether employment services are more effective for low-skilled or high-skilled job seekers (Kluve 2006, 11). If employment services are provided jointly by public authorities and private service providers, a creaming effect is probable. Private agencies tend to take care of high-skilled workers, which negatively influences the PES's brokerage records.[58] Card, Kluve, and Weber (2015, 2 et seq.) observe that '[j]ob search assistance and sanction programs appear to be relatively more successful for disadvantaged participants'.

Training programmes seem more effective in transition countries than in both industrialised and developing countries (Betcherman, Olivas, and Dar 2004, 53). Obviously, their effect depends on whether many skilled unemployed persons are already on the market (like in industrial countries) and whether skills can be put to use (which is difficult in developing countries). High unemployment seems to depress positive effects of training: Bradley and Stephens (2007, 1506) hold that '[w]hen unemployment is very high, the mismatch between job vacancies and the skills of the unemployed is not a central problem.' Betcherman, Olivas, and Dar (2004, iii) generalise that 'the evaluations underline the fact that program impacts are usually more positive when the economy is growing.' In stark contradiction to this, Card, Kluve, and Weber (2015) assert that 'active labour market programs are more likely to show positive impacts in a recession' respectively that 'programs have larger impacts in periods of slow growth and higher unemployment' (ibid., 3).

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58 In developing countries, the stronger informality of labour markets (a smaller share of official job seekers and advertised vacancies) is found to diminish the effectiveness of employment services (Betcherman, Olivas, and Dar 2004, 53).

There is strong evidence that youth as a target group is not a fertile ground for training programmes (Kluve 2006, 8, 19 and 27; Kluve and Schmidt 2002).[59] As Betcherman, Olivas, and Dar (2004, ii) suggest: 'It makes much more sense to invest earlier in the education system to reduce drop-outs and other schooling problems.'[60] Whether training benefits more to low- or high-skilled workers (or on which marginal conditions this depends) is again unclear in the light of the evidence. While Kluve (2006, 10) finds that training works 'in particular for participants with better labour market prospects', Card, Kluve, and Weber (2015, 3) hold that training (and also private sector employment subsidies) tend to work better for the long term unemployed. Generally on this question, Liechti et al. (2016) highlight the importance of programme participation as a signal to employers: 'Its impact can be positive as well as negative, depending on the type of job that is applied for. For low-skill positions, the impact is more positive than for mid-skilled ones.' (ibid., 1) For higher-skilled workers, in contrast, having participated in a programme can be a stigma in the eyes of potential future employers.

As for the remaining parts of the ALMP toolbox, the evidence does not speak for a strong effectiveness in general. Subsidies to employers and public works can attenuate demand-side problems, but effects on participants vanish after the programme terminates. Beside lock-in effects while the programme is running, the lack of success of public works programmes is caused by a particular dilemma: in order to provide their participants with better employment chances after the end of the programme, they should provide skills and work experience needed by the private labour market. To this end, they have to operate in branches where they compete with private companies, which brings the state in direct competition with the private sector. As public work programmes are subsidised, they thus risk to crowd out the non-subsidised businesses, generating new unemployment (displacement effect) and eliminating the very employers who are supposed to hire programme participants later on. In turn, engaging in activities that are far from private companies' reach, public works programmes fail to prepare participants for the labour market and make them financially dependent on social transfers further on.

As for start-up incentives, there is less empirical evidence as compared to other programme types. Betcherman, Olivas, and Dar (2004, 53) report a very low take-up, as unemployed persons look for dependent employment in the first place, instead of taking additional risks as self-employed. They see '[some] evidence of positive impacts for older, better-educated individuals.' Results are better when financial aid is accompanied by technical and advisory services. (ibid.)

We can take home from past evaluations of ALMP that effectiveness on promoting employment differs first of all between kinds of programmes, and in a second stance also between groups of participants and according to the labour market and institutional environment. There is little agreement between studies on how context factors influence programme effectiveness, findings are often inconsistent, e.g. with regard to unemployment and economic growth. Yet, no one would doubt that the *quality* of programmes is crucial: for example, training courses offered to - or imposed on - job-seekers appear to be quite heterogeneous, reaching from a substantial investment in human capital to rather manipulative motivation seminars ('blame workshops'). Part of the quality aspect is the degree of adaptation of programmes to the needs of participants and to labour market conditions. As a general orientation, Betcherman, Olivas, and Dar (2004, iii) list conditions for successful ALMP as follows: 'Comprehensive packages of services, programs that are oriented to labour demand and linked to real workplaces, and careful targeting are good design features.' Specifically for training, 'on-the-job training and employer involvement' (Card, Kluve, and Weber 2015, 3) boosts programme effectiveness.

We also retain that even for ALMP types that are found more effective, employment services and training, reports are far from enthusiastic. The poor quality of many ALMP programmes and the limited time horizon of studies are two probable reasons why researchers' judgements on effectiveness remain cautious.

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59 Unlike other studies, Caliendo, Künn, and Schmidl (2011, 22) do find a positive effect also of training on the employment probabilities of young persons in Germany.

60 We have to keep in mind that success is always measured as a significant advantage of the treated over the non-treated. It could play a role that youths tend to find *some kind* of employment also without ALMP intervention.

That being said, we should not discard general doubts about programme effectiveness, knowing that treatment effects may be systematically more optimistic than aggregate effects, because they are still gross of substitution and displacement effects. Part of the literature states that 'aggregate outcomes are not too different from results produced by micro evaluation studies' (de Koning and Peers 2007, 2). In turn, Crépon et al. (2012), after empirically analysing displacement effects, 'suggest that the current enthusiasm among policymakers in Europe for active labour market programs should be tempered, since most available evidence in their favour does not take equilibrium effects into account.' (ibid., 32) The competition of the unemployed for jobs in the face of a partly fixed labour demand leads the authors to suggest higher unemployment insurance replacement rates (PLMP), rather than more ALMP.

Unlike the effects of active, the effects of passive LMP are not usually studied using (quasi)experimental designs, for obvious reasons. The present sub-section was therefore exclusively dedicated to studies on ALMP, while the following sub-section deals with the aggregate effects both of active and passive LMP.

2.1.4   Empirical evidence: aggregate effects of LMP at the country level

Up to now, we spoke of LMP effectiveness with regard to 'treated' as compared to 'non-treated' persons. We argued, however, that the policy relevance of this kind of information is limited because policy hardly ever addresses just a few individuals. In general, a sufficiently large number of persons concerned by an issue is, in practice, a necessary condition for policy tackling that issue. While 'under most circumstances positive effects at the individual level are a necessary condition for positive effects at more aggregate levels' (Kluve and Schmidt 2002, 442) they are no sufficient condition. It is possible that, when turning from treatment to aggregate effects, negative externalities diminish or even eliminate the treatment effects that have been evaluated as significantly positive. For example, while programmes may benefit some persons, the deterioration for others, when also taken into account, taints the overall picture. It can be a political priority to promote the employment chances or earnings of a specific disadvantaged group in the labour market while not necessarily generating overall improvements. Yet, even in this situation, it is still the aggregate effects (on that group) that are relevant, as its members may exert externalities on each other. Hence the imperative of empirically measuring aggregate, or in economists' language, 'general equilibrium effects'. As argued by Heckman, LaLonde, and Smith (1999), 'unless the challenge is met, or the social interactions are documented to be unimportant, the output of micro treatment effect evaluations will provide poor guides to public policy'. We will, in the following, review evidence on active and passive LMP effects; the body of empirical literature is much smaller compared to the micro-level studies.

2.1.4.1   Findings on ALMP

While we saw a relative congruence of opinions on the treatment effects of ALMP by kind of interventions, there are more contrasting views and results on aggregate effects. Still, the majority is inclined to a positive judgement: Nickell, Nunziata, and Ochel (2005, 6) report that '[m]ulti-country studies basically using cross section information indicate that ALMPs do have a negative impact on unemployment'. Focussing on employment rates, Estevão (2003) asserts positive effects of ALMP spending in the period between 1993 and 2000 (but not for the preceding period 1985-1992).[61] Congruently, in a recent macroeconomic study, Bruno and Rovelli (2010, 674) observe 'that expenditures on labour market programmes, and especially on active programmes, are significantly positively related to employment levels.'[62]

More reticent than the aforementioned authors, Kluve (2006, 17) finds that 'spending more money on active measures at the aggregate level does not necessarily seem to relate to increasing individual participants' employment probability.' Obviously, contradictions between empirical studies do not necessarily imply that

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61 Interestingly, this study tends to explain the measured effetcs mostly by various impact that ALMP may have on wage formation.

62 These results are not very robust, however. They vanish when regional dummies get included into the model. Maybe it is not spending but unobserved commonalities of regionally clustered welfare state regimes that explain the differences of employment levels?

one study has it all wrong. Disagreement can stem from the heterogeneity of the concrete cases analysed (though this risk is smaller in the case of broadly covering meta-studies). This applies to the contingent contexts of labour market policy, with regard to degrees of job rationing (Landais, Michaillat, and Saez 2013) and the features of the addressees of LMP, e.g. concerning age and skills. Pointing to Bassanini and Duval, Bruno and Rovelli (2010, 682) report stronger positive (A)LMP effects 'the more employment-friendly the overall policy and institutional framework'. Curiously, Bruno and Rovelli also highlight the importance of - hardly ever analysed and difficult to measure - cultural determinants, like a pro-work attitude in a society, or 'religion' (used by them as an indicator for a non-individualistic attitude).

A further important source of disagreement lies in the heterogeneity of what hides in the ALMP 'black box': Aggregate effects are most often analysed using amounts of money spent. Whereas the metric of money is in principle well comparable across countries and across studies, there is a considerable unobserved heterogeneity in the purposes on which the money is spent. The effectiveness of monetary investments in ALMP varies both by the mix of programme types (services, training, subsidies, cp. supra), by the quality of the concrete programmes implemented, their by their adaptation to the labour market issues. These aspects cannot be underestimated, and they are much harder to account for by aggregate (as compared to treatment) effects studies. Estevão's (2003) is - to our knowledge - the only aggregate effects study that separately estimates the effects of different kinds of ALMP expenditure. According to his results, the positive effect of ALMPs relies mostly on the positive impact of direct subsidies to job creation.[63] We have some doubts, however, that the available data allow to reliably estimate these effects (small number of countries, small amounts spent on ALMP).

The multitude of potentially relevant factors calls for a high number of empirical studies, potentially meta-analysed by multiple regression models in the way that micro-level studies were (supra). However, 'the small number of macro studies precludes such an analysis.' (Kluve 2006, 13)

2.1.4.2 Findings on PLMP

In the case of *passive* labour market policy, the intricacy lies in a multitude of mechanisms that can be at work, with influences possible both in the direction from policy to labour market situations and vice versa. Inverse causality, e.g. the unemployment rate affecting the level of spending, is obviously there when we measure spending as total spending. We will therefore look at need-adjusted (i.e. per-head) spending only, even though this does not rule out all possibilities for inverse causality.

What do we know about the aggregate effects of PLMP spending on employment and unemployment? For many authors, it is an established fact that a high replacement rate (as percentage of former earnings), a long duration of payments (number of months they are granted after a person gets unemployed), and a broad coverage (high share of recipients in all unemployed) are detrimental to employment and raise unemployment. Exemplary for a long tradition of analyses are Nickell (1997) and Nickell, Nunziata, and Ochel (2005). Their assessment of the existing literature on the link between benefit levels and unemployment is the following: 'The average of their [different authors'] results indicates a 1.11 percentage point rise in equilibrium unemployment for every 10 percentage point rise in the benefit replacement ratio.' (ibid., 4). Furthermore, '[t]here is fairly clear micro evidence that shorter benefit entitlement leads to shorter unemployment duration' (ibid.). Their own analysis again confirms that 'benefit levels have an important impact on unemployment as does benefit duration and their interaction' (ibid., 18). Beyond level and duration, the same observations can be made for the coverage of PLMP and the strictness of benefit conditions (ibid., 4 et seq.).

Bradley and Stephens (2007) distinguish between short- and long-term replacement rates, asserting a positive impact on the employment rate for generous transfers during one year, and negative impact for generous transfers during five years (ibid., 1502). Howell and Rehm (2009) cite several authors who call the 'orthodox prediction' into question and empirically scrutinise the data and method that has led the brunt of academic literature to argue for restrained passive policies. Part of their argument is that existing empirical

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63 Mind that Estevão's analysis is limited to the business sector.

evidence on detrimental effects of PLMP has been largely overstated (p. 66) and that counter-evidence has not been taken into account (namely 'wrongly' signed coefficients (p. 62) and counter-examples (p. 80)). They also argue that the credibility of virtually all econometrical analyses so far is undermined by the poor quality of the replacement rate measure they have been using.[64] Based on an improved measure (*net* replacement rates) that the OECD has made available as of the year 2001, Howell and Rehm find that 'more generous after-tax benefits [are] associated with lower unemployment across these 20 countries' (p. 17) in 2002 and that in 2001, 'higher levels of benefit duration are actually associated with lower unemployment' (p. 85). In a dynamic (i.e. longitudinal) perspective, they find changes in replacement rates to be negatively correlated with unemployment, particularly for changes of long-term (5-year) replacement rates. As for employment rates, their analysis yields positive effects of extending PLMP: 'countries with increasingly generous replacement rates and benefit durations appear to be associated with increasing employment rates.' (p. 86). Accordingly, 'increasing access to benefits by the unemployed, at least as measured by the OECD's recipiency rate, is not associated with increasing unemployment over the last two decades.' (p. 88).[65]

These unconventional macroeconomic findings do not preclude more generous PLMP from leading to longer individual unemployment spells. Howell and Rehm confirm that a longer compensation of unemployment raises the mean unemployment duration (p.66). However, this increase is apparently quite modest and concerns just one single group in the labour market (the unemployed), which allows for a divergence between micro-level and macro-level (aggregate) effects. The authors explain that there are several effects at work at the same time, offsetting each other, so that the overall effect of more generous PLMP can become positive instead of negative. Drawing on the literature, three such effects are named (p. 67): the 'composition effect' (not the size but just the composition of the unemployed population changes), the 'entitlement effect' (workers aspire to employment more because it creates new benefit entitlements for them) and the 'labour market participation effect' (additional workers enter the labour market instead of remaining officially inactive).[66]

Some have convincingly argued that the effects of passive policy depend on the active policy that is simultaneously applied. Bassanini and Duval (2006, 9) observe that 'the impact of generous unemployment benefits on unemployment appears to be mitigated by high public spending on ALMPs, perhaps because high spending on ALMPs is often accompanied with a strong emphasis on 'activation''. This would suggest researching the effectiveness of PLMP while controlling for ALMP.

As mentioned, analysing the relationship between PLMP and (un)employment is complicated by the possibility of inverse causality (Howell and Rehm 2009, 64): does PLMP condition unemployment, or is PLMP raised/lowered if unemployment is high/low? Indeed, the duration of benefits is made dependent on the business cycle in some countries, e.g. the US. Still, Nickell (1997, 67) considers that 'the micro econometric evidence on the positive impact of benefit levels and entitlement durations on the duration of individual unemployment spells [...] suggests that at least part of the observed cross-country correlation can be taken at face value.' Howell and Rehm (p. 79 et seq.), in turn, present some evidence for inverse causality, justifying this option as a further route to be explored.

All these effects make for 'an ambiguous theoretical relationship between benefit generosity and the incidence and duration of unemployment, resulting in a variety of possible empirical predictions.' (Howell and Rehm 2009, 61) The debate is sure to be continued.

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64 'The macro literature has relied almost exclusively on a single OECD-based maximum gross replacement rate (GRR) [...] The GRR measure does not include social or housing assistance, which can make up a substantial proportion of non-wage income, and is measured against the average productionworkerwage, an increasingly inappropriate wage measure since the vast majority of wage earners in all developed countries work outside manual occupations in the manufacturing sector.' (61 et seq.)

65 Using not replacement rates but need-adjusted aggregate spending measures for capturing PLMP, Bruno and Rovelli (2010, 680) confirm that PLMP expenditure relative to GDP is significantly positively associated with the employment rate. Their way of capturing PLMP corresponds to how our own analysis, see below, will proceed.

66 The latter effect can bolster unemployment-raising effects of generous PLMP, but has to be judged positively in essence.

2.1.4.3   Clarification: 'aggregate' means aggregate at the national level

A qualifying note on macro-level studies seems in order from a political economy viewpoint: labour market policy is mostly a national (or regional) competency, even within the EU. National (or regional) governments enact policies in order to tackle issues in national (or regional) labour markets (or to respond to preferences of domestic voters). Yet, geographically defined (not confined) labour markets are in competition for jobs. LMP can be seen as a resource in this competition.[67] The most relevant political question is therefore not whether LMP helps (e.g. raises employment rates) in general, but whether it helps in the constituency where it is deployed. Indeed, not all jobs that successful LMP adds may have been newly created. They may have just been reshuffled from one country/region to another country/region. Giraud (2008) uses the term of 'nomadic workplaces' to describe jobs that have a specific kind of resilience: if they are eliminated in one country, they are re-created in another country. This works by the mechanism of international trade: tradeable goods do not have to be produced where they are consumed, and can thus be imported or exported (as long as no barriers to trade are installed). Unlike 'nomadic', 'sedentary workplaces' (Giraud 2008) can be destroyed in one country without reappearing somewhere else. They are not part of a zero-sum game. We can use Giraud's distinction for disaggregating the effects of labour market policy into externalities (attracting 'nomadic workplaces' from the exterior) and 'real aggregate effects' (net creation of 'nomadic' plus 'sedentary workplaces').

From such a point of view, LMP partly means an attempt of governments to stimulate domestic job creation at the expense of foreign employment. While such policy effects are nothing else than an international version of displacement effects (supra), studies on the 'aggregate' (!) effects of LMP usually do not try to control for them: they are interested in what a policy enacted by a government does for the labour market of the respective country. To our knowledge, there are no empirical studies yet on the real, thus global aggregate effects of LMP, thus on domestic employment net of the externalities on trade-partner countries. The theoretical distinction can therefore not be lined with empirical results. This means that even after having reviewed the empirical evidence on aggregate policy effects, we cannot be sure how much employment LMP really creates (net of redistribution between countries).

2.1.4.4   In sum: mixed evidence, an unsettled debate

Summing up our review of existing studies on LMP effectiveness, we found that individual participants in ALMP programmes are more likely to exit unemployment and then stay employed when they are exposed to employment services (including counselling, but also sanctions) or receive training (rather a long-term effect). Public job-creation does not help much, with subsidies to private employers being a little more effective than public works programmes. From a cost-benefit point of view, employment services are the optimal choice in the mid-term perspective, as long as the benefit is defined economically. Subjective satisfaction and social participation can be promoted by public works programmes even in absence of positive labour market effects.

Looking at aggregate effects at the country level, the evidence on ALMP effects is mixed. This can be explained by the importance of context factors that moderate ALMPs' impact, and by the heterogeneity of what hides behind the spending amounts in terms of mix and quality of programmes. Concerning PLMP, the debate is less nuanced in function of kinds of programmes, but polarised between a PLMP-pessimist (neo-classical) and a PLMP-optimist (heterodox) view. The former sees higher unemployment rates as a consequence of more generous and longer-term replacement incomes and broader coverage. If at all, these detrimental effects can be mitigated if accompanied by activating ALMP. Some recent literature, based on a different theoretical perspective and improved data, backs the PLMP-optimist view: Higher and longer-term replacement rates are found to make employment participation more attractive and improve the matching between jobs seekers and vacancies.

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67 Though it is contentious whether they are an asset or rather a liability, cp. above the neo-liberal view that emphasises the need to finance LMP by taxes, thus raising the cost of labour.

The prevalence of unresolved contradictions especially on the question of aggregate effects calls for more empirical research. The remainder of chapter 2 is dedicated to our own analysis, a study on the aggregate effects of LMP, ALMP and PLMP expenditure in Europe during the last decade.

2.2 The approach of our empirical analysis

Above, we put special emphasis on the difference between treatment and aggregate effects, arguing that even though the question of aggregate effects is most important most of the time, the brunt of recent studies have concentrated on treatment effects. For this reason, and because the current state of knowledge is quite ambivalent as far as aggregate effects of active and passive labour market policy are concerned, we propose to add to the empirical knowledge by our own analysis. Our analysis examines whether active and passive LMP have an impact on the employment statuses of persons in working age (effectiveness), and if so, how this impact is distributed according to some sociodemographic dimensions (distributional impact): gender, age, and education.

2.2.1.1 Research design: an aggregate effects study with micro-level data

As an *aggregate effects study*, our study compares populations of different countries, exploiting the variance of LMP expenditure between these countries. It is not straightforward to isolate the effect of a specific policy from a complex interaction between different political, economic, cultural and other influences. Unobserved heterogeneity needs to be captured by adequate control variables, which is a crucial issue in all comparative studies. Unfortunately, the small number of countries in our data limits the admissible number of control variables (see below). This drawback concerns macro-level studies in general; it must be taken seriously when interpreting the empirical findings.

The present study is a comparative study that combines information at the policy level (macro) with data on individuals (not aggregated to, for example, mean employment rates per country before the multilevel analysis). Using micro-level observations allows taking individual determinants into account (one could speak with Amartya Sen of personal conversion factors). This brings the advantage of identifying policy effects net of composition effects, which can occur if the structure of the labour-force differs between countries. It also permits comparing policy effects between subgroups of the work force, defined by the mentioned sociodemographic dimensions (Section 2.4).

The metric for LMP used in the analysis is the expenditure in each observed year (Section 1). The treatment of *specific* individuals is not observed,[68] and neither are the consequences of that treatment for their employment trajectories. Rather, we assume that in a country with higher spending on ALMP, the average worker's probability of participating in a programme tends to be higher and the quality of programmes tends to be better. Equally, a higher (need-adjusted) spending on PLMP is assumed to correlate positively with a higher generosity, duration and coverage of income replacement. This leads us to the following expectation: If these policy investments generate a positive return, then employment, unemployment and inactivity rates should vary in function of national LMP spending (see below: hypotheses).

2.2.1.2 Model and data: a multilevel analysis using mainly the EU-SILC

The analysis examines the link, or absence of link, between labour market policies and individual employment statuses. Causality is assumed to run from the former to the latter. Variables capturing policy therefore figure as the independent variable in the model, while employment-related items represent the dependent variable. One of the two main sources for comparative analysis of European countries' labour markets and social protection are the EU-SILC (the other being the EU-LFS). The EU-SILC contain harmonised micro-level information on a large number of individuals, among other things on their employment situation. For the dependent variables, the present analysis can therefore draw on the EU-SILC. We use the cross-sectional

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68 In the case of ALMP, individual programme participation is not even recorded in the micro data used, see below.

files of the years between 2006 and 2014.[69] However, information on the treatment or non-treatment of sample persons by measures (ALMP) is not contained in the data set. For the independent variables, as mentioned, we thus have to rely on macro-level information. It is taken from diverse sources, all of them made available by Eurostat. Control variables are fed into the model at both the macro level (GDP and national minimum wage) and the micro level (personal and households features). For a list of all data sources, see Table 2.1.

Table 2.1 Data sources of the analysis

Subject	Providing institution	Name of data product	Description
Information on persons and households	Eurostat	EU-SILC	Micro-level information on individual employment, personal features and household structures. Data distribution of 2016.
National LMP spending	Eurostat/ DG EMPL	lmp_ind_exp	Spending on services, measures and supports by country and year. Provided as % of GDP and in PPS per person wanting to work.
Price index	Eurostat	prc_hicp_aind	Harmonised Index of Consumer Prices (HICP) by country and year
Purchasing Power	Eurostat	prc_ppp_ind_2011	Countries' purchasing power parity (PPP) by country and year (EU28=100)
GDP and GDP growth	Eurostat	nama_10_pc	Gross domestic product at market prices by country and year
Median earnings	Eurostat	earn_ses_monthly	Median monthly earnings by country and year

The analysis works at two levels, with individuals and their households ('level 1') nested in countries ('level 2'). Our multilevel regression model links countries' differences in terms of LMP spending to the variation of workers' employment statuses between these countries. We thus estimate between-effects rather than within-effects. A diachronic comparison would in principle be possible with yearly cross-sectional micro data and yearly information on LMP spending, and would indeed be very helpful for excluding some sources of unobserved heterogeneity. However, a strong serial correlation of LMP spending makes that a longitudinal approach is not an option for the present analysis.[70] In addition, there is the time lag of LMP impacts (supra: Card, Kluve, and Weber 2015). As our spending variable comprises different types of LMP with different timings of impacts, we cannot simply assume that spending in t will influence the labour market in t but not t+1 or t+2, or in t+2 but not in t and t+1, etc.[71] It thus becomes impossible to link a specific amount of LMP expenditure in any precisely defined year with the labour market situation in any precisely defined other year. For these reasons, we have to exploit the LMP spending differences *between* countries.

As we are interested not only in the link between one specific kind of policy spending and one specific kind of labour market outcome, there will be several versions of the regression model. We use two different independent variables: one registers whether an observed person is economically active or (formally) in-active.[72] This variable is used to test the impact of policy on working-age persons' propensity of participating

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69 We opt for the cross-sectional data file instead of the longitudinal not because of its better offer of personal- and household-level items, but because more countries are covered in this part of the EU-SILC data. A maximum number of second-level units will be crucial for our analysis.

70 As we saw in Section 1, LMP expenditure differs much more between countries than within countries over time. In most countries, most of the time, spending in one year approximates spending in the preceding and in the subsequent year. This fact severely reduces measurable policy variance *within* countries.

71 Nevertheless, we will compare effects of LMP spending one year later with effects two years later. Effects on employment statuses one year later will prove more significant.

72 Speaking of economic inactivity, we follow the convention, but we mean nothing else than the *official* status. The term economic inactivity is misleading, because the activities of homemakers are distinctly economic activities ('household economy'), not to mention persons engaging in the shadow economy. As well, as we will highlight, economically inactive persons may well be looking for jobs without help or notice of PES.

in the labour market. The other dependent variable registers the state of being employed against the alternatives of being an unemployed or economically inactive working-aged person (defined throughout the analysis as being at least 16 and not older than 64 years of age). Both of these variables include every observed person, no matter her employment status; a distinction merely between employment and unemployment would not. For our purpose, it is vital to keep the employment status outside of the labour market in consideration. As Bradley and Stephens (2007, 1489)[73] highlight, a policy that decreases unemployment at the expense of a rising inactivity rate is not a successful employment-enhancing policy.[74]

We use six different independent variables: active, passive, and overall labour market policy spending, each measured both as relative (% of GDP per % of the population wanting to work) and as absolute (PPS per person wanting to work) spending per head, deflated by the living standard (median income, cp. above). Due to the abovementioned time lag of policy effects, we defer the spending by one or also two years into the past. This also helps to counter inverse causality (e.g. a causality running from more unemployed persons to greater LMP spending).

Beyond the several variants of our model that are brought by using several alternative dependent and independent variables, further variation of the model comes in by the cross-level interaction terms that we use to detect distribution effects of LMP spending (by gender, age, and education). No matter which IVs and DVs we specify, the control variables stay the same in each model: we include GDP and GDP growth. Coefficients of spending variables thus stay comparable. Table 2.2 gives an overview on all the variables included in one or several of the models.

Regression specifications: We run our analysis in Stata (14.2). Given the binary dependent variables, we fit our two-level *random intercept* model using the xtlogit command (Rabe-Hesketh and Skrondal 2008, 248; Leckie 2010, 5).[75] This saves computation time (meqrlogit and gllamm are much more exigent).

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73 'Treating the unemployment rate as the single best indicator of economic performance biases this type of analysis toward success in one type of outcome. Unemployment rates are sensitive to labour force participation; in fact, they can be lowered or raised based on participation regardless of whether more jobs have been created or destroyed. [...] people can be excluded from the labour force, thus lowering the overall unemployment rate without representing improved employment performance.' (Bradley and Stephens 2007, 1489)

74 Our DVs can be constructed both with the EU-SILC item PL031 and RB210. Both were tried out. The resulting regression coefficients are basically the same. PL031 is given priority here, because it stems from the respondents' own answer, while RB210 is based on answers from the person responsible for the household.

75 Note that xtlogit would not suffice for a model with random effects at the second level. In our case, the multilevel structure of the model serves mainly to purifying the relationship between IV and DV from idiosyncrasies of countries.

Table 2.2   Variables used in (one of) the regression models

Model composition	Description	Scale	Unit
One at a time	*Dependent variables*		
	Active vs. formally economically inactive	binary	Dummy
	Employed vs. not employed (unemployed or inactive)	binary	Dummy
One at a time	*Independent variables (fixed effects)*		
	Total LMP expenditure (services, measures, supports)	cardinal	% of GDP per % of the population wanting to work
	ALMP expenditure (measures)	cardinal	
	PLMP expenditure (supports)	cardinal	
	Total LMP expenditure (services, measures, supports)	cardinal	PPS per person wanting to work, deflated by standard of living (median income) (log)
	ALMP expenditure (measures)	cardinal	
	PLMP expenditure (supports)	cardinal	
One at a time	Interaction term: LMP spending * education	cardinal	(depends on respective spending variable)
	Interaction term: LMP spending * age	cardinal	
	Interaction term: LMP spending * gender	cardinal	
In each model	*Independent variable (random effects)*		
	Country	nominal	dummies
	Control variables (fixed effects)		
	GDP per capita	cardinal	PPS (log)
	GDP per capita growth since last year	cardinal	percentage
	Gender: female	binary	Dummy
	Age: low (18-29 years)	binary	Dummy
	Age: high (55-64 years)	binary	Dummy
	Country of birth (national, EU, third countries)	nominal	dummies
	Limitation in activities because of health problems: yes	binary	Dummy
	Education level: low (lower secondary at most)	binary	Dummy
	Education level: high (post-secondary or tertiary)	binary	Dummy
	Partnership status: couple	binary	Dummy
	Number of children under 3 years in household	cardinal	children
	Number of children over 2 but under 7 years in household	cardinal	children
	Number of children over 6 but under 18 years in household	cardinal	children
	Interaction term: Partnership status * female	nominal	dummy
	Interaction term: Number of children under 3 years in household * female	cardinal	children
	Interaction term: Number of children over 2 but under 7 years in household * female	cardinal	children
	Interaction term: Number of children over 6 but under 18 years in household * female	cardinal	children
	Historical year	nominal	dummies

Table 2.3 gives an overview on the sample size by country and survey year (EU-SILC wave). The survey year corresponds to the historical year only for UK and IE, for the other countries there is a lag of one year (historical year = survey year - 1). Not all countries provide data for all years, especially in the earlier waves, some countries that joined the EU only recently are not yet represented in the EU-SILC. Also for the most recent years, there are some gaps: Germany and Malta are concerned, and the UK as of the survey year 2010. The total N of our analysis is 695,784 households.[76]

The EU-SILC contain a number of observations that is five times higher than the numbers in the cells of Table 2.3, but we have drawn a 20% sub-sample (random draw within each country-year, i.e. each cell). Otherwise, computations would take far too long. We consider that we do not lose important information by renouncing to 80% of micro data: the bottleneck of the analysis is not the number of micro-level observations, but the small number of second level units. The number of groups at the second level (countries) is not changed by using fewer micro-level observations within each second-level unit.

Values in Table 2.3 do not necessarily reflect the weight of the respective country-year in the reference population: for our analysis, observed households are weighted by their probability of being covered by the survey (we use the weighting item RB050).

Table 2.3   Sample of the analysis, by country and survey year

Country	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
AT	1,899	2,102	1,712	1,719	1,806	1,788	1,775	1,672	1,633	1,654
BE	1,838	1,993	1,944	1,884	1,865	1,754	1,747	1,815	1,782	1,760
BG		1,567	1,530	1,926	2,097	2,179	1,805	1,503	1,455	1,413
CY	1,431	1,378	1,302	1,194	1,449	1,499	1,760	1,723	1,543	1,532
CZ	2,315	2,994	3,483	3,019	2,782	2,652	2,549	2,368	2,218	2,123
DE	3,941	3,898	3,540	3,488	3,470	3,537	3,399	3,202	3,141	
DK	1,918	1,929	1,901	1,927	1,891	1,682	1,673	1,677	1,765	1,734
EE	2,081	1,903	1,708	1,765	1,746	1,720	1,811	1,891	1,875	1,776
EL	1,854	1,812	2,080	2,190	2,127			2,129	2,499	4,139
ES	4,383	4,456	4,639	4,746	4,734	4,422	4,238	4,077	4,000	4,069
FI	3,745	3,695	3,562	3,348	3,565	3,003	3,287	3,574	3,429	3,323
FR	3,091	3,223	3,167	3,166	3,276	3,309	3,499	3,174	3,207	3,151
HR							1,905	1,755	1,763	2,145
HU	2,548	2,890	2,912	3,329	3,311	3,985	3,847	3,413	3,028	2,368
IE	1,704	1,585	1,461	1,479	1,338	1,245	1,366	1,453	1,653	1,592
IT	6,931	6,691	6,594	6,403	6,003	5,974	5,905	5,523	5,774	5,275
LT	1,548	1,618	1,517	1,623	1,716	1,602	1,601	1,447	1,447	1,323
LU	1,351	1,381	1,337	1,475	1,736	1,943	2,101	1,353	1,337	1,199
LV	1,346	1,292	1,608	1,762	1,879	1,948	1,825	1,757	1,665	1,636
MT			1,267	1,359	1,366	1,475	1,576	1,577	1,524	
NL	2,970	3,347	3,279	3,018	3,155	3,239	3,186	3,153	3,127	2,989
NO	1,947	2,002	1,846	1,782	1,706	1,494	2,007	1,957	2,361	2,016
PL	5,712	5,344	5,103	4,696	4,572	4,482	4,555	4,322	4,271	3,808
PT	1,525	1,478	1,464	1,594	1,593	1,739	1,903	1,980	2,089	2,683
RO		2,584	2,466	2,390	2,353	2,287	2,280	2,271	2,210	2,228
SE	2,284	2,345	2,436	2,381	2,265	2,088	2,044	1,829	1,638	1,665
SI	4,547	4,130	4,136	4,179	4,155	4,039	3,935	3,796	3,804	3,539
SK	2,122	2,116	2,362	2,327	2,361	2,222	2,255	2,183	2,173	2,197
UK	2,884	2,687	2,573	2,327	2,224					

* Only working-aged persons. Unweighted values. The numbers correspond to 20% of the sample that could potentially be drawn from the data source.

Source EU-SILC (Eurostat), own calculation

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76 Due to some missings for some variables of the model, the N of each regression can be smaller than the number of households in our sample. It will be around 560,000, which is more than enough at the micro level.

A cautionary note on sampling: the independence-of-observations assumption usually made in multivariate analysis is not fully respected. Due to the rotating panel, households stay in the EU-SILC data for up to four years. The cross-sectional EU-SILC files can thus contain responses of one and the same household during four consecutive years. For confidentiality reasons, observations in different cross-sectional EU-SILC files cannot be traced back to the same household. Our pooled cross-sectional sample thus consists of observations that could be grouped by household if a household identifier across waves were available. Some households may only be documented by one observation, but others will also be represented by two, three or four observations in the sample. A possible solution would be to eliminate all data generated by the second, third or fourth observations of each household (there is a variable identifying new households), thus keeping only the first year's observation of each household. This would also have the advantage of dealing with panel attrition (there is a socially selective probability of households not answering any more after the first year of being surveyed). However, the price to pay would be to lose all information collected from households after the first year, which is easily above fifty percent of the EU-SILC data. We opt for accepting non-independence of observations, considering that it is not more than four observations that can cluster, and that the sample consists of a great number of such potential clusters.

Beyond this, we have to emphasise the limits concerning reliability and interpretability of our results: Even if we use multivariate methods to highlight links between variables while controlling for others, it is a description of the observed data on precisely defined countries in a precisely defined period, so it cannot necessarily be generalised to other places and times. This is due to the relevance of context conditions for the functioning of policies (Kazepov and Ranci 2017). Another point that limits the scope of our results is that our method is not a simulation study, which would have to be more complex, taking into account side effects that changes in LMP expenditure could have.[77] Finally, the restrictions caused to our model by the limited number of countries in our sample need to be taken into account: for 29 countries, we should limit ourselves to 3 macro-level variables.[78] The risk of unobserved differences correlated with independent and dependent variables thus remains relevant.

2.3 Level effects of labour market policy

In the following, we will use the multilevel model described above to establish a link between expenditure on labour market policy and labour market outcomes. In other words, we are looking for policy effects. It is important to keep in mind that such 'effects' cannot be proven by the econometric model. What the model does is to show correlative relationships between (independent and dependent) variables, while controlling for other variables. Significant correlations are then interpreted by us, suggesting plausible explanations of patterns in the data.

There are two kinds of effects we are looking for: level effects (this section) and distributional effects (see Section 2.4). Level effects are the impact of policy on (1) the activity rate or (2) the employment rate. Concretely, the model tests for each observed person whether a higher LMP-, ALMP- or PLMP spending per person wanting to work corresponds to an altered probability of this person of being (1) economically active instead of inactive or (2) employed instead of either unemployed or inactive. We hypothesis several different relationships to be established by the model.

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[77] Also, cross-sectional findings cannot necessarily be generalised to longitudinal perspective (Fairbrother 2014, 120 et seq.).

[78] Mind that the majority of other studies fail to take account of this limitation. It is important, however, to understand that it is the number of *independent* observations in the sample that determines the maximum number of control variables. A regression analysis on several hundreds of observations may still have to be parsimonious with the number of regressors, as the panel data which is usually available (countries * years) features highly correlated observations stemming from a much lower number of individual countries.

2.3.1.1 Hypotheses

For spending on ALMP, we expect a positive impact on activity (*Hyp 1*) and employment (*Hyp 2*), thus higher probabilities of these statuses if more money is spent on measures. Concerning economic activity, the reason is that successful ALMP interventions should prevent persons from getting inactive (e.g. out of discouragement after spells of long-term unemployment). As for employment, the supposed mechanism is simply the success of training, employment subsidies etc. in helping job seekers to find employment. In consideration of substitution and displacement effects, see 2.1.4, we would rather expect a weak than a strong relationship between ALMP and employment, thus maybe also a statistically insignificant one.

As for PLMP, we expect a positive link with economic activity (*Hyp 3*): if transfers granted under certain conditions are higher, there is a greater benefit of being officially part of the work force instead of being inactive (unemployment benefits usually require availability for the labour market).

Keeping persons economically active could also raise the employment rate, because these persons stay in reach of the PES and potentially keep up their own job search, considering themselves workers rather than inactive persons (homemakers).[79] Also, generous replacement incomes allow persons to invest more in their job search, so that the chance of getting unemployed again after some time should be reduced. In contrast, high levels of PLMP also allow persons to take more time to leave unemployment (cp. Lehwess-Litzmann and Nicaise (unpublished), part II), an effect that can potentially decrease employment. The net effect of PLMP spending on the employment rate at any given moment is therefore unclear, and no prediction can be made.[80]

In the case of LMP spending, thus ALMP and PLMP taken together, we can only hypothesise a positive link with the activity rate (*Hyp 4*), but not with the employment rate, against the backdrop of the above thoughts. We will test our hypotheses in the following sub-sections. Each one uses the same regression model, except that the variable capturing LMP spending is different each time. We begin with aggregate LMP spending, continue with ALMP and PLMP spending individually, after which we include ALMP and PLMP spending simultaneously but separately in the model.

2.3.2 Model with overall LMP

In this sub-section, we regress the two outcomes (1) economic activity and (2) employment on countries' overall LMP spending plus some control variables at macro- and micro level. The variables that capture spending are expressed a) in percent of GDP per each percent of the population wanting to work or b) in PPS spent per person wanting to work, deflated by the living standard and in logarithmic format. In both cases, they are lagged by 1 or 2 years. This gives us four alternative spending variables for each of the two dependent variables, we thus fit eight regression models for the present sub-section.

By way of example, Table 2.4 presents the regression output of one of these models. Most importantly, we see (in bold letters) the highly significant coefficient of the spending variable. Its positive sign suggests that higher LMP spending raises the sample persons' probability of taking part in the employment system (either as employed or as a job seeker). Beside this variable of main interest, the two macro-level control variables are weakly (GDP per capita) or highly (GDP per capita growth) significant. The observed population tends to be more economically active in wealthier countries (inverse direction of causality conceivable here), but less where GDP is growing more strongly.

At the micro level, personal factors that negatively influence the probability of being economically active are being female and being a rather young or a rather old working-aged person. Equally, suffering a limitation of activities because of health problems and a low education level negatively connect to economic activity. A high education level is positively connected. Persons from another country within the European Union

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79 Of course, it is also possible that persons keep up their job search without any contact to the PES, maybe even deliberately avoiding such contact in order to search more freely.

80 Hypotheses regarding the effects of overall LMP follow from the hypotheses formulated for its main components, ALMP and PLMP.

are more frequently economically active than nationals, while there is no statistically significant difference between persons from third countries and nationals.

Still at the micro level, the model also contains some features of the observed persons' households. The coefficients have to be interpreted with care, because all household variables enter the model a second time, interacted with gender (females coded as 1, men as 0). This makes that the coefficients of the household features apply only to the male sub-population, while for females we have to look both at the household feature itself and at the interaction term. For men, being in a couple household generally raises the probability of economic activity, and so does having dependent children in the household who are below seven years of age. Older children (7 to 17 years) go along with a reduced probability of economic activity.

For women, we add the coefficient of the interaction term to the basic coefficient. This suggests that being in a couple household has no effect on women's economic activity. Unsurprisingly, children under three years of age seem to negatively influence women's economic activity, with the negative coefficient of the interaction term being much larger than the positive coefficient of the non-interacted variable (-1.427 vs. +0.615). Also for children between 3 and 6 years, we see a negative effect in the case of women, unlike for men. As for older children, the negative effect on economic activity that we saw for men is further increased for women (-0.250 - 0.123).

It is important to note that we cannot say much about the size of effects from the output of Table 2.4, as coefficients refer to the influence of the independent variable on the logarithmic odds of the dependent variable. We will look at effect sizes (of our main IV) further below. At this point, we are just getting to know the regression model and factors that are positively or negatively significant.

Table 2.4   **Exemplary regression output: LMP spending and economic activity**

Variable	Coefficient
DV: Active vs. formally economically inactive	
Fixed effects	
LMP expenditure, in % of GDP per % of the population wanting to work (lagged 1 year)	0.387***
GDP per capita (log)	0.124*
GDP per capita growth since last year	-0.005***
Gender: female	-0.422***
Age: low (16-29 years)	-2.126***
Age: high (55-64 years)	-2.189***
Country of birth (base: national)	
European Union	0.166***
Outside of EU	0.031
Limitation of activities because of health problems: yes	-0.453***
Education: low (less than primary, primary, or lower secondary)	-0.706***
Education: high (post-secondary and tertiary)	0.669***
Partnership status: couple	0.798***
Number of children under 3 years in household	0.615***
Number of children over 2 but under 7 years in household	0.392***
Number of children over 6 but under 18 years in household	-0.250***
Interaction term: Partnership status * female	-0.787***
Interaction term: Number of children under 3 years in household * female	-1.427***
Interaction term: Number of children over 2 but under 7 years in household * female	-0.680***
Interaction term: Number of children over 6 but under 18 years in household * female	-0.123***
Year (base: 2006)	
2007	0.008
2008	-0.009
2009	-0.014
2010	-0.005
2011	0.026
2012	0.035
2013	0.109***
2014	0.158***
2015	0.209***
Constant	1.343*
Random effects	
Country intercept variance	-2.392***
Statistics	
N	559,529

*   Only working-aged persons. Weighted values. * p<.05; ** p<.01; *** p<.001.
Source Eurostat, own calculation

In the following, we will concentrate on the crucial independent variable, LMP expenditure. Table 2.5 gives an overview on the how the spending variable is signed in the eight regression models described above. LMP spending is positively signed most of the time, no matter how it is measured, both with regard to economic activity and employment. This means that both one and two years after spending, the observed population tends to be more economically active and more often in employment where spending has been higher. An exception is expenditure relative to GDP (and relative to the population wanting to work), which is not significant for micro-level outcomes two years later. Due to the mentioned serial correlation of yearly spending amounts, it is not clear whether spending lagged by two years has an effect of its own or is significant only because spending on year before is significant.

Table 2.5   Signs of estimated coefficients of LMP spending (2006-2014, pooled)

Independent variable: Expenditure on services, measures, supports, as ...	Lag (years)	Dependent variable	
		Active vs. inactive	Employed vs. (unemployed+inactive)
... % of GDP per % of the population wanting to work	1	+	+
	2	+	()
... PPS per PWW, deflated by standard of living (log)	1	+	+
	2	+	+

    *   Only working-aged persons. Weighted values. Legend: +/- = IV positively/ negatively significant on DV at p=0.05. () = IV not significant at p=0.05. Acronyms: GDP = Gross Domestic Product; PWW = persons wanting to work; PPS = Purchasing Power Standard. Standard of living approximated by the median wage. N = 559529 (lag 1) or 546414 (lag 2) observations.

    Source Eurostat, own calculation

Figure 2.1 conveys a first impression of effect sizes. It picks one of the LMP spending measures (as % of GDP per % of the population wanting to work, lagged 1 year) and tests the sensitivity of the dependent variable (being economically active) to changes of the amount spent on LMP. While the mean probability of economic activity across the observed population is 75.0% for the *factual* amounts of LMP spending, reducing expenditure by 50% would mean reducing to 74.3% the mean probability that an observed person is economically active. Correspondingly, increasing expenditure by 50% would bring that probability up to 75.7%. Table a1.4 in the appendix compares predictions for different ways of measuring LMP spending. Results are rather close, which we take as a sign of robustness.

Figure 2.1 **Mean estimated probabilities of being economically active, by levels of relative LMP spending (factual and counter-factual)**
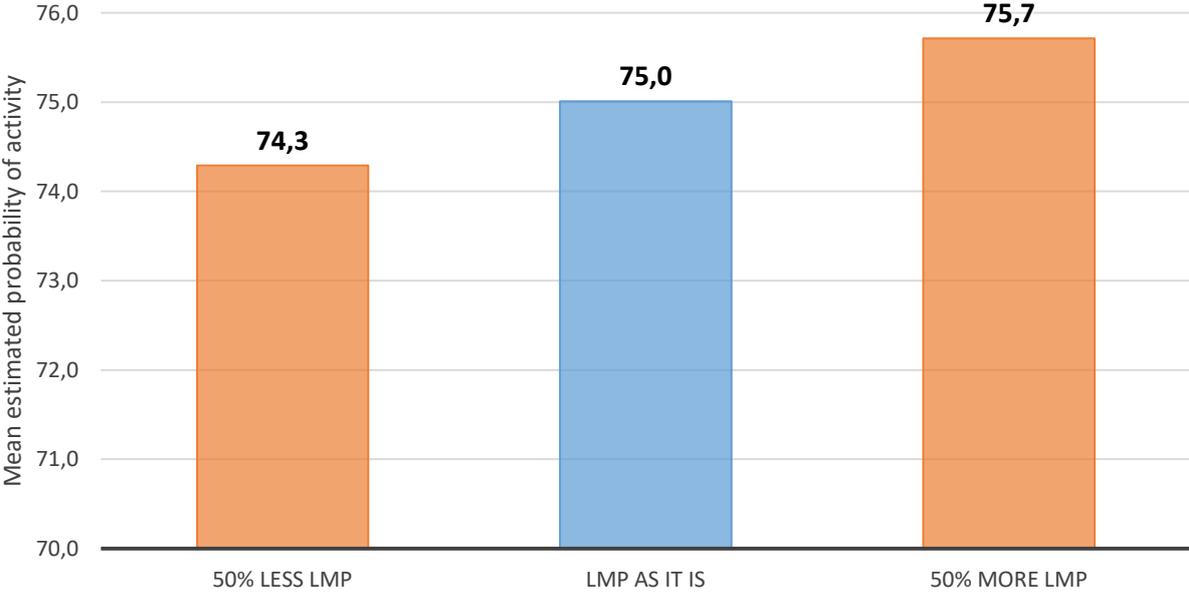
* Only working-aged persons. Weighted values. N = 559529. Spending as percentage of GDP per percentage of the population wanting to work.

Source Eurostat, own calculation

As explained in Section 1, LMP expenditure consists of measures (ALMP) and supports (PLMP), if one accepts this distinction, plus a minor spending part on services and administration. Below, we will find out that ALMP tends to reduce and PLMP tends to boost economic activity. This means that in overall LMP, we included two spending components with opposite effects, which thus partly difference out. We will see in Table a1.7 that varying ALMP and PLMP spending independently yields probabilities of economic activity between 73.8 and 76.4% (a larger span than between 74.3 and 75.7%).

Note again that these predictions result from a model that is rather plain, in that it does not take into account the many side effects that increased LMP expenditure could have, e.g. via changes of taxes that refinance LMP. Our predictions highlight structures in the observed data, they cannot be used as real policy scenarios.

2.3.3 Model with ALMP and PLMP

In the following, we will distinguish between active and passive LMP when estimating effects of spending. Table 2.6 contains the results for a model where only either ALMP or PLMP figure as independent variable. Spending amounts are again expressed relative to GDP or in PPS, both lagged by either one or two years. For economic activity as the dependent variable, regression yields mostly negative significant coefficients for ALMP spending (which contradicts our first hypothesis). In contrast, PLMP expenditure emerges as a positive influence on economic activity (in line with our third hypothesis) - all the different versions of our spending variables receive positive significant coefficients. When the outcome of interest is not just activity, but employment, it is ALMP expenditure that is a mostly positively significant predictor (which confirms hypothesis two). PMLP is mostly not significant (we had dared no prediction due to opposing partial effects), only one out of four spending items gets (positively) significant.

Table 2.6   Estimated coefficients of ALMP or PLMP spending (2006-2014, pooled)

Independent variable: Expenditure on measures or supports, as...	Lag (years)	Dependent variable	
		Active vs. inactive	Employed vs. (unemployed+inactive)
Measures only (ALMP)			
... % of GDP per % of the population wanting to work	1	-	+
	2	()	+
... PPS per PWW, deflated by standard of living (log)	1	-	+
	2	-	()
Supports only (PLMP)			
... % of GDP per % of the population wanting to work	1	+	+
	2	+	()
... PPS per PWW, deflated by standard of living (log)	1	+	()
	2	+	()

* Only working-aged persons. Weighted values. Legend: +/- = IV positively/ negatively significant on DV at p=0.05. () = IV not significant at p=0.05. Acronyms: GDP = Gross Domestic Product; PWW = persons wanting to work; PPS = Purchasing Power Standard. Standard of living approximated by the median wage. N = 559,529 (lag 1) or 546,414 (lag 2) observations.

Source Eurostat, own calculation

Our next step is to include ALMP and PLMP in the same regression model. On the one hand, this is reasonable because ALMP and PLMP are empirically correlated, which suggests that the effect of each should be looked at while holding the other constant. On the other hand, this correlation is not unproblematic for our model, as it induces the risk of multicollinearity (which increases the variance of estimates and thus makes them less reliable and less significant). There is an additional issue, connected to the degrees of freedom in the model: The restricted number of observations at level 2 (countries) leave room for rather three than four independent variables at the macro level. Yet, two spending variables and two control variables (GDP level and growth) add up to four. These drawbacks have to be taken into account when looking at the following results.

Table 2.7 reports significant coefficients of ALMP and PLMP, each time out of the same model. (Full regression outputs in Table a1.5 and Table a1.6 in the appendix.) Looking at the dependent variable economic *activity*, the results from above (Table 2.6) are confirmed: coefficients of ALMP spending of the preceding year (but not of two years before) are negative, while PLMP spending is positively connected to participation in the labour market. When it comes to explaining *employment*, ALMP and PLMP are mostly not significantly connected to the dependent variable. Only ALMP once shows a positive sign. This picture only partly confirms the above findings (Table 2.6, right column), where ALMP was more strongly linked to the outcome than PLMP. The relative loss of significance as soon as both ALMP and PLMP are in the model can be explained by the multicollinearity of the two regressors: an already weak effect of spending is getting split on several regressors.[81] The weakness of effect would also explain why LMP spending as a whole (services + measures + supports) turned out as a significant predictor of employment further above (2.3.2), while its main components are not.[82]

What comes out clearly is, firstly, that ALMP and PLMP spending are far better at explaining economic activity than employment. Secondly, that ALMP increases inactivity, while PLMP increases activity, but rather in terms of unemployment than in terms of employment. (Otherwise, PLMP would be positively significantly connected also to employment, and not just to activity.) The capacity of ALMP spending to

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81 This would imply that part of the positive significance of ALMP in Table 1.12, right column, actually belongs to PLMP, to which ALMP is positively correlated.

82 Arguably, effects could turn out more significant if there were more countries in our data.

raise the probability of persons to be employed has remained uncertain. Our results speak for a positive, but limited impact of ALMP (in its current form in European countries) on employment.

Table 2.7   Estimated coefficients of ALMP and PLMP spending (2006-2015, pooled)

Independent variable: Expenditure on measures and supports...	Lag (years)	Dependent variable	
		Active vs. inactive	Employed vs. (unemployed+inactive)
... % of GDP per % of the population wanting to work	1	ALMP: - PLMP: +	ALMP: + PLMP: ()
	2	ALMP: () PLMP: +	ALMP: () PLMP: ()
... PPS per PWW, deflated by standard of living (log)	1	ALMP: - PLMP: +	ALMP: () PLMP: ()
	2	ALMP: () PLMP: +	ALMP: () PLMP: ()

*   Only working-aged persons. Weighted values. Legend: +/- = IV positively/ negatively significant on DV at p=0.05. () = IV not significant at p=0.05. Acronyms: GDP = Gross Domestic Product; PWW = persons wanting to work; PPS = Purchasing Power Standard. Standard of living approximated by the median wage. N = 559,529 (lag 1) or 546,414 (lag 2) observations.

Source Eurostat, own calculation

What do we make of the negative correlation between ALMP and economic activity, which is against our first hypothesis (supra)? Why do more measures fail to attract persons to the labour force? A mechanism that could be at work here has to do with the activation component of ALMP. Measures are often used as test of job seekers' availability for the labour market. More ALMP spending can mean that there is a closer monitoring and more programmes 'offered' to unemployed persons, which can make part of them escape into inactivity, if they do not perceive the programmes as helpful. However, this remains an interpretation, it cannot be 'proven' by our results.[83] Connecting to the literature (2.1.4), our finding confirms the assertion by Nickell, Nunziata, and Ochel (2005, 6), that ALMPs have a negative impact on unemployment, but they mildly disagree with the finding of Kluve (2006, 17) that 'spending more money on active measures at the aggregate level does not necessarily seem to relate to increasing individual participants' employment probability.'

The finding that PLMP raises activity but not employment is fairly plausible: It is widely known that part of the formally inactive population would prefer to work, but are not willing to register as official job seekers ('labour reserve'). This is often due to a lack of incentive to do so. If the social benefits, often administered by the PES ('one-stop-shop'), are not relevant, job seekers may prefer searching in private. If benefits are substantial, officially registering as unemployed (and thus adding to the unemployment rate) becomes worthwhile. With regard to the literature, our findings chime neither with the pessimist (Nickell et al.) nor with the optimist (Howell/Rehm) view of PLMP effects on employment.

2.3.3.1   Size of effects

Like above, we use a diagram to highlight effect sizes. This time, we need three dimensions, because ALMP and PLMP can vary independently. Compared to the status quo of 75.1%, a higher activity rate could apparently be achieved, at least according to our simple model. It predicts that if ALMP were reduced and PLMP were increased by 50% each, the activity rate would reach 76.4%. Correspondingly, an increase of ALMP and a reduction of PLMP spending by 50% could lower the activity rate to 73.8%. (Table a1.7 in the appendix reports similar predictions for the other spending variables.)

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83 Mind that when we took all expenditure together (2.3.2), the effect turned out to be significantly positive, even though ALMP was part of it. The lack of significance of ALMP lagged by two years in Table 2.7 hints that the positive effect of PLMP on economic activity outweighs the negative one of ALMP.

Figure 2.2   **Mean estimated probabilities of being economically active, by levels of ALMP and PLMP spending (factual and counter-factual)**
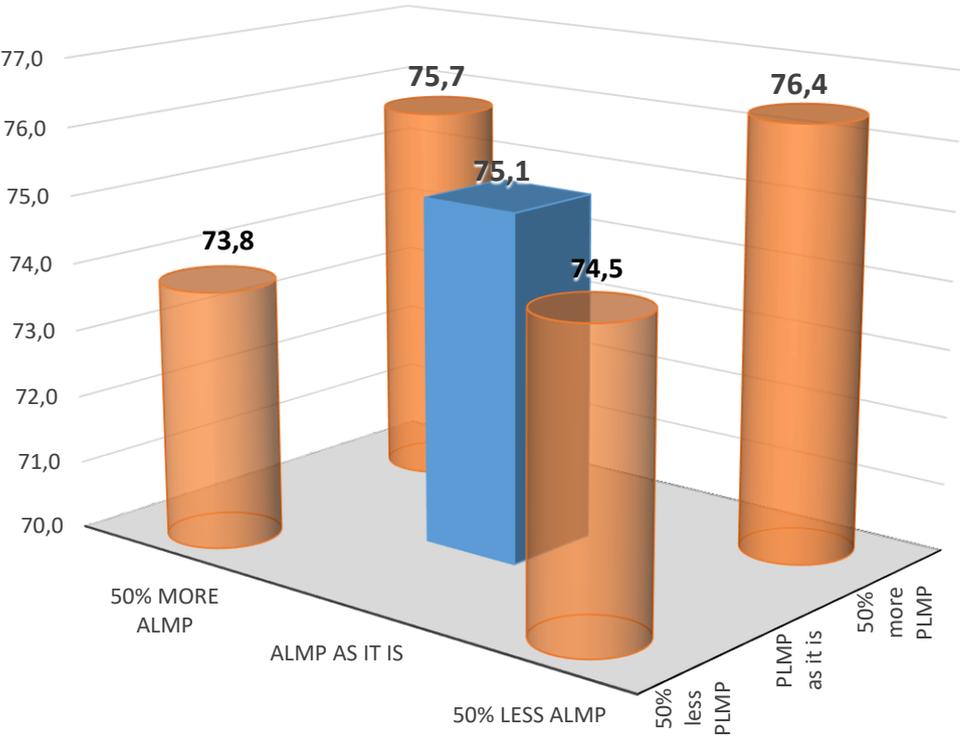
* Only working-aged persons. Weighted values. Spending measured as percentage of GDP per percentage of the population wanting to work, lagged by 1 year. N = 582,408.
Source Eurostat, own calculation

The results in this sub-section applied to aggregate LMP effects, they thus included what is lost (displacement effects and substitution effects, see 2.1.1) when netting over individuals or groups in the working-age population. In the next sub-section, we will focus not on aggregate outcomes, but on outcomes for different sub-groups of the population.

2.4   Distributional effects of labour market policy

While level effects tell us - in function of LMP spending - *how many* in the observed population are economically active or employed, distributional effects concern the question of *who* benefits from LMP expenditure. Distributional effects are analysed in the following. We distinguish the observed population by three categories: gender, age and education. The analysis will explore whether LMP spending raises women's probability of being employed more than men's, and compare effects on young and older workers. Against the backdrop of an ambivalent state of knowledge, it will also be interesting to see whether LMP spending benefits rather the skilled or the unskilled.

2.4.1.1   Hypotheses

Our hypothesis (*Hyp 5*) concerning the gender effect of LMP spending is that the activity rate of women will be more strongly influenced by higher LMP spending, and it will be influenced in a positive way (considering the above findings). Our reason to assume this is the sociological observation that for working-aged men, there is no alternative to being a worker, while for women, the 'alternative role' of a homemaker is still available to some degree. No matter the policy, men will therefore participate in the labour force,

while for women, it will depend on a number of factors, including LMP. With regard to LMP effects on employment, we have no reason to assume a differential impact by gender.

Concerning LMP's effect on economic activity by age, we hypothesise a larger (positive) effect on the economic activity of older workers (*Hyp 6*). Our idea is that economic activity is more contingent in later stages of a worker's biography. Younger workers, thinking of their future professional trajectories, will make participation in the labour market depend on their educational aspirations or also family planning, rather than on the potential amounts of transfer incomes. E.g., they will not usually interrupt their studies (one form of economic inactivity) just because unemployment benefits have become more generous. Older workers, many of whom have lower chances to find employment and who depend less on their future employability, may more often than younger workers decide between staying active or withdrawing from the labour market in function of the benefits granted.

As for employment, the outcome of preceding studies on training programmes is that older workers have to gain more from LMP than younger workers (cp. above: Betcherman, Olivas, and Dar 2004; Kluve 2006; Kluve and Schmidt 2002). Even though LMP spending includes more than just training,[84] this leads us to think that LMP spending has a larger positive impact on older compared to younger workers (*Hyp 7*).

Distinguishing by qualification, we expect higher positive LMP effects on the economic activity of low-skilled workers (*Hyp 8*). The intuition is that for highly skilled workers, the incentive to participate in the labour market is higher than for low-skilled workers (their activity rate will thus be higher), but it is higher independently of LMP. Concerning the question of whether LMP benefits more the low or the high skilled in terms of employment, we are agnostic. LMP could be a multiplier of skilled workers' already higher chances to find work (solving matching problems), but they could also be a push factor for the unskilled to look for and find employment. E.g., participation in a training scheme weighs heavier against the backdrop of previously acquired human capital of an unskilled worker, and unskilled workers do not suffer from programmes awkward signalling effect that stigmatises more highly skilled participants (cp. Liechti et al., above in 2.1.3).

2.4.1.2 Overview on effects

Technically, our analysis is implemented by including not only the LMP spending term in the model, but also another variable capturing LMP spending multiplied with the distributional category.[85] The coefficient of the former captures the main effect, the coefficient of latter the distributional effect.

Table 2.8 shows how personal characteristics ('conversion factors', in capability language) condition the impact of LMP. Among gender, age and education, each has a significant influence. In some cases, there is even no main effect but only a distributional effect. Both spending variables, percentage of GDP and PPS, tend to yield the same results (in terms of signs and significance). It is striking that unlike above, we also get virtually the same picture for both economic activity and employment as dependent variables. In short, LMP spending benefits rather women, rather older workers, and rather the less educated, which confirms all of our related hypotheses (*Hyp 5-Hyp 8*). This highlights LMP spending as a promotor of equality in the labour market, by systematically privileging the more disadvantaged groups analyse here.

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84 We saw in Section 1 that training is the biggest spending position among ALMP programmes, but that PLMP outweighs total ALMP spending.

85 The amount of LMP spending is thus multiplied with the binary gender dummy, with the metric age variable, and with the ordinal variable holding the education level of the observed person. The resulting interaction terms enter the model one at a time.

Table 2.8 Estimated coefficients of LMP spending (lagged by one and two years), interactions with gender, age and education (2006-2015)

Independent variable		Dependent variable			
Expenditure on services, measures, supports (LMP), measured as...	Interaction with ...	Active (vs. inactive)		Employed (vs. unemployed or inactive)	
		Main effect (spending amount)	Distributional effect (spending amount * category)	Main effect (spending amount)	Distributional effect (spending amount * category)
... % of GDP per % of the population wanting to work	Gender: female	()	+	lag1: +, lag2: ()	+
	Age	-	+	()	+
	Education level	+	-	+	-
... PPS per PWW, deflated by standard of living	Gender: female	-	+	()	+
	Age	-	+	()	+
	Education level	+	-	+	-

* Only working-aged persons. Weighted values. Predictions each time for spending lagged 1 and 2 years: both yield the same coefficients in terms of signs and significance, except once (see cell). Legend: +/- = IV positively/ negatively significant on DV at p=0.05. () = IV not significant at p=0.05. Acronyms: GDP = Gross Domestic Product; PWW = persons wanting to work; PPS = Purchasing Power Standard. Standard of living approximated by the median wage. N = 559529 (lag 1) or 546414 (lag 2) observations.

Source Eurostat, own calculation

In more detail, we find for the gender category that the increase of women's economic activity and employment is stronger than men's as LMP spending increases. Concerning economic activity, there is even no effect for men if we look at spending as percentage of GDP, and a negative significant effect for spending in PPS. Concerning employment, we find a positive main effect for spending as percentage of GDP lagged by one year, but not for a two years lag, and there is no significant effect for spending in PPS. If there is an LMP effect on male workers at all, it thus seems to be rather negative on economic activity and rather positive on employment, but less strongly positive compared to female workers. In short: either only women benefit from LMP, or women benefit significantly more than men.

Looking at LMP effects by age, the higher benefit for older workers comes out clearly. Increased spending raises their inclination to economic activity and also their probability of being in employment stronger compared to younger workers. Due to opposing signs of main and interaction effect, we will have to check effect sizes (see below) to see whether the net effect on predicted probabilities is positive or not.[86] The same applies to the education level. We can already say from Table 2.5 that there is a *higher* effect of LMP spending on activity and employment the *lower* the education level of the observed person. Net effects will have to be determined by predicting outcomes for different levels of the IV, separately for both groups; this will be done in the following.

2.4.2   LMP effect size by gender

In order to get an idea about the size of the distributional effects of LMP spending, we make use of the model coefficients that we estimated. Based on the fitted models, we predict outcomes for factual and counter-factual spending amounts. For both variants of expressing LMP spending, we get similar results (see Table a1.8 in the appendix). In the following, we pick LMP expenditure measured as percent of GDP per each one percent of the population wanting to work, lagged by one year.

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86 It could be that older workers' activity is not positively but just less negatively influenced by higher LMP spending. By the way, the negative main effect does not necessarily mean that young workers are more inactive the more is spent on LMP: Unlike the gender dummy, no one has an interaction term that values zero. Every worker in the sample is at least 18 years old, so that the positive sign of the interaction effect compensates the negative main effect to *some* extent for each person observed.

Starting with the gender category, Figure 2.3 has the mean estimated probabilities of economic activity for the empirically observed amounts of LMP spending in our sample countries, and for a scenario of expenditure reduced or increased by 50%. Two things are noteworthy: Firstly, women's probability of economic activity is obviously far below men's (for all levels of LMP spending), which is a well-known fact. For LMP spending as observed in the data, women's mean activity rate is estimated as 68.3% while men's is at 81.7% (among our *working-aged* sample persons). Secondly, however, the sensitivity of women's economic activity to variations of LMP spending is higher than men's. Increasing LMP by 50% would change women's propensity of being economically active by 1.6 p.p. (69.9%-68.3%). In men's case, increasing LMP spending would cause a much smaller (and indeed slightly negative) change to economic activity, one that is not statistically significant, as we saw in Table 2.8.[87]

As for the odds of being employed (instead of unemployed or inactive), LMP spending (lagged by one year) makes a difference also for men (Figure 2.4, see also Table 2.8). While for factual LMP spending, there is a mean probability of employment of 71.4% for men (across all countries, age groups, etc.), it would be at 71.8% if LMP spending were 50% higher, or at 71.1% if it were 50% lower. Yet again, the sensitivity to LMP spending is higher for the female sub-population: starting from a lower level for factual LMP spending, female employment propensity would increase by almost two percentage points if LMP spending were raised by 50%. It would drop by the same amount for a 50%-reduced LMP spending.

Figure 2.3   LMP expenditure's distributional effect on economic activity, by gender
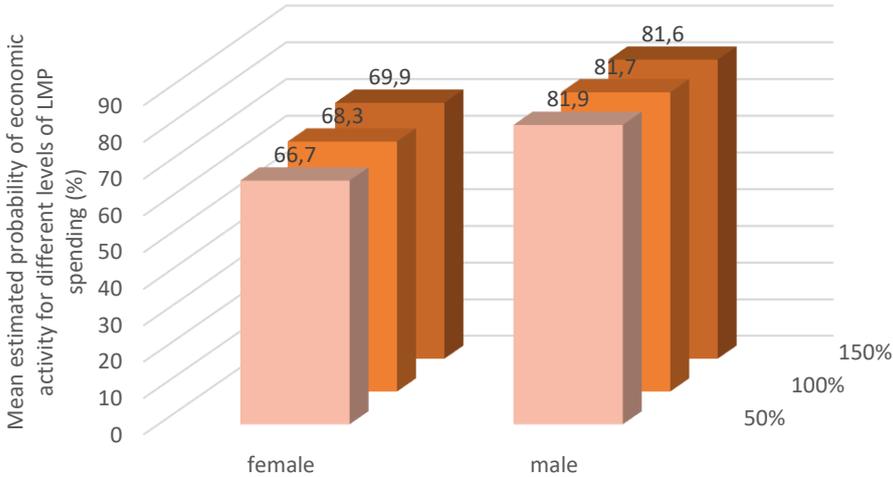
* Only working-aged persons. Weighted values. Spending measured as percentage of GDP per percentage of the population wanting to work, lagged by 1 year. 100% corresponds to factual amounts, 50% and 150% are extrapolations. N = 582,408.

Source Eurostat, own calculation

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87 Note that the trend points in a downward direction (81.6% < 81.7%).

Figure 2.4   LMP expenditure's distributional effect on employment, by gender
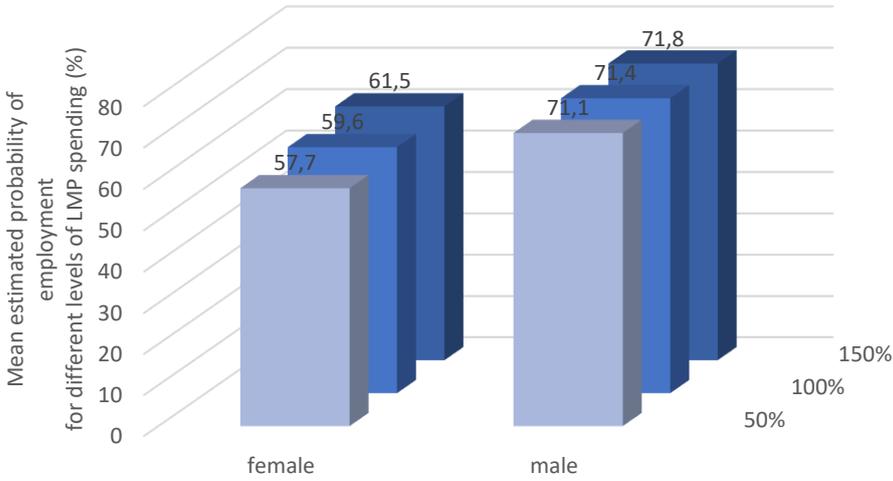
*   Only working-aged persons. Weighted values. Spending measured as percentage of GDP per percentage of the popu-
   lation wanting to work, lagged by 1 year. 100% corresponds to factual amounts, 50% and 150% are extrapolations.
   N = 582,408.
Source Eurostat, own calculation

2.4.3   LMP effect size by age

Distinguishing by age groups (working-aged persons of 29 years or younger and above 55 years), the differ-
ence in economic activity between young workers and older workers is far smaller than between genders.
Older workers are predicted as just under four p.p. more often economically active. A counter-factual
increase of LMP spending would result in an increased economic activity of both the younger and the older
group of workers. The sensitivity of the outcome is higher for older workers: For a 50% increase of LMP
expenditure[88], the economic activity of the younger group would rise by 0.3 p.p., of the older group by
2.2 p.p. on average. The higher impact on the latter is in line with our hypothesis (*Hyp 6*), based on the idea
of higher contingency of employment statuses in later stages of working life. Note, however, that inde-
pendently of the LMP spending in place, the employment activity of the older group surpasses that of the
younger group (Figure 2.5), which is explained by the fact that many of the younger observed persons are
still studying or in vocational training.

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88 LMP expenditure measured as percentage of GDP per percentage of the population wanting to work, lagged 1 year.
   Results for other spending variables analysed: see Table a1.9 in the appendix.

Figure 2.5   LMP expenditure's distributional effect on economic activity, by age
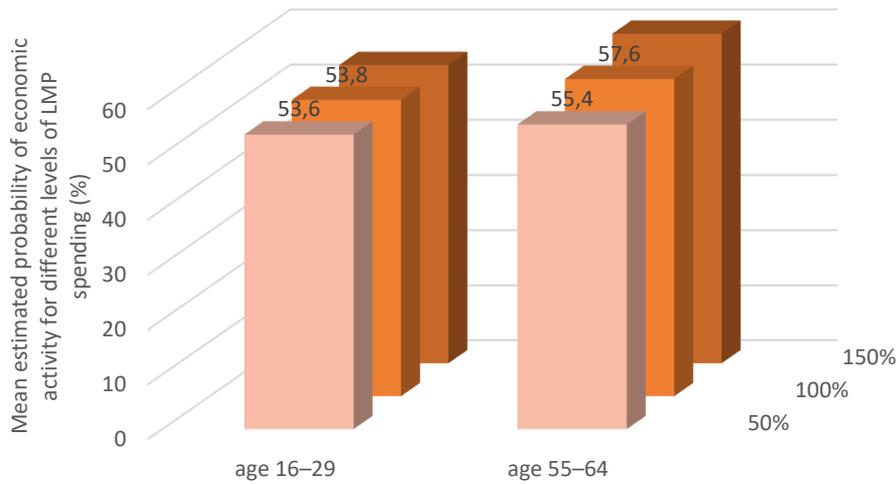
Figure 2.6, reinforces the above findings with regard to LMP effects on employment. Older workers are predicted a considerably higher employment probability than younger persons in working age. Prediction also suggests a higher sensitivity of employment to LMP spending when workers are older. This confirms our hypothesis (*Hyp 7*). For older workers, the higher economic activity for higher LMP spending levels seems to translate into more employment, not just more officially unemployed persons.

Figure 2.6   LMP expenditure's distributional effect on employment, by age
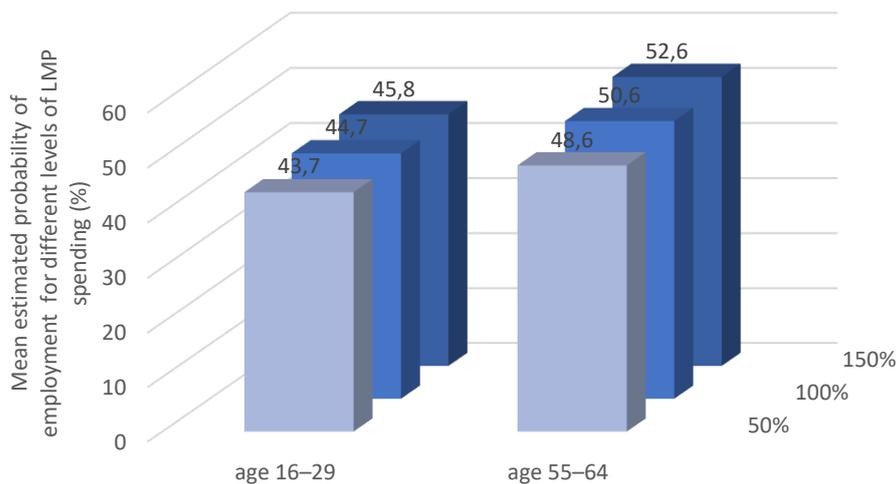
2.4.4 LMP effect size by education level

Finally, with regard to education, Figure 2.7 and Figure 2.8 impressively show the higher activity and employment rates of workers with higher education levels. We compare working-aged persons with lower secondary education at the most to persons with post-secondary or tertiary education. For the LMP spending[89] that we observe empirically, the former have a 60.2%, the latter an 87.6% activity rate. Moreover, low-educated working-aged persons have an employment probability of just 48.2%, against 81.8% for the highly educated. This situation is even more polarised than the above comparison by gender. Here as well, it shows that the group further away from the labour market and from employment is the one for whom LMP spending is more important. Varying LMP expenditure does not change the activity rate of the highly educated, but it significantly raises the activity rate among workers with low educational degrees. A 50% increase of LMP expenditure would, according to the model, raise their *activity* rate in the following year by 1.3 percentage points. (No significant change for the highly educated.) The same increase in LMP would boost the *employment* rate of the low-educated group by 1.7 p.p., from 48.2% to 49.9%. We would also see a minor change for the highly educated workers from 81.8% to 82.2%, thus 0.4 percentage points (Figure 2.8).

It would indeed be interesting to analyse distribution effects separately for active and passive expenditure. It was not done here for statistical reasons.[90] Such an analysis will have to wait for a dataset that goes beyond the number of European countries, or that includes variation at the regional level.

Figure 2.7   LMP expenditure's distributional effect on economic activity, by education level
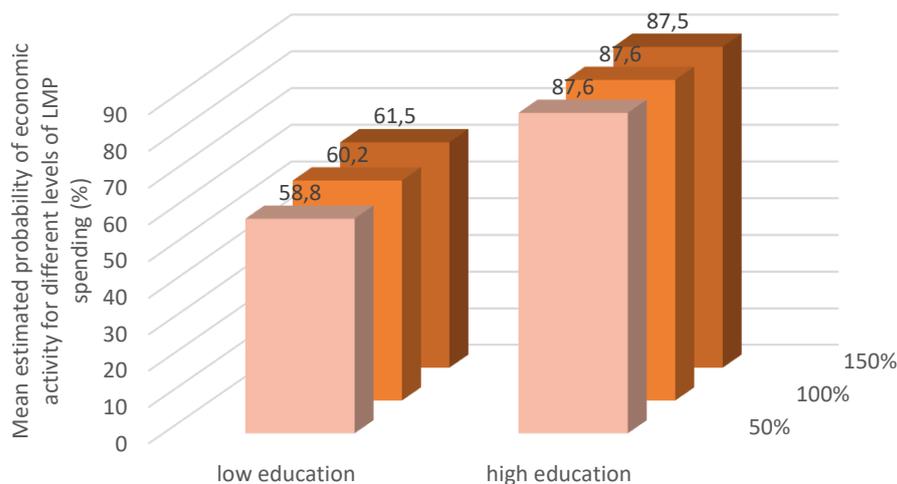
* Only working-aged persons. Weighted values. Spending measured as percentage of GDP per percentage of the population wanting to work, lagged by 1 year. 100% corresponds to factual amounts, 50% and 150% are extrapolations. N = 582,408

Source Eurostat, own calculation

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89 Again, LMP expenditure measured as percentage of GDP per percentage of the population wanting to work, lagged 1 year. For predictions for other metrics of LMP see Table a1.10 in the appendix.

90 Including ALMP and PLMP separately in the model is hindered by their strong correlation. Ideally, both should be included simultaneously, plus an interaction term. Yet, this would further add to the number of macro-level variables, restricted by the available degrees of freedom given the small N (sample countries). The high correlation between spending and interaction terms as well as between interaction terms, often in the 80%s, would be an additional obstacle.

Figure 2.8   **LMP expenditure's distributional effect on employment, by education level**
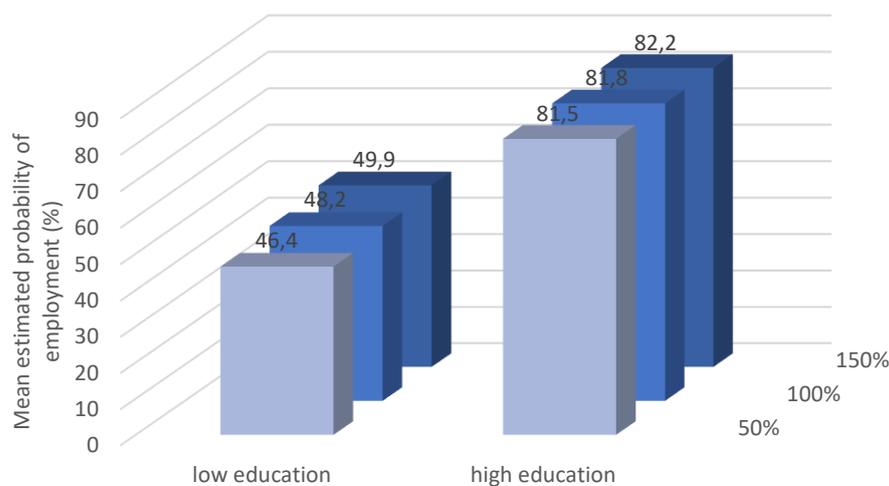

* Only working-aged persons. Weighted values. Spending measured as percentage of GDP per percentage of the population wanting to work, lagged by 1 year. 100% corresponds to factual amounts, 50% and 150% are extrapolations. N = 582,408.
Source Eurostat, own calculation

2.5   Summary and conclusion

We have, in the course of the analysis, repeatedly included critical reflections concerning our method. Arguably, a pan-European analysis of expenditure data is necessarily a crude method (low N and thus few control variables; no account taken of the quality of measures and conditionality of supports). Conclusions based on our results should therefore not be overstretched. What is more, the predictions we made should not be misunderstood as policy scenarios, they are rather a means of illustrating the size of coefficients we estimated when fitting our models on the empirical data for a precise set of countries in a precisely defined observation period.

The clearest result is that more generous PLMP spending, thus mainly on benefits in case of unemployment, keeps working-age persons closer to the labour market, while more expenditure on ALMP drives some of them into inactivity. The positive result on PLMP is easily explained by the incentive of being part of the work force if this is connected to more substantial social benefits. The negative effect of ALMP on the labour supply (economic activity) could be taken as an indication that job seekers do not perceive current measures as helpful and rewarding, and/or that their strictness and the related sanctions drive some out of formal unemployment into inactivity.

Looking not at economic participation but at *employment*, positive effects of labour-market policy are not easily shown. We have some hints that overall LMP and in particular ALMP spending raise employment. Yet, as soon as ALMP and PLMP are jointly included in the regression model, ALMP coefficients stay without statistical significance for employment most of the time (potentially due to multicollinearity in the model). We conclude that the positive effect of current LMP spending on employment at the macro level, if such an effect exists, must be rather small, and it must be due to active rather than passive LMP.

Our analysis of *distributional* effects further suggests that female, older, and low educated workers benefit from LMP more than others. This highlights LMP as a promotor of equality of opportunity in the labour market, by systematically privileging the more disadvantaged groups analysed here.

What does this mean for the three theoretical perspectives outlined in 2.1.2? Based on the making work pay and the dependency arguments, one would have assumed lower employment rates for higher PLMP spending. This hypothesis is rejected by the above results: none of the coefficients of PLMP on employment is negative; one is even positive. The latter is more consistent with the social investment view, which holds

that social benefits enable job seekers to invest in their own human capital and in job search. However, our findings do not provide strong evidence for this view either; for this, effects on employment would have to be more consistently positive.

As regards the employment-related effects of ALMP, results are mixed, but so are the concrete measures of active labour-market policy that exist in our sample countries and observation period. Potentially, effects would be more positive if measures were designed with more attention to human capital development (individual resources) and to solving problems that keep persons out of employment (conversion factors). However, we also know from the literature that positive micro-level effects can get lost at the macro level due to substitution and displacement. This raises the question about the status of labour-market programmes in a context where the number of jobs strongly depends on the business cycle, decisions of private companies, etc.

Looking at the distributional effects, we find evidence that disadvantaged groups in particular benefit from generous cash benefits as well as ALMP, which provides support for the social investment view. Of course, this is the picture for the EU as a whole in the past decade: this may hide differences between Member States and cannot be extrapolated to the future. One can only hope that future LMPs become more effective by fully adopting the social investment agenda.

Still, our analysis leaves many questions unanswered. To begin with, it would be interesting to distinguish between different types of ALMP, such as training, work experience, start-up loans etc., but macro-level effects are hardly verifiable due to the relatively small number of participants. Moreover, and perhaps more importantly, even when using ALMP expenditure per job seeker, we were unable to say anything about the quantity-quality issue: are the weak employment effects attributable to poorer quality? As for passive LMP, it would be interesting to test the long run effects, which may be positive too: letting job seekers more time to look for adequate employment opportunities can lead, after a longer search period, to greater job stability, job satisfaction and economic productivity.[91]

2.5.1.1   Social investment as a multiplier of inequality between countries?

While social policy has always been associated with a reduction of socioeconomic inequality *within* countries, the social investment perspective positions social policy as a potential new source of socioeconomic inequality, and maybe further divergence, *between* European countries: Under the assumption that a redesigned welfare state unlocks the productive potential of social policy instead of just compensating social risks like the old welfare state did, unequal social investment between countries should also lead to unequal payoffs in the future. For the case of LMP spending, this means that disparities between countries are widened if both of the following conditions are given: Firstly, LMP spending is unequal between countries with similar labour market challenges. Secondly, LMP expenditure generates effects, not only for the persons who benefit from measures and supports, but also at the aggregate level.

In this report, we gathered pieces of evidence that add up to a tentatively negative answer to our question, at least in the short run. Our analysis confirms that real LMP spending per person wanting to work differs between the richer and the poorer countries of Europe; this suggests that the quantity and quality of LMP are higher in richer countries. This is compounded by the fact that richer countries already face less labour market strain. What makes us doubt about the proposed social-investment-as-a-multiplier-of-inequality hypothesis is that the estimated impact of ALMP spending on employment is not robust. We must add, however, that we cannot (and would not like to) exclude more outspoken positive LMP effects in the long run, especially for training expenditure. Yet, given the mixed evidence on the productive value of higher LMP spending in the present analyses, our concern is more with the social impacts of declining LMP budgets per person wanting to work. While we cannot be sure about the faculty of ALMP to bring job seekers into employment, we can be sure about the anti-poverty effects of PLMP in terms of social protection.

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91 In Lehwess-Litzmann and Nicaise ((unpublished)), we present some evidence that more generous benefits slow down employment take-up of quasi-jobless households to a very small extent; effects on productivity are not analysed.

appendix 1

Table a1.1   Expenditure on labour market policy, in PPS of 2011 at constant prices, by country and year

Country	Type	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
AT	LMP	9,907	9,703	9,366	10,657	10,648	10,256	9,603	10,073	10,072	10,087
	ALMP	2,541	2,583	2,627	3,033	3,120	2,867	2,686	2,731	2,840	2,592
	PLMP	6,544	6,274	5,909	6,782	6,641	6,456	6,062	6,531	6,420	6,713
BE	LMP	19,331	20,032	20,703	21,192	19,916	17,609	16,460	14,862	14,358	13,654
	ALMP	3,167	3,606	3,969	3,718	3,765	3,904	3,409	2,758	2,799	2,939
	PLMP	14,923	15,065	15,323	16,115	14,811	12,495	11,915	11,048	10,395	9,620
BG	LMP	568	648	819	967	662	666	762	912	833	944
	ALMP	342	386	456	330	107	147	217	377	247	232
	PLMP	170	194	271	573	511	475	505	495	538	662
CY	LMP	4,228	4,165	4,420	5,417	4,628	4,597	3,691	2,959	2,003	1,919
	ALMP	302	570	909	1,053	1,294	1,149	715	211	240	248
	PLMP	3,731	3,299	3,228	4,145	3,170	3,332	2,894	2,688	1,708	1,597
CZ	LMP	1,661	2,102	2,299	2,935	2,757	2,260	1,975	2,324	2,984	3,747
	ALMP	439	569	624	663	869	723	569	827	1,223	1,859
	PLMP	785	927	1,037	1,754	1,445	1,143	946	1,051	1,140	1,136
DE	LMP	11,524	10,559	10,900	12,687	13,192	11,555	11,160	11,765	12,017	12,093
	ALMP	2,904	2,831	3,175	3,202	3,142	2,836	2,357	2,127	2,181	2,152
	PLMP	7,311	6,157	5,837	7,528	7,764	6,484	6,509	7,161	7,073	7,040
DK	LMP	26,440	19,341	20,366	17,991	18,076	16,169	16,631	17,348	16,546	18,080
	ALMP	9,869	7,341	8,000	6,433	6,843	6,507	6,451	6,675	7,110	8,051
	PLMP	15,286	10,870	10,011	9,536	8,630	7,396	7,877	8,195	6,973	7,189
EE	LMP	402	518	901	2,381	1,405	1,173	1,436	1,639	1,642	2,082
	ALMP	127	81	93	199	175	226	361	326	269	326
	PLMP	212	340	685	2,032	1,110	802	867	1,071	1,091	1,385
EL	LMP	2,535	2,662	3,533	4,104	3,117			1,077	1,134	1,039
	ALMP	680	804	808	957	727			234	406	340
	PLMP	1,800	1,770	2,660	3,102	2,356			824	686	682
ES	LMP	7,540	8,417	7,962	7,720	7,306	6,170	5,208	4,478	4,291	4,163
	ALMP	2,184	2,426	1,856	1,339	1,330	1,182	800	556	642	746
	PLMP	5,026	5,640	5,789	6,109	5,747	4,811	4,291	3,802	3,499	3,178
FI	LMP	11,985	12,538	13,171	12,519	12,428	11,736	11,365	11,660	11,926	11,717
	ALMP	3,432	3,921	4,140	3,397	3,868	4,095	4,052	3,904	3,810	3,449
	PLMP	7,942	7,925	8,325	8,554	7,969	7,049	6,768	7,284	7,640	7,822

Country	Type	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
FR	LMP	16,644	17,229	16,679	16,561	17,404	16,127	15,605	14,366	13,623	13,499
	ALMP	4,272	4,821	4,451	4,372	4,821	3,999	3,669	3,384	3,398	3,422
	PLMP	10,920	10,907	10,792	10,689	10,836	10,623	10,495	9,684	9,044	8,942
HU	LMP	1,921	1,972	1,954	2,530	2,684	2,088	2,017	2,223	2,943	3,508
	ALMP	692	737	716	846	1,087	669	1,115	1,386	2,013	2,438
	PLMP	980	999	1,001	1,491	1,420	1,267	770	673	689	752
IE	LMP	12,628	13,898	13,807	12,592	12,361	11,226	10,766	10,700	11,536	12,719
	ALMP	3,878	4,184	3,587	2,367	2,336	2,327	2,405	2,550	3,016	3,470
	PLMP	7,058	7,884	8,794	9,504	9,493	8,459	7,928	7,758	8,087	8,861
IT	LMP	3,617	3,234	3,381	4,796	4,705	4,406	4,370	4,072	3,806	3,683
	ALMP	1,353	1,183	1,117	1,033	900	853	798	731	615	875
	PLMP	2,152	1,929	2,130	3,659	3,721	3,465	3,499	3,275	3,135	2,712
LT	LMP	1,290	1,765	1,311	1,370	1,071	990	998	1,159	1,256	1,786
	ALMP	600	928	541	299	307	323	381	468	527	839
	PLMP	412	483	512	920	653	523	496	549	559	754
LU	LMP	28,861	33,263	22,523	14,288	16,574	14,083	13,639	13,048	13,389	10,621
	ALMP	10,896	13,103	8,383	4,126	5,523	5,437	4,920	4,697	5,140	4,304
	PLMP	16,708	18,594	13,014	9,642	10,364	8,021	8,109	7,939	7,685	5,786
LV	LMP	663	843	866	1,153	998	694	574	788	937	1,043
	ALMP	226	199	141	234	410	327	213	278	251	196
	PLMP	353	527	627	881	555	318	306	448	609	772
MT	LMP	1,887	1,646	1,706	1,485	1,532	1,501	1,528	1,429	1,687	,
	ALMP	227	106	170	110	160	251	321	133	321	,
	PLMP	1,378	1,178	1,091	1,079	1,016	926	917	986	1,031	,
NL	LMP	19,197	19,224	20,314	21,398	19,049	16,665	15,369	14,125	14,011	14,061
	ALMP	5,560	6,077	6,860	6,455	5,543	4,726	3,725	2,936	2,754	2,860
	PLMP	10,952	10,318	10,574	11,903	10,789	9,510	9,967	9,894	9,869	9,877
NO	LMP	8,840	9,846	8,568	10,424	11,316	11,195	9,713	8,677	10,115	9,025
	ALMP	4,653	5,733	5,223	4,969	5,094	5,157	4,518	3,895	4,304	3,573
	PLMP	3,044	2,732	2,044	4,177	4,908	4,679	3,835	3,436	4,329	4,249
PL	LMP	1,446	1,637	1,835	1,880	1,960	1,440	1,494	1,625	1,725	1,927
	ALMP	446	653	949	1,029	1,138	665	708	795	868	1,003
	PLMP	884	830	708	659	647	607	630	676	677	722
PT	LMP	6,862	6,078	6,249	6,980	6,313	4,013	3,457	3,330	3,333	3,113
	ALMP	1,722	1,470	1,675	2,142	1,714	973	643	720	943	975
	PLMP	4,658	4,143	4,054	4,435	4,251	2,795	2,669	2,579	2,353	2,034
RO	LMP	665	648	636	831	1,117	602	529	495	487	507
	ALMP	159	145	142	74	52	48	63	51	49	52
	PLMP	440	433	413	699	1,014	407	302	297	286	298
SE	LMP	13,331	11,777	9,571	9,033	9,735	10,329	10,790	11,223	11,415	12,082
	ALMP	5,945	5,577	4,558	3,509	4,481	5,454	5,796	6,019	6,425	6,866
	PLMP	6,291	5,060	3,914	4,498	4,034	3,596	3,638	3,821	3,677	3,732

Country	Type	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
SI	LMP	2,054	2,034	2,255	3,708	4,018	4,020	3,362	2,855	2,414	2,306
	ALMP	547	452	469	931	1,324	793	522	669	673	470
	PLMP	1,217	1,228	1,356	2,408	2,335	2,897	2,562	1,966	1,526	1,592
SK	LMP	1,320	1,469	2,108	2,192	1,937	1,756	1,493	1,318	1,266	1,406
	ALMP	289	292	457	357	479	495	410	360	384	426
	PLMP	683	911	1,318	1,593	1,251	1,101	939	850	798	885
Mean	LMP	8,050	8,046	7,711	7,770	7,663	6,905	6,560	6,316	6,361	6,389
	ALMP	2,498	2,621	2,448	2,118	2,245	2,106	1,946	1,844	1,980	2,038
	PLMP	4,884	4,690	4,497	4,980	4,720	4,148	4,002	3,888	3,760	3,705
Median	LMP	4,228	4,165	4,420	5,417	4,705	4,406	3,691	3,330	3,333	3,683
	ALMP	1,353	1,183	1,117	1,053	1,324	973	798	795	943	1,003
	PLMP	3,044	2,732	2,660	4,145	3,721	3,332	2,894	2,688	2,353	2,034

* Total LMP expenditure consists of measures (ALMP), supports (PLMP) and, to a minor part, services. The latter not explicitly shown in the table.

Source Eurostat/DG Empl, own calculation

Table a1.2   Expenditure on ALMP, in PPS of 2011 at constant prices, by country and year

		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
AT	Training	1,882	1,872	1,888	2,344	2,454	2,282	2,116	2,189	2,272	2,069
	Employment incentives	259	293	288	244	268	162	172	187	203	180
	Supported employment	168	172	209	188	159	154	131	107	102	96
	Direct job creation	208	221	216	229	207	241	243	224	238	223
	Start-up incentives	24	25	27	28	32	28	24	25	26	24
BE	Training	978	1,097	1,296	1,205	1,087	947	903	856	834	884
	Employment incentives	988	1,138	1,200	1,024	1,281	1,671	1,298	785	834	907
	Supported employment	773	883	957	950	877	828	794	747	761	783
	Direct job creation	406	454	486	513	496	438	401	359	357	353
	Start-up incentives	21	34	30	26	23	20	13	11	12	13
BG	Training	20	52	61	15	4	24	30	13	24	28
	Employment incentives	50	63	85	61	22	20	19	30	26	23
	Direct job creation	268	267	301	250	80	103	163	333	182	172
	Start-up incentives	4	5	9	4	0	0	5	2	16	9
CY	Training	45	150	155	119	198	200	165	119	134	105
	Employment incentives	227	375	684	902	1,073	929	544	89	103	139
	Supported employment	28	43	67	31	24	19	6	3	3	3
	Start-up incentives	2	1	2	0	0	0	1	0	0	0
CZ	Training	37	35	39	111	166	49	44	69	63	137
	Employment incentives	113	122	75	103	200	178	78	167	415	763
	Supported employment	180	311	361	284	316	376	368	391	484	583
	Direct job creation	94	88	136	151	169	109	71	187	245	355
	Start-up incentives	15	13	14	15	18	11	8	14	16	20

		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
DE	Training	1,613	1,597	1,767	1,843	1,649	1,644	1,497	1,566	1,619	1,630
	Employment incentives	247	338	450	530	557	362	223	153	152	165
	Supported employment	127	141	184	181	199	196	192	190	196	204
	Direct job creation	392	368	395	301	279	206	213	153	124	65
	Start-up incentives	525	388	379	347	456	428	232	65	90	89
DK	Training	3,535	2,421	1,912	1,644	2,105	1,826	1,796	1,882	1,809	2,100
	Employment incentives	1,616	888	1,056	1,026	1,536	1,797	1,823	1,958	2,040	1,588
	Supported employment	4,719	4,032	5,032	3,763	3,202	2,884	2,832	2,835	3,260	4,364
EE	Training	108	74	78	174	69	137	286	255	201	247
	Employment incentives	11	4	3	1	78	68	45	46	40	47
	Direct job creation	,	,	,	,	3	2	3	2	1	1
	Start-up incentives	8	4	12	23	26	18	28	23	27	30
EL	Training	276	297	505	76	58	,	90	130	167	123
	Employment incentives	292	315	206	463	352	,	,	63	96	134
	Direct job creation	5	35	50	,	,	,	,	4	109	57
	Start-up incentives	106	156	46	418	318	89	,	38	34	27
ES	Training	504	537	456	360	332	314	211	155	172	190
	Employment incentives	1,121	1,075	705	462	491	439	246	95	97	108
	Supported employment	74	235	208	149	150	136	108	85	88	122
	Direct job creation	213	239	201	165	144	102	77	82	130	161
	Start-up incentives	273	340	287	203	213	191	158	139	155	164
FI	Training	1,802	2,100	2,221	1,949	2,370	2,471	2,398	2,191	2,137	1,940
	Employment incentives	693	765	833	578	568	602	704	711	653	484
	Supported employment	450	494	532	426	428	465	475	470	449	468
	Direct job creation	401	460	435	344	400	448	412	469	512	516
	Start-up incentives	87	103	120	101	102	109	63	63	59	42
FR	Training	1,895	2,033	1,967	2,280	2,376	2,185	2,060	1,864	1,714	1,656
	Employment incentives	618	595	515	349	382	177	149	137	184	218
	Supported employment	516	588	668	631	616	535	507	466	424	407
	Direct job creation	1,182	1,374	1,070	891	1,139	802	710	727	908	997
	Start-up incentives	61	231	231	222	308	301	243	190	168	143
HU	Training	168	164	176	107	98	50	6	5	3	44
	Employment incentives	235	278	280	199	202	188	239	240	153	109
	Direct job creation	280	284	243	527	770	415	859	1,130	1,838	2,272
	Start-up incentives	8	11	17	13	17	16	10	11	19	13
IE	Training	1,834	1,975	1,733	1,215	1,305	1,292	1,315	1,340	1,521	1,603
	Employment incentives	270	329	272	177	181	228	245	245	283	366
	Supported employment	67	72	66	43	39	36	36	40	49	70
	Direct job creation	1,706	1,808	1,516	933	811	770	810	926	1,163	1,431
IT	Training	583	581	560	511	413	378	337	324	280	353
	Employment incentives	605	488	464	447	418	410	417	367	299	482
	Direct job creation	28	26	21	17	14	28	11	10	10	7
	Start-up incentives	136	88	71	58	54	36	32	29	26	33

		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
LT	Training	245	372	218	125	99	40	38	103	45	221
	Employment incentives	182	262	152	125	120	173	217	223	353	470
	Supported employment	17	210	121	20	22	24	31	36	31	40
	Direct job creation	156	84	51	29	66	85	82	90	83	96
	Start-up incentives	0	,	,	,	,	,	13	15	13	12
LU	Training	3,432	3,561	867	351	501	519	483	404	477	437
	Employment incentives	5,652	7,683	6,176	3,079	4,169	4,147	3,727	3,633	3,938	3,292
	Supported employment	250	287	223	109	101	87	81	57	51	34
	Direct job creation	1,550	1,544	1,109	580	740	674	624	599	670	539
	Start-up incentives	12	29	8	7	12	9	5	4	4	3
LV	Training	139	88	51	127	198	138	94	169	151	112
	Employment incentives	67	73	46	30	42	58	39	25	41	50
	Supported employment	0	1	1	,	,	,	0	0	1	1
	Direct job creation	16	23	33	75	168	129	77	82	57	30
	Start-up incentives	4	15	10	1	3	3	3	2	2	4
MT	Training	117	49	70	21	63	64	106	46	61	,,,,,
	Employment incentives	97	43	89	81	90	178	209	80	243	,,,,,
	Supported employment	,	,	,	,	,	,	,	,	1	,,,,,
	Direct job creation	12	7	5	4	7	7	0	0	17	,,,,,
	Start-up incentives	1	7	6	4	,	2	6	7	,	,,,,,
NL	Training	770	819	966	1,020	950	861	644	438	339	359
	Employment incentives	1,293	1,357	1,429	1,462	1,274	953	484	374	373	364
	Supported employment	3,497	3,902	4,465	3,973	3,319	2,912	2,596	2,124	2,042	2,137
NO	Training	2,581	2,917	2,600	2,306	2,205	2,134	1,630	1,178	1,257	949
	Employment incentives	223	324	307	891	1,085	1,114	1,045	977	1,048	917
	Supported employment	1,279	1,854	1,760	1,745	1,781	1,887	1,830	1,730	1,988	1,701
	Direct job creation	549	598	518	2	,	,	,	,	,	,,,,,
	Start-up incentives	22	41	37	24	24	22	13	10	10	6
PL	Training	126	163	249	77	69	23	27	29	28	29
	Employment incentives	42	86	116	317	406	173	188	235	285	339
	Supported employment	212	300	420	416	406	383	378	395	397	452
	Direct job creation	20	29	45	53	69	24	24	30	31	47
	Start-up incentives	46	75	120	165	189	61	91	106	128	137
PT	Training	966	757	976	1,460	1,223	678	448	475	617	541
	Employment incentives	487	463	487	442	321	218	139	137	236	329
	Supported employment	150	151	125	155	113	40	21	59	11	12
	Direct job creation	110	91	80	80	45	31	34	48	76	89
	Start-up incentives	9	8	8	5	13	6	1	1	3	5
RO	Training	19	19	21	6	6	8	10	3	3	3
	Employment incentives	85	80	85	55	34	35	45	42	41	42
	Direct job creation	54	44	34	12	11	5	7	6	6	6
	Start-up incentives	1	1	2	0	0	1	1	0	0	0

		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
SE	Training	1,229	758	456	306	516	561	577	748	854	987
	Employment incentives	3,396	3,477	2,697	2,048	2,659	3,368	3,688	3,635	3,874	4,068
	Supported employment	1,145	1,232	1,316	1,095	1,192	1,437	1,457	1,559	1,651	1,770
	Start-up incentives	175	111	89	60	114	88	75	77	46	41
SI	Training	176	138	127	321	409	254	130	120	141	122
	Employment incentives	87	77	34	173	301	124	93	138	203	57
	Direct job creation	226	222	216	229	428	223	169	297	251	277
	Start-up incentives	58	14	92	208	187	193	129	115	77	14
SK	Training	20	12	32	27	11	1	3	1	9	26
	Employment incentives	46	41	46	72	201	221	174	174	210	220
	Supported employment	23	34	50	63	71	92	106	114	110	100
	Direct job creation	110	102	162	34	29	28	24	16	31	46
	Start-up incentives	90	102	168	160	166	153	104	54	22	34

* For some countries and ALMP types, no figures are provided in the database. Data is either missing or not relevant in the respective country and year. 'Supported employment' is used here as a short form for the category 'sheltered and supported employment and rehabilitation'.

Source Eurostat/DG Empl, own calculation

Figure a1.1   Mean absolute change of ALMP and PLMP expenditure in Europe* from 2006/2007 to 2014/2015
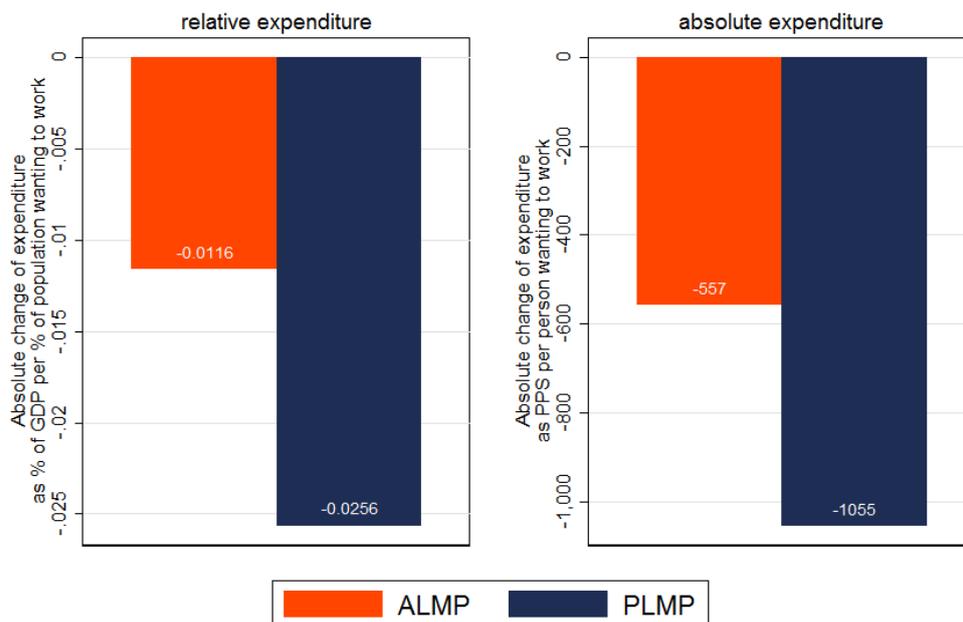
* Includes: AT, BE, BG, CY, CZ, DE, DK, EE, EL, ES, FI, FR, HU, IE, IT, LT, LU, LV, MT, NL, NO, PL, PT, RO, SE, SI, SK. Some values imputed.
** Real spending at prices of 2011, divided by 2011's PPP.

Source Eurostat/DG Empl, own calculation

Figure a1.2   Mean relative change of ALMP and PLMP expenditure in Europe* from 2006/2007 to 2014/2015
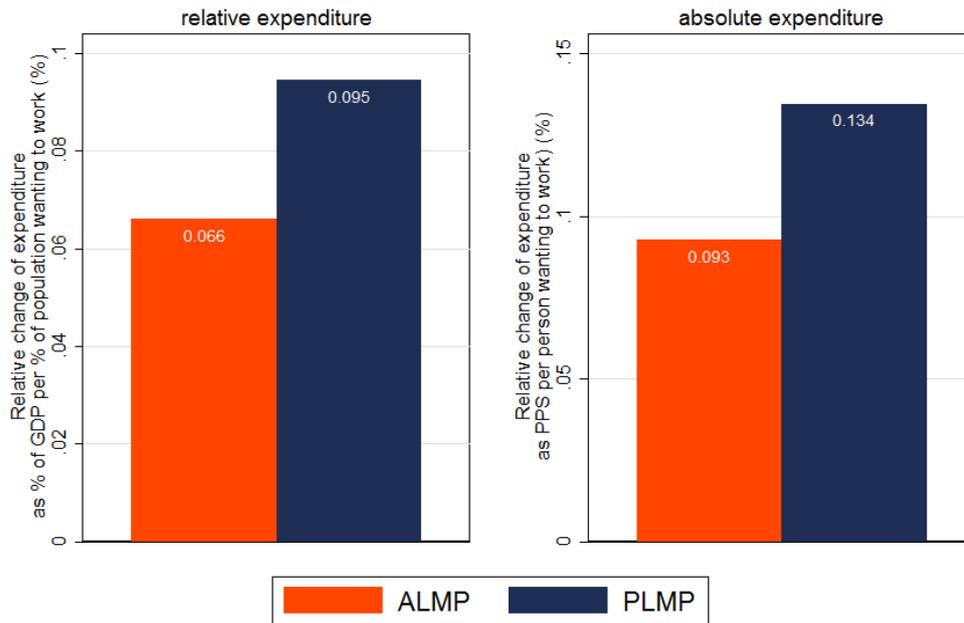
relative expenditure

absolute expenditure

0.095

0.066

0.134

0.093

ALMP   PLMP

*   Includes: AT, BE, BG, CY, CZ, DE, DK, EE, EL, ES, FI, FR, HU, IE, IT, LT, LU, LV, MT, NL, NO, PL, PT, RO, SE, SI, SK. Some values imputed.
** Real spending at prices of 2011, divided by 2011's PPP.
Source Eurostat/DG Empl, own calculation

Figure a1.3   Absolute changes of absolute need-adjusted ALMP and PLMP expenditure from 2006/2007 to 2014/2015, by country
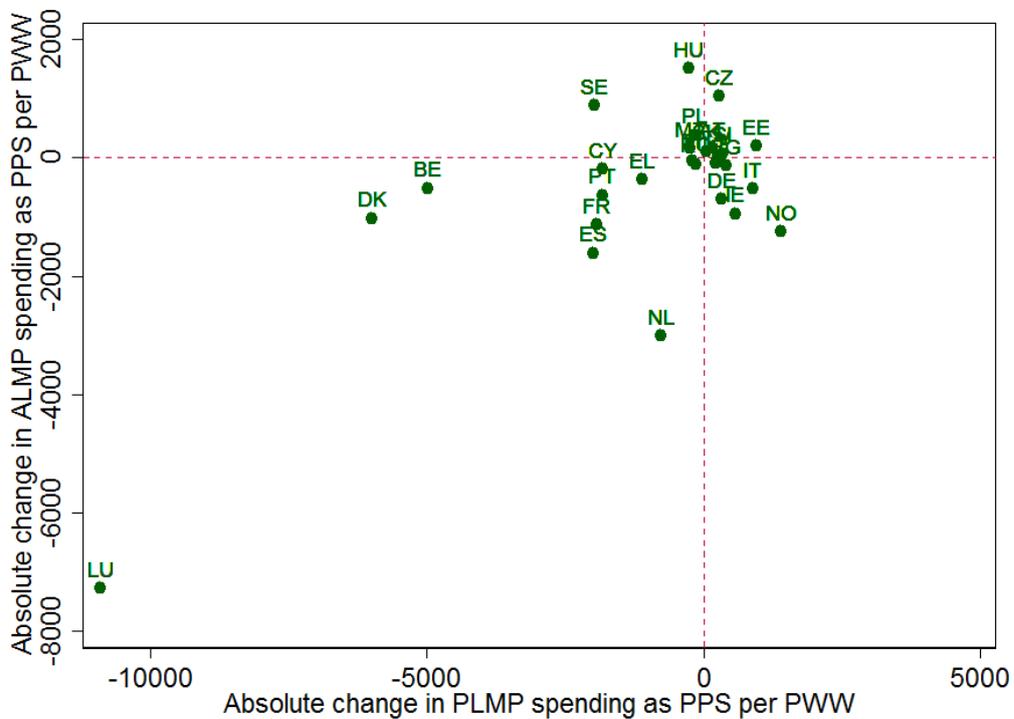
Figure a1.4   LMP spending in Denmark, 2006-2015
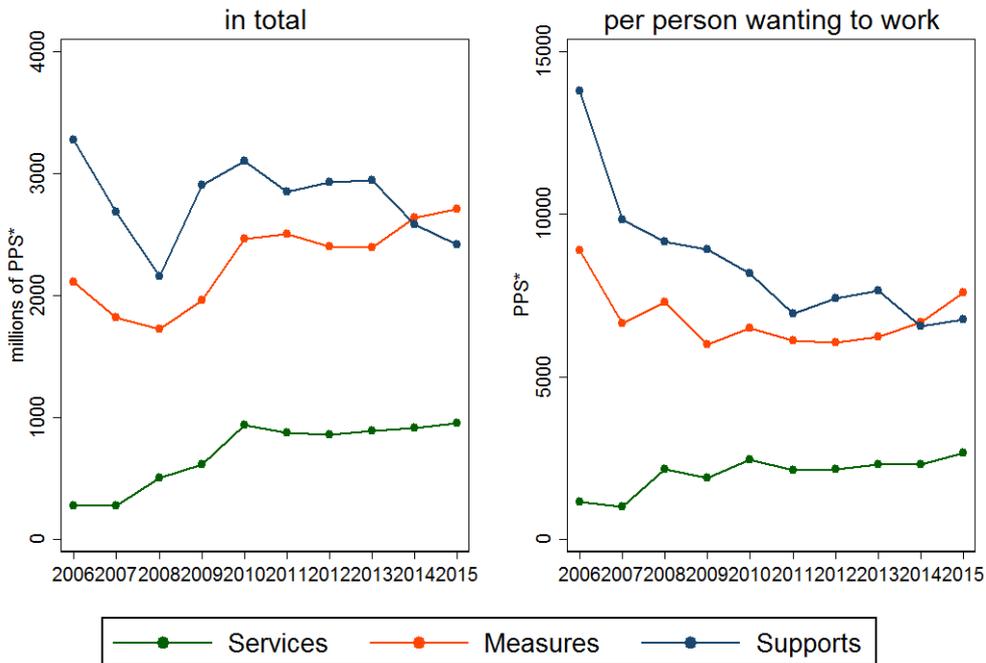
* Amounts calculated at prices of 2011, divided by 2011's PPP.
Source Eurostat/DG EMPL, own calculation

Figure a1.5   Spending on ALMP in France, by type of measure
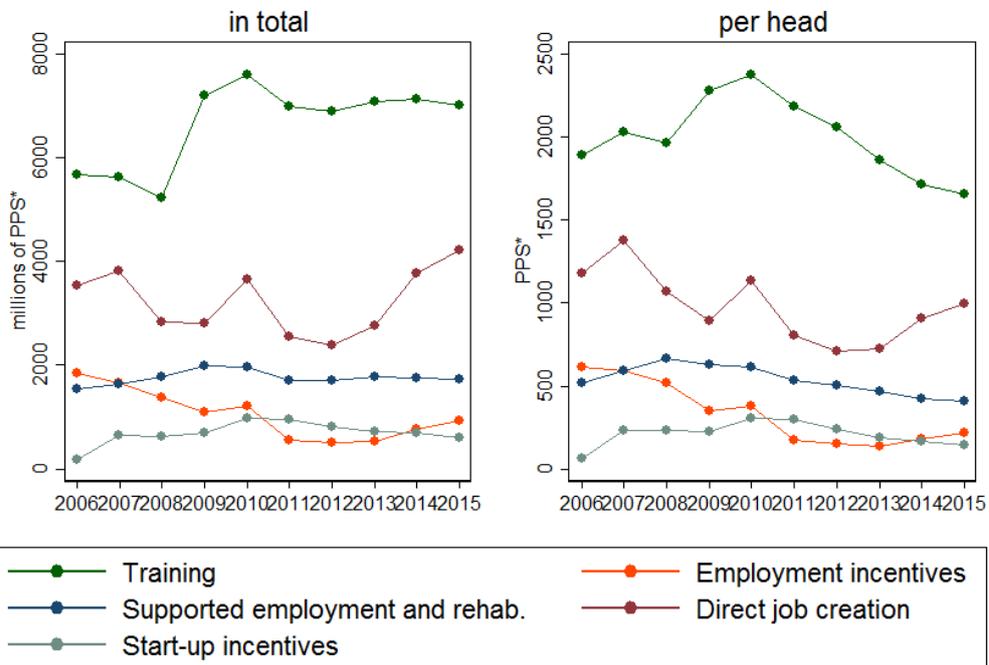
* Amounts calculated at prices of 2011, divided by 2011's PPP.
Source Eurostat/DG EMPL, own calculation

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Figure a1.6   Active and passive relative need-adjusted LMP expenditure, mean of 2006-2007 (medians highlighted)
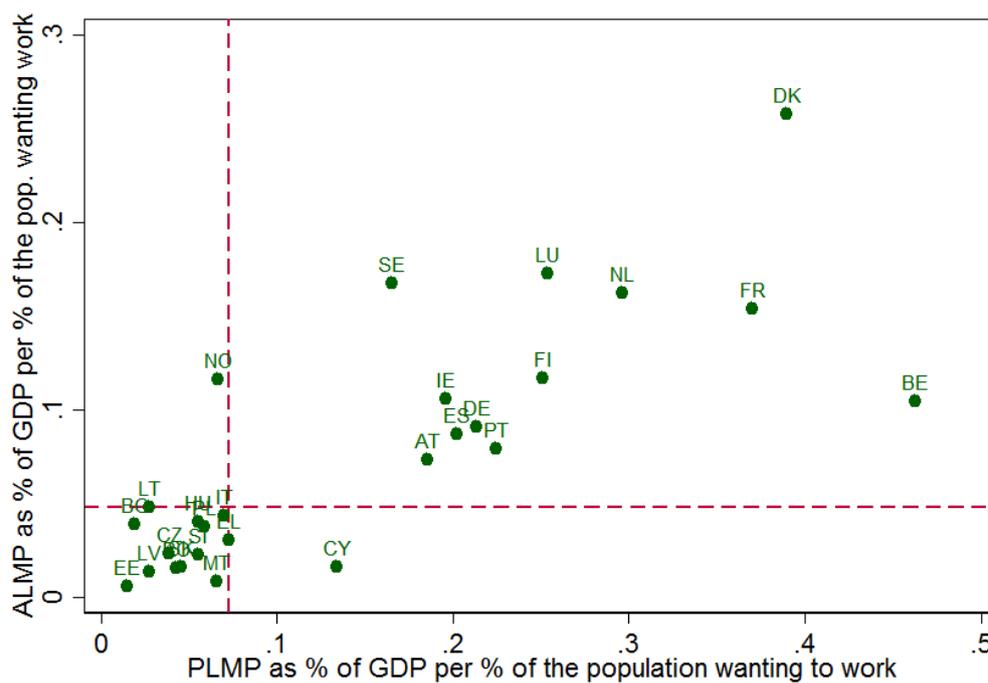
Table a1.3   Regression on ALMP and PLMP expenditure, adjusted to the living standard, per person wanting to work

Independent variables	DV: Spending per person wanting to work, deflated by the median wage			
	Between effect		Fixed effect	
ALMP				
Share of persons wanting to work in total population	()	()	-	-
GDP per capita	+		-	
Government budget		+		-
…	…	…	…	…
PLMP				
Share of persons wanting to work in total population	()	()	-	-
GDP per capita	+		()	
Government budget		+		-
…	…	…	…	…

* Part of the output omitted.

Figure a1.7   Initial spending amount and subsequent absolute change. Absolute LMP expenditure per person wanting to work

* Amounts calculated at prices of 2011, divided by 2011's PPP.
Source Eurostat/DG EMPL, own calculation
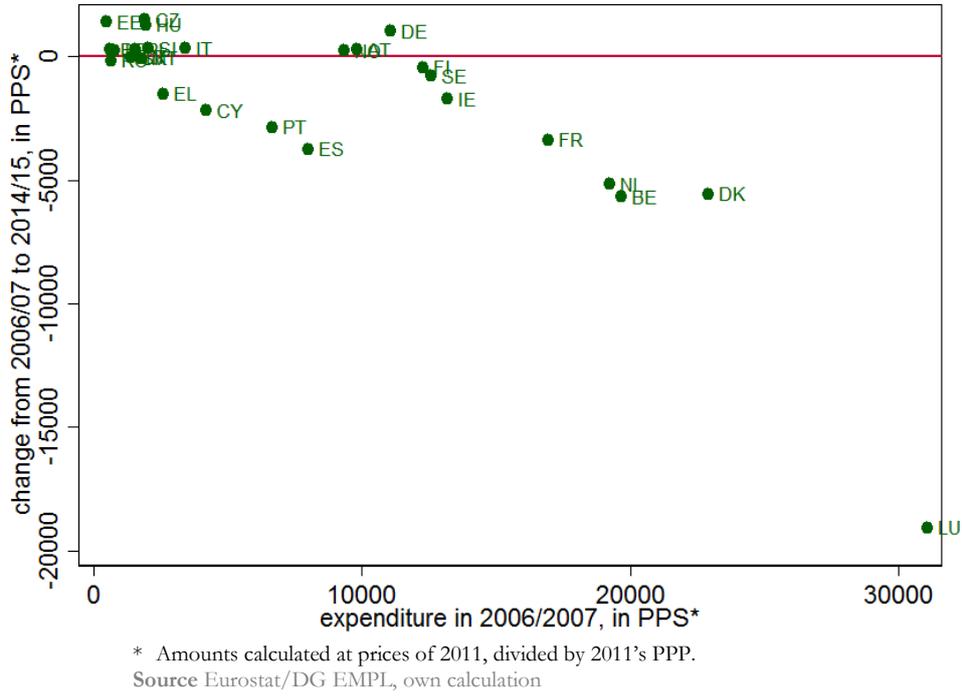
Figure a1.8   Beginning vs. end of observation period: Mean yearly LMP expenditure per head as % of GDP

Source Eurostat/DG EMPL, own calculation
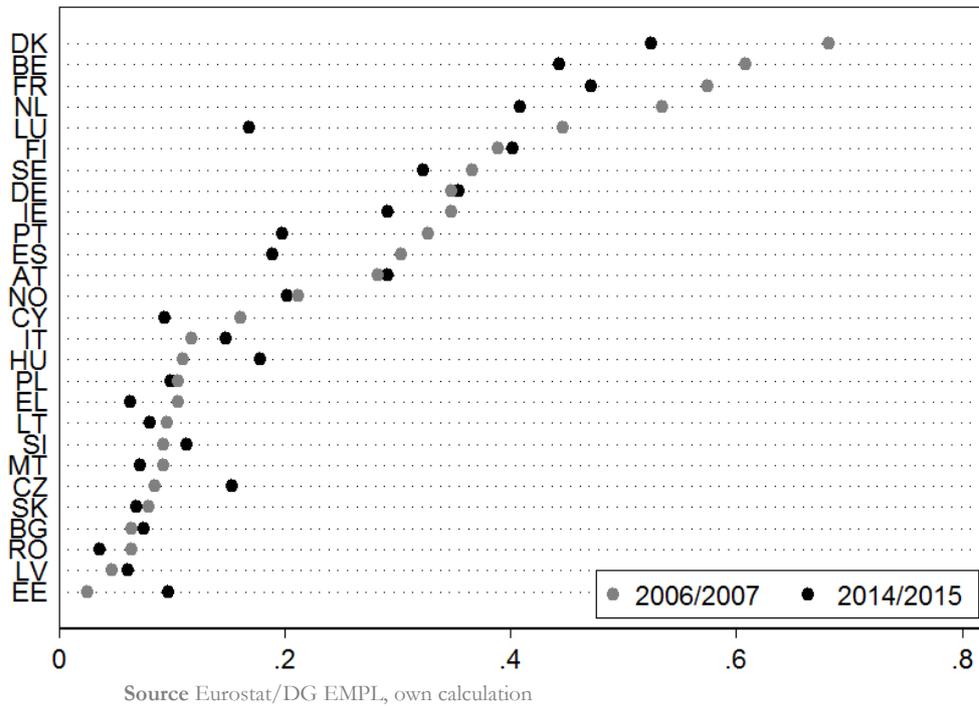
Figure a1.9   Beginning vs. end of observation period: Mean yearly LMP expenditure per head in PPS
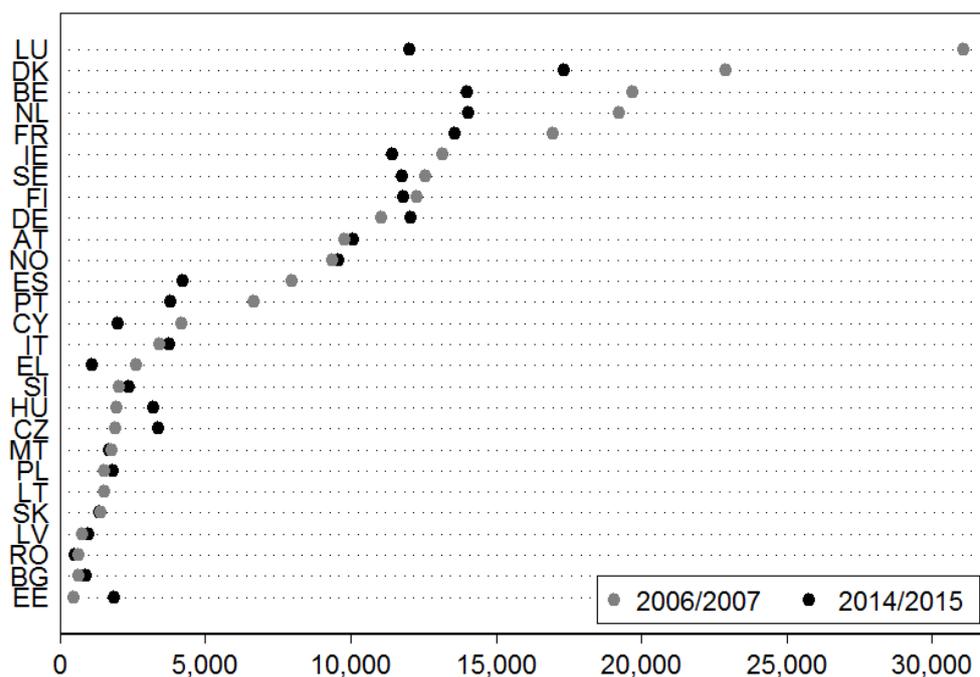
* Amounts calculated at prices of 2011, divided by 2011's PPP.
Source Eurostat/DG EMPL, own calculation

Table a1.4   Mean estimated probabilities of economic activity and employment, by levels of LMP spending (factual and counter-factual)

Independent variable: Expenditure on services, measures, supports, as ...	Lag (years)	% of factual spending	Dependent variable	
			Active vs. inactive	Employed vs. (unemployed+inactive)
… % of GDP per % of the population wanting to work	1	150	75.7	67.7
		100	75.0	66.8
		50	74.3	65.8
	2	150	75.6	67.2
		100	75.0	66.8
		50	74.4	66.5
… PPS per PWW, deflated by standard of living (log)	1	150	75.3	67.3
		100	74.9	66.6
		50	74.3	65.9
	2	150	75.4	67.1
		100	74.9	66.8
		50	74.4	66.5

* Only working-aged persons. Weighted values. * p<.05; ** p<.01; *** p<.001 100% of spending corresponds to factual amounts, 50% and 150% are extrapolations. N = 582,408 (lag 1) or 568,581 (lag 2) observations.
Source Eurostat, own calculation

Table a1.5   Regression output: ALMP and PLMP spending and economic activity

Variable / DV: economically active vs. inactive			Model 1 (%GDP, lag 1)	Model 2 (%GDP, lag 2)	Model 3 (PPS, lag 1)	Model 4 (PPS, lag 2)
Fixed effects						
Spending as % of GDP per % of the population wanting to work	Lagged one year	ALMP	-0.701**			
		PLMP	0.813***			
	Lagged two years	ALMP		-0.31		
		PLMP		0.524***		
Spending in PPS per PWW, deflated by standard of living (log)	Lagged one year	ALMP			-0.039**	
		PLMP			0.047**	
	Lagged two years	ALMP				-0.019
		PLMP				0.040**
GDP per capita (log)			0.215***	0.214***	0.215***	0.204**
GDP per capita growth since last year			-0.005***	-0.006***	-0.005**	-0.006***
Gender: female			-0.422***	-0.420***	-0.422***	-0.420***
Age: low			-2.127***	-2.133***	-2.126***	-2.132***
Age: high			-2.189***	-2.183***	-2.189***	-2.183***
Country of birth (base: national)						
European Union			0.167***	0.174***	0.168***	0.176***
Outside of EU			0.03	0.028	0.03	0.028
Limitation in activities because of health problems: yes			-0.453***	-0.448***	-0.453***	-0.448***
Education: low			-0.706***	-0.702***	-0.706***	-0.702***
Education: high			0.669***	0.664***	0.669***	0.664***
Partnership status: couple			0.798***	0.795***	0.799***	0.796***
Number of children under 3 years in household			0.616***	0.615***	0.616***	0.615***
Number of children over 2 but under 7 years in household			0.392***	0.386***	0.392***	0.386***
Number of children over 6 but under 18 years in household			-0.250***	-0.248***	-0.250***	-0.248***
Interaction term: Partnership status * female			-0.787***	-0.790***	-0.787***	-0.790***
Interaction term: Number of children under 3 years in household * female			-1.427***	-1.439***	-1.427***	-1.439***
Interaction term: Number of children over 2 but under 7 years in household * female			-0.680***	-0.680***	-0.680***	-0.680***
Interaction term: Number of children over 6 but under 18 years in household * female			-0.123***	-0.127***	-0.123***	-0.127***
Year (base: 2006)						
2007			0.009	0.021	0.007	0.017
2008			-0.004	0.001	-0.009	-0.005
2009			-0.006	0.003	-0.007	-0.008
2010			-0.011	0.025	-0.004	0.014
2011			0.026	0.037*	0.027	0.03
2012			0.033	0.039*	0.03	0.03
2013			0.105***	0.115***	0.102***	0.103***
2014			0.152***	0.166***	0.143***	0.156***
2015			0.208***	0.214***	0.194***	0.202***
Constant			0.455	0.461	0.439	0.493
Random effects						
Country intercept variance			-2.235***	-2.289***	-2.272***	-2.303***
Statistics						
N			559,529	546,414	559,529	546,414

* Only working-aged persons. Weighted values. * p<.05; ** p<.01; *** p<.001 N = 20% of total sample.

Source Eurostat, own calculation

Table a1.6   Regression output: ALMP and PLMP spending and employment

Variable DV: economically active vs. inactive			Model 1 (%GDP, lag 1)	Model 2 (%GDP, lag 2)	Model 3 (PPS, lag 1)	Model 4 (PPS, lag 2)
Fixed effects						
Spending as % of GDP per % of the population wanting to work	Lagged one year	ALMP	0.682**			
		PLMP	0.167			
	Lagged two years	ALMP		0.431		
		PLMP		-0.128		
Spending in PPS per PWW, deflated by standard of living (log)	Lagged one year	ALMP			0.019	
		PLMP			0.013	
	Lagged two years	ALMP				-0.01
		PLMP				0.001
GDP per capita (log)			1.589***	1.507***	1.581***	1.569***
GDP per capita growth since last year			-0.009***	-0.008***	-0.008***	-0.009***
Gender: female			-0.224***	-0.221***	-0.224***	-0.221***
Age: low			-1.668***	-1.674***	-1.668***	-1.674***
Age: high			-1.628***	-1.627***	-1.628***	-1.627***
Country of birth (base: national)						
European Union			-0.003	0.006	-0.002	0.006
Outside of EU			-0.256***	-0.255***	-0.256***	-0.255***
Limitation in activities because of health problems: yes			-0.593***	-0.590***	-0.593***	-0.590***
Education: low			-0.789***	-0.789***	-0.789***	-0.789***
Education: high			0.727***	0.719***	0.727***	0.719***
Partnership status: couple			0.918***	0.913***	0.918***	0.913***
Number of children under 3 years in household			0.158***	0.153***	0.158***	0.154***
Number of children over 2 but under 7 years in household			0.109***	0.101***	0.109***	0.101***
Number of children over 6 but under 18 years in household			-0.143***	-0.142***	-0.143***	-0.142***
Interaction term: Partnership status * female			-0.699***	-0.698***	-0.699***	-0.698***
Interaction term: Number of children under 3 years in household * female			-0.943***	-0.950***	-0.943***	-0.950***
Interaction term: Number of children over 2 but under 7 years in household * female			-0.418***	-0.415***	-0.418***	-0.415***
Interaction term: Number of children over 6 but under 18 years in household * female			-0.129***	-0.132***	-0.129***	-0.132***
Year (base: 2006)						
2007			-0.014	-0.014	-0.017	-0.017
2008			-0.02	-0.019	-0.024	-0.022
2009			-0.071***	-0.071***	-0.074***	-0.072***
2010			-0.096***	-0.096***	-0.099***	-0.094***
2011			-0.094***	-0.088***	-0.097***	-0.092***
2012			-0.106***	-0.111***	-0.113***	-0.113***
2013			-0.080***	-0.088***	-0.088***	-0.091***
2014			-0.082***	-0.081***	-0.090***	-0.087***
2015			-0.059***	-0.068***	-0.067***	-0.075***
Constant			-14.326***	-13.430***	-14.329***	-14.003***
Random effects						
Country intercept variance			1.071***	-1.256***	-1.121***	-1.199***
Statistics						
N			559,529	546,414	559,529	546,414

* Only working-aged persons. Weighted values. * p<.05; ** p<.01; *** p<.001 N = 20% of total sample.

Source Eurostat, own calculation

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Table a1.7   Mean estimated probabilities of economic activity and employment, by levels of ALMP and PLMP spending (factual and counter-factual)

Independent variable: expenditure on services, measures, supports, as …	Lag (years)	% of factual spending	Dependent variable	
			Active vs. inactive	Employed vs. unemployed+inactive
… % of GDP per % of the population wanting to work	1	ALMP as is, PLMP as is	75.1	66.7
		More ALMP, more PLMP	75.7	67.2
		Less ALMP, less PLMP	74.5	66.1
		More ALMP, less PLMP	73.8	66.8
		Less ALMP, more PLMP	76.4	66.5
	2	ALMP as is, PLMP as is	75.0	66.7
		More ALMP, more PLMP	75.5	66.8
		Less ALMP, less PLMP	74.5	66.7
		More ALMP, less PLMP	74.2	67.2
		Less ALMP, more PLMP	75.8	66.3
… PPS per PWW, deflated by standard of living (log)	1	ALMP as is, PLMP as is	74.9	66.6
		More ALMP, more PLMP	74.9	66.8
		Less ALMP, less PLMP	74.8	66.3
		More ALMP, less PLMP	74.2	66.6
		Less ALMP, more PLMP	74.2	66.6
	2	ALMP as is, PLMP as is	74.9	66.8
		More ALMP, more PLMP	75.0	66.7
		Less ALMP, less PLMP	74.7	66.9
		More ALMP, less PLMP	74.4	66.7
		Less ALMP, more PLMP	74.4	66.7

* Weighted values. Counter-factual spending amounts: "more" means 50% more, "less" means 50% less. N = 582,408 (lag 1) or 568,581 (lag 2) observations.

Source Eurostat, own calculation

Table a1.8   Mean estimated probabilities of economic activity and employment, by gender, for factual and counter-factual amounts of LMP spending

Independent variable: expenditure on services, measures, supports, as ...	Lag (years)	% of factual spending	Active vs. inactive		Employed vs. unemployed+inactive	
			Female	Male	Female	Male
… % of GDP per % of the population wanting to work	1	150	69.9	81.6	61.5	71.8
		100	68.3	81.7	59.6	71.4
		50	66.7	81.9	57.7	71.1
	2	150	69.7	81.4	60.9	71.4
		100	68.3	81.7	59.7	71.6
		50	66.8	82.0	58.6	71.9
… PPS per PWW, deflated by standard of living	1	150	69.3	81.4	60.8	71.6
		100	68.0	81.7	59.3	71.4
		50	66.7	82.0	57.8	71.3
	2	150	69.3	81.4	60.7	71.5
		100	68.0	81.7	59.6	71.7
		50	66.7	82.0	58.4	71.9

*   Only working-aged persons. Weighted values. 100% of spending corresponds to factual amounts, 50% and 150% are extrapolations. N = 582,408 (lag 1) or 568,581 (lag 2) observations.

Source Eurostat, own calculation

Table a1.9   Mean estimated probabilities of economic activity and employment, by age group, for factual and counter-factual amounts of LMP spending

Independent variable: expenditure on services, measures, supports, as…	Lag (years)	% of factual spending	Active vs. inactive		Employed vs. unemployed+inactive	
			Age 16-29	Age 55-64	Age 16-29	Age 55-64
… % of GDP per % of the population wanting to work	1	150	54.1	59.8	45.8	52.6
		100	53.8	57.6	44.7	50.6
		50	53.6	55.4	43.7	48.6
	2	150	53.9	59.7	44.7	51.6
		100	53.7	57.7	44.5	50.5
		50	53.5	55.7	44.2	49.3
… PPS per PWW, deflated by standard of living	1	150	54.0	58.8	45.3	51.5
		100	53.8	57.2	44.5	50.1
		50	53.6	55.5	43.6	48.7
	2	150	54.0	58.8	44.9	51.2
		100	53.7	57.3	44.5	50.3
		50	53.5	55.8	44.1	49.3

*   Only working-aged persons. Weighted values. 100% of spending corresponds to factual amounts, 50% and 150% are extrapolations. N = 582,408 (lag 1) or 568,581 (lag 2) observations.

Source Eurostat, own calculation

Table a1.10   Mean estimated probabilities of economic activity and employment, according to differential LMP effect by education level

Independent variable: expenditure on services, measures, supports, as…	Lag (years)	% of factual spending	Active vs. inactive		Employed vs. unemployed+inactive	
			Low education	High education	Low education	High education
… % of GDP per % of the population wanting to work	1	150	61.5	87.5	49.9	82.2
		100	60.2	87.6	48.2	81.8
		50	58.8	87.6	46.4	81.5
	2	150	61.4	87.4	49.1	81.7
		100	60.2	87.5	48.1	81.9
		50	59.0	87.6	47.1	82.1
… PPS per PWW, deflated by standard of living	1	150	61.2	87.1	49.4	81.7
		100	60.0	87.5	47.9	81.7
		50	58.8	87.8	46.4	81.8
	2	150	61.2	87.1	49.1	81.5
		100	60.1	87.4	48.0	81.9
		50	58.9	87.7	46.9	82.2

* Only working-aged persons. Weighted values. 100% of spending corresponds to factual amounts, 50% and 150% are extrapolations. N = 582,408 (lag 1) or 568,581 (lag 2) observations.

Source Eurostat, own calculation

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