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An Evaluation of German Active Labor Market Policies and its Entrepreneurship Promotion

by

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Moritz Zöllner, Michael Fritsch and Michael Wyrwich

December 2016

Abstract

This paper reviews the results of studies that investigate the most important active labour market policy (ALMP) measures in Germany. A particular focus is on programs devoted to foster entrepreneurship which can make important contributions to a country's growth and social welfare. The available evidence suggests that most ALMP measures increase labour market prospects of the participants. Evaluations of the entrepreneurship promotion activities show high success rates as well as high cost efficiency. The bulk share of participants of entrepreneurship measures is still self-employed after several years and nearly one third of these businesses had at least one employee. We mention problems regarding the evaluation of previous programs and highlight future challenges of German ALMP.

Keywords: Active labour market policy, evaluations, effectiveness, entrepreneurship

JEL classification: J08, J64, J68, L26

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List of Abbreviations

ALMP	Active labor market policy
BA	Bridging allowance
GDP	Gross Domestic Product
NSUS	New start-up subsidy
OECD	Organization for Economic Cooperation and Development
SC	Social Code (“Sozialgesetzbuch”)
SUS	Start-up subsidy
UB I	Unemployment benefit I
UB II	Unemployment benefit II

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Executive Summary

1. The aims of this study are:
 - To review and discuss the measures of the German active labour market policy (ALMP) with a special focus on programs that aim to improve self-employment (section 3 and 5).
 - To report and compare the results of the available studies that investigate and evaluate the most important German ALMP measures at the micro and macro level (section 5 and 6).
 - To highlight future challenges of the German ALMP (section 7).
2. Entrepreneurship can make important contributions to a country's growth and social welfare. Entrepreneurial activities not only refer to the exploration of new opportunities, but also to individuals who become self-employed out of necessity (necessity entrepreneurs) and contribute to a country's economy by creating economic value, decreasing the unemployment level, and by generating new jobs.
3. The empirical evaluations show that most ALMP measures increase labour market prospects. It has also been shown, however, that a few measures lead to a decrease in the probability of an individual becoming integrated into the labour market.
4. Micro level evaluations show that ALMP measures generate positive effects only for specific groups of unemployed individuals, specifically, elderly unemployed individuals or unemployed worker with placement obstacles. Certain inappropriate measures actually lower labour market prospects. Therefore, there is a need to improve the targeting of the instruments.

5. Macro level evaluations of ALMP measures indicate that they can contribute to increasing the overall employment level, particularly to reducing long-term unemployment.
6. Evaluations of the entrepreneurship promotion activities of the German ALMP show positive results. The first entrepreneurial ALMP measure, the bridging allowance (BA), shows high success rates as well as high cost efficiency. The effects of the start-up subsidy (SUS), introduced in 2003, are also very positive.
7. Longitudinal studies indicate that even after several years, 70 percent of former BA or SUS participants are still self-employed and gain an income beyond the poverty threshold. More importantly, 30 percent of subsidized start-ups employed at least one employee.
8. Both entrepreneurship promotion measures were replaced by the new start-up subsidy to simplify the funding system. First evaluations of this measure reveal a high success rate. Around 80 percent of the participants were still self-employed after around two years. However, due to the lack of data, only a small number of micro level evaluations exist.
9. The studies find/argue that there is a problem with transparency. To be more precise, unemployed individuals face the problem of selecting the appropriated measure designed to increase their labour market prospects. Therefore, there needs to be improvements in program transparency and the selection process needs to be made easier. According to the studies, another aim would be to simplify the German funding system by reducing the number of measures.
10. Future challenges confronting ALMP include demographic change and rapid technological development. Institutional adjustments and an enhanced targeting of current measures are necessary and important for the German labour market and its success.

1. Introduction¹

Over the last several decades, active labour market policies (ALMP) have played an increasingly important role in coping with unemployment. ALMP are governmental programs that intervene into the labour market to sustainably reduce (structural) unemployment. It includes different approaches of upskilling, a combination of reinforcement and employment assistance, and entrepreneurship promotion. ALMP is applied in most European and OECD countries and is characterized by cross-national differences in terms of scope and content (Fertig, Schmidt and Schneider 2006; Bonoli 2010).

In this study, we provide an overview of past and current measures of German ALMP with a focus on programs that aim at promoting self-employment. The literature shows that the promotion of self-employment especially is a highly successful mechanism that can lead to a sustainable reduction of unemployment and the creation of new jobs (Caliendo and Kritikos 2010). We summarize findings of available evaluation studies of the most important ALMP measures. In a first step, we focus on micro level evaluation studies that investigate the effect programs have on the likelihood that an unemployed individual will become employed. In a second step, we consider macro level studies that evaluate the aggregated impact of programs, including the impact of these programs on non-participants.

The remainder of this report is organized as follows. First, we provide a brief history of the evolution of ALMP in Germany (Section 2). This is followed by a description of the most important past and current measures and instruments (Section 3). In Section 4, we discuss the challenges of evaluating ALMP. A summary of the most relevant micro level evaluations follows in Section 5. Section 6 reviews the most important macro level evaluation stud-

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ies. Section 7 discusses future challenges of the ALMP, and the final section summarises and concludes.

2. Development of active labour market policies in Germany

After its first application in Sweden in the 1950s, ALMP spread across several European and OECD countries (Fertig, Schmidt and Schneider 2006; Bonoli 2010). The overall aim of this type of policy is a sustainable reduction of structural unemployment and an improvement of the qualifications of workers.²

The 1950s and 1960s were characterized by rapid growth and technological change that led to shortages of skilled labour. Germany adopted ALMP to address such problems much later than other countries. Only in 1969 was the Employment Promotion Act (“Arbeitsförderungsgesetz”) introduced. The focus of this early type of ALMP was on upskilling workers to meet the requirements of technological change.

The focus of German ALMP shifted from general upskilling to reducing surging unemployment in the aftermath of the oil crises of 1973. The policy comprised a large number of labour market and training programs designed to raise the qualification level of the unemployed workers.

In the 1980s, a number of labour market and training programs were implemented (“qualification impulse”). These labour market programs experience a significant increase in the total number of participants. Consequently, the yearly expenditures for ALMP grew steadily. By the second half of the 1980s these expenditures were above the OECD average (Bonoli 2010). In 1985, based on the experiences of entrepreneurship promotion from other OECD countries, the German government decided to implement an ALMP measure designed to incentivize unemployed individuals to start their own

² Higher qualified workers could also stimulate intrapreneurship.

business. The measure was introduced based on the assumption that unemployed people have serious problems accessing the capital market to finance the start-up process of an own firm. Thus, in 1986 the first measure to promote self-employment out of unemployment, the bridging allowance (BA) (“Überbrückungsgeld”), was introduced to enable unemployed people to start their own business (Wießner 1998) (for detailed information on this measure see section 3.3).

When Germany was reunified in 1990, East Germany adopted the conditions of a modern market economy from West Germany. The rapid reunification induced massive structural changes accompanied by high levels of unemployment in the former German Democratic Republic (GDR) (Fritsch et al. 2014). Because firms operating in the East German market had not been exposed to open competition, they had fallen behind Western European firms in terms of production technology and product quality and variety. Generally speaking, East German management was not familiar with a market-based economic system and lacked appropriate management skills. Hence, many of the East German companies had to exit the market (Fritsch and Mallok 1998; Lechner, Ruth and Wunsch 2007).

To prevent mass unemployment in the early stages of transition, investments in ALMP peaked in 1992 and reached up to 9% of the East German GDP (Lechner, Ruth and Wunsch 2007; Bonoli 2010). ALMP became one of the most important economic policy instruments of the German government. New ALMP measures for the East German labour market were introduced, such as short-time work. In 1991, around one third of East German workers participated in one or more ALMP measures (Rinne and Zimmermann 2012).

One major challenge of ALMP in East Germany was that the skills of East German workers did not meet the requirements of a modern market economy. As a consequence, several types of training measures were introduced. Furthermore, employment creation measures (e.g. public job creation)

and measures to improve employment promotion (e.g. wage subsidies) were implemented to increase the labour market prospects of low skilled workers and to improve the employability of unemployed individuals (see section 3.2 and 3.3) (Lechner, Ruth and Wunsch 2007; Bonoli 2010).

The ongoing economic struggles caused by German reunification made a reorientation of ALMP necessary. The increasing number of long-term unemployed individuals led to a stronger focus on the term “activation”. This new focus led to two major political changes in Germany. The first change was the introduction of the Job AQTIV Act in 2001 that provided a large number of tools to activate, qualify, and train unemployed individuals. The 2001 Act was the legal precursor of the second important change, the so-called Hartz reforms. The Hartz reforms aimed at modernizing the German labour market by restructuring and implementing new ALMP measures, ranging from contracting-out placement services to the creation of incentives to start a business out of unemployment (for more details, see section 3).

A new ALMP measure for entrepreneurship promotion implemented in 2003, was the start-up subsidy (SUS) aimed at different target groups than the BA. The BA was attractive for more highly qualified unemployed individuals with higher previous earnings who were more like business owners starting out of employment. In contrast, SUS focused on unemployed individuals with less education and lower previous earnings (Caliendo and Kritikos 2010). The goal of the measure was to remove impediments faced by unemployed people, such as capital constraints on the capital market. In 2006, both entrepreneurial promotion measures were combined and became the new start-up subsidy (NSUS) (for more details, see section 3.3). This change was an effort by the German government to simplify the system of ALMP measures.

3. Instruments of active labour market policies in Germany

3.1 Overview

The measures of Germany's ALMP can be divided into three groups. The first group includes placement vouchers, contracting-out services, short-term measures, and vocational training programs. These measures are designed to increase the likelihood of participation into the labour market. The second

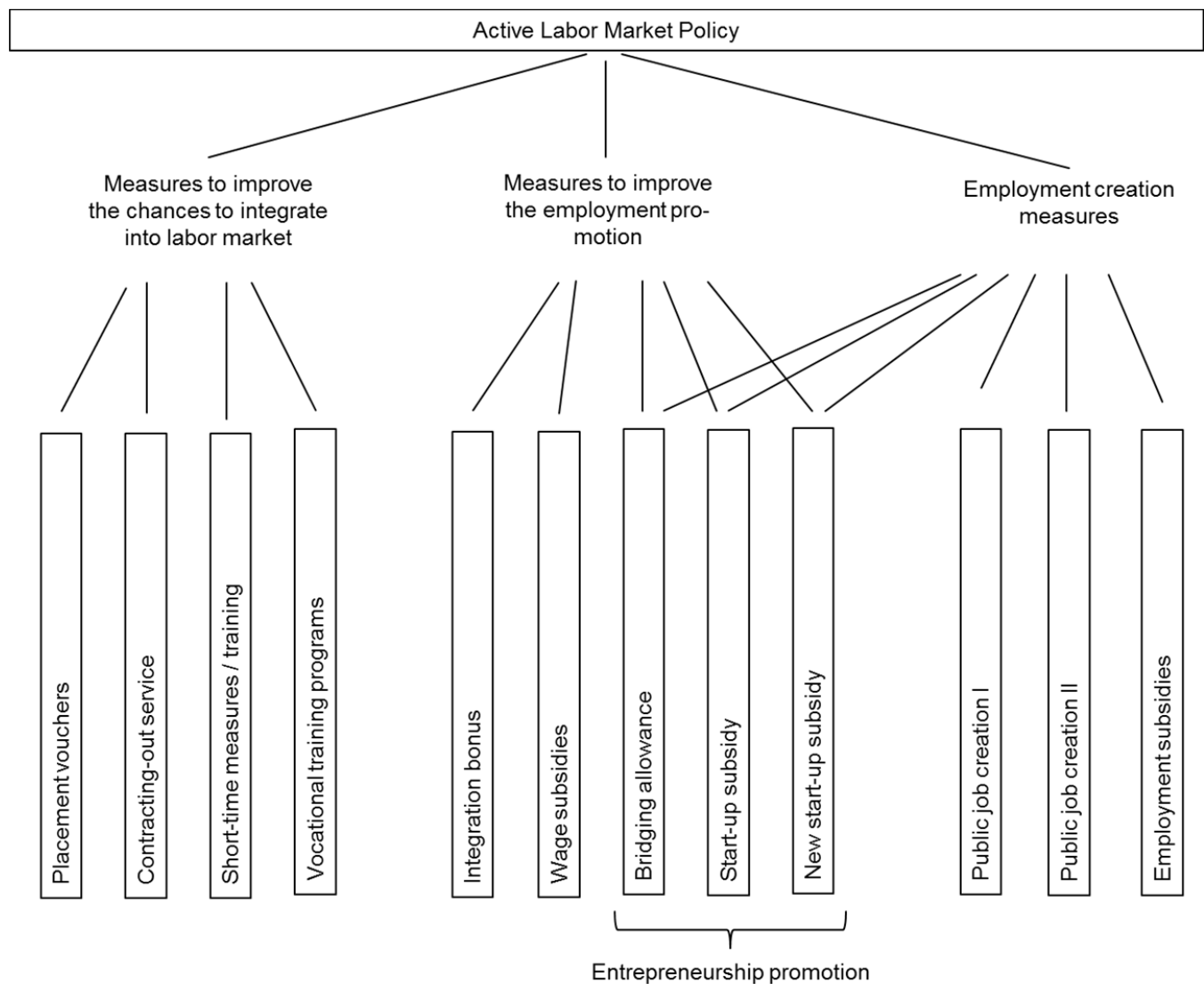
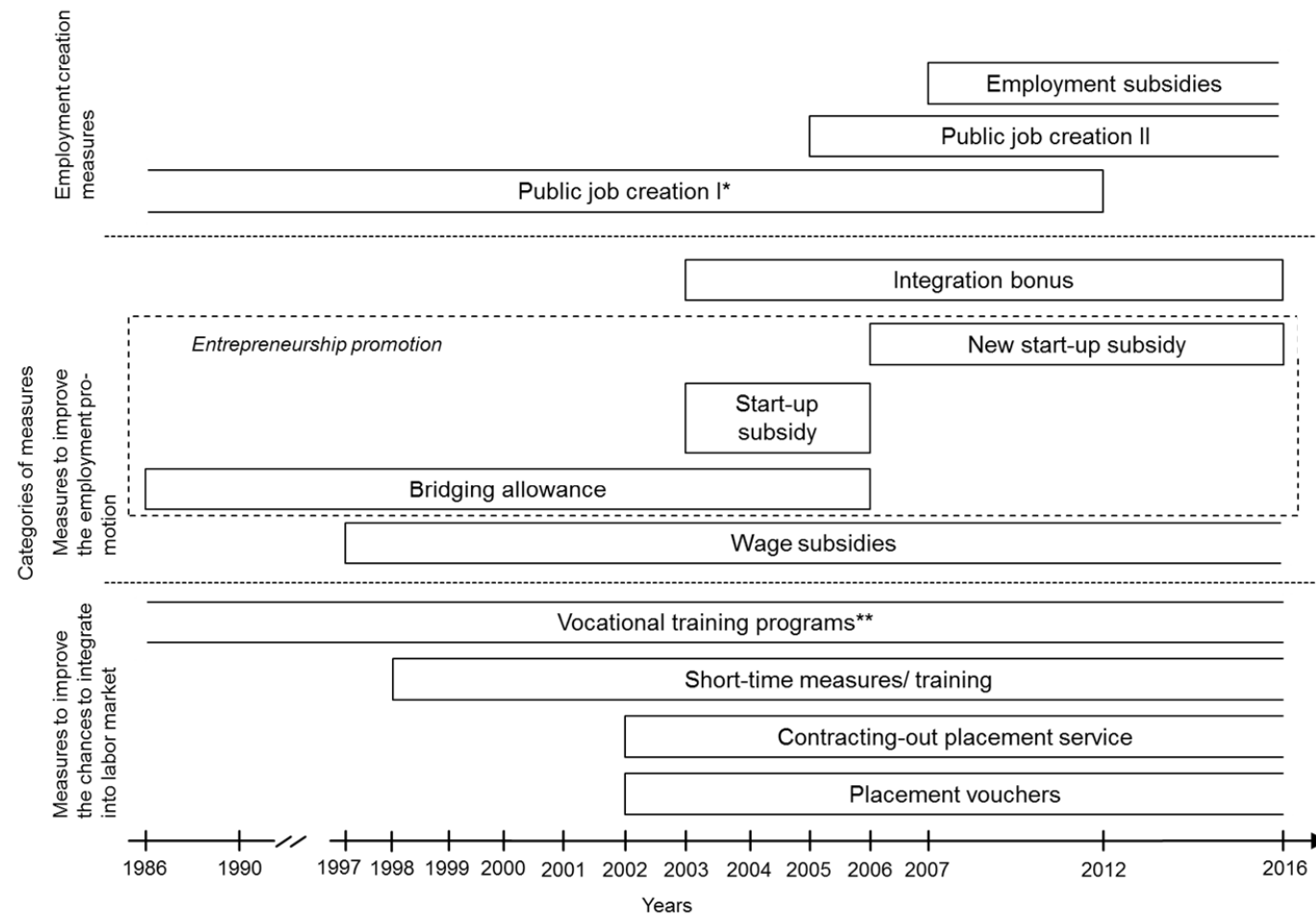


Figure 1: Overview - Active labour market policy measures



The graph includes only a selection of ALMP measures.

* Public job creation I exists already since 1980s.

** Vocational training programs exists already since 1980s.

Figure 2: Year of implementation and current status of active labour market policy measures.

group contains measures designed to improve employment promotion. This group encompasses the integration bonus, wage subsidies, and measures of entrepreneurship promotion. The third group encompasses public job creation I and II, as well as employment subsidies. These measures focus on employment creation for people with low labour market prospects like long-time unemployed workers or unemployed individuals with more than one placement obstacle (“Vermittlungshemmnis”). Placement obstacles are long-term unemployment, drug or alcohol addiction, insolvency, low educational skills, low language skills, or restricted mobility (Bugzel 2011). Figure 1 provides an overview of these groups of measures.

Because ALMP is characterized by rapid changes due to introducing, merging, or removing measures, or changing program details such as eligibility, amount of funding etc., Figure 2 provides an overview of the year of implementation and duration of the measures described in the previous chapter. Additional information about legal base, duration, claim, requirements for participation and current status can be found in Tables 1 – 3. An unemployed individual can have either a legal or discretionary claim. In this study, a legal claim connotes that an unemployed person automatically qualifies for participation in an ALMP program. A discretionary claim must be approved by the local employment agency. Thus, the agency decides, based on personal consultation, whether or not an unemployed individual can participate in a specific ALMP measure. Only in a few cases, such as entrepreneurial promotion measures, is the local employment agency’s decision based on evaluations by the Chamber of Industry and Commerce, and other requirements such as the participation in specific seminars (e.g. see section 3.3 and Table 2).

3.2 Measures to facilitate re-integration into the labour market

Table 1 outlines several measures designed to facilitate an effective re-integration into the labour market. These measures include placement

Table 1: Measures that improve the chances of re-integration into the labour market

<i>Name and legal base / Year of implementation / Status</i>	<i>Measure's duration</i>	<i>Claim</i>	<i>Additional information</i>
Placement voucher / §421g Social Code II / 2002 ongoing	-	Discretionary for UB II re- ceivers and legal claim for UB I receivers after they are unemployed for at least 6 weeks.	Demand for placement vouchers is quite low and plays a subordinate role. Legally, there is a contract between the un- employed individual and the private job pro- vider. To facilitate the administration proce- dure, the unemployed person pays the fees and the employment agency pays a certain amount of money directly to the unemployed worker to balance the invoice of the private job provider
Contracting-out placement services / §37 and §421i Social Code III / 2002 ongo- ing	-	For Social Code II bene- ficiary it is discretionary. For Social Code III bene- ficiary, it is a legal claim if individuals are more than 6 months unem- ployed.	-
Short-term measures / § 46 Social Code III. (Before 2009: §§ 48- 52 Social Code III) / 1996 ongoing	Max. 12 weeks	Discretionary	-
Vocational training programs / § 77ff Social Code III / 1980s ongoing	Is connect- ed to the UB II pay- ments.	Discretionary	Focused on formal and informal qualifica- tions.

vouchers (“Vermittlungsgutschein”), contracting-out placement services, short-term measures, and vocational training for unemployed individuals. Placement vouchers enable unemployed persons to search and pay for a private provider of qualification services. An unemployed worker who wishes to use the voucher system and receives unemployment benefits II (UB II) has only a discretionary claim (see section 3.1) and must first participate in a consultation with the employment agency. The agency then determines the eligi-

bility of the unemployed worker. An unemployed individual who receives unemployment benefits I³ (UB I) has a legal claim if he has been unemployed for at least six weeks, automatically qualifying for the voucher program. Once eligibility for qualification services is determined, the unemployed worker receives a voucher for a specific training program and can begin a search for a private provider that offers the appropriate program (for more information see Table 1) (Bruttel 2005; Heyer et al. 2012).

Individuals who have been unemployed for more than six months and claim UB I automatically qualify for contracting-out placement services. UB II receivers only have a discretionary claim and must apply for these services at an employment agency. Contracting-out services provide eligible individuals with the option of accessing private placement providers. The purpose of this measure is to engage private service providers in the process of assisting unemployed workers begin employment in a steady job. The changes in 2002/2003 (Hartz I and II reforms) were implemented to increase transparency and competition between private and public providers (Bruttel 2005; Bernhardt and Wolff 2008).

Short-term measures are designed to activate and integrate unemployed persons into the labour market by offering a variety of training and qualification programs (upskilling) (Heyer et al. 2012). These measures are discretionary regardless of the status of the unemployed individual. The local employment agency conducts a private consultation with the unemployed worker and is responsible for determining whether or not an unemployed individual qualifies for these measures. There are two basic types of training programs: educational training and operational training. Operational training predominantly promotes the capabilities of participants and supports knowledge transfer within a firm. Educational training can be divided into four measures: application training, aptitude check, knowledge transfer, and a combination of these three measures. At first glance, educational and operational training

³ Unemployment benefit I are payments for registered unemployed individuals that have been unemployed for at least 12 months.

seem to be quite similar measures. However, the training within a firm is more practice oriented and tuned to firm-specific requirements, whereas the educational training aims at improving general skills (e.g. “How to write an application”).

Participation in vocational training programs is determined by the local employment agency (discretionary claim). The agency decides if vocational training programs are an appropriate ALMP measure on a case-by-case basis. These programs include specific vocational training with the goal of qualifying graduates for a specific job, as well as other measures, such as general trainings to achieve qualifications in practice firms (“Übungsfirmen”), the opportunity to repeat final examinations, and opportunities for further trainings. In 2003, vocational training programs were replaced by the education voucher program (“Bildungsgutscheine”). The fundamental change is that potential participants are now encouraged to choose a provider of educational service by themselves (Hujer, Caliendo and Thomsen 2004; Heyer et al. 2012).

3.3 Measures to improve employment promotion

The main measures designed to improve the promotion of employment are wage subsidies (“Eingliederungszuschüsse”), start-up funding (“Gründungsförderung”), and the integration bonus (“Einstiegsgeld”) (see Table 2).

Wage subsidies are temporary public payments to employers for hiring unemployed individuals who have specific characteristics. This subsidy is based on the idea that individuals who have experienced long-term unemployment and are older are less productive and less likely to be hired. Wage subsidies are intended to increase the likelihood that these types of unemployed individuals will find gainful employment (Zwick 2011; Heyer et al. 2012). There are different types of wage subsidies aimed at different target groups. The most frequently used type of subsidy focuses on unemployed individuals with placement obstacles (Heyer et al. 2012). However, the claim is only discretionary and, once again, local employment agencies decide whether an unemployed individual is eligible for the subsidy.

Table 2: Measures to improve the employment promotion

<i>Name</i>	<i>Measure's duration</i>	<i>Claim</i>	<i>Additional information</i>
Wage subsidies / §§ 217 – 224 Social Code III / 1997 on-going	Max. 12 months for main variant	Discretionary	-
Bridging allowance / § 57 Social Code III / 1986 - 2006	6 months	Legal if unemployed person has a claim for UB I and the Chamber of Industry and Commerce evaluate the business plan of start-up positive.	Replaced by the new start-up subsidy. It comprises promotions in the amount of unemployment benefits plus social insurance contributions (Wießner 1998; Heyer et al. 2012).
Start-up subsidy / § 421 Social Code III / 2003 -2006	3 years	Legal claim for UB I receiver or if they are participating in public job creation I.	Replaced by the new start-up subsidy.
New start-up subsidy / §57 Social Code III / 2006 ongoing	15 months (stage 1: 6 months, stage 2: 9 months)	Since 2011, discretionary. UB I receiver, with a sustainable business plan (evaluated by the Chamber of Industry and Commerce). Further, applicants have to participate in start-up seminars.	The monthly payments are equal to the amount of the unemployment benefits plus 300 Euros as a social insurance contribution. The assigned job adviser of the local public employment agency has to decide if a self-employment promotion is possible or not (Caliendo et al. 2012; Heyer et al. 2012).
Integration bonus / § 16b Social Code II / 2003 ongoing	6 to 24 months	UB II receiver	Contains monthly payments.

Start-up funding comprises a special subsidy (like an income provision) during the early stages of the development of new firms. The first entrepreneurship promotion measure, the bridging allowance (BA, “Überbrückungsgeld”), was introduced in 1986 and aimed at promoting self-employment (Wießner

1998; Caliendo and Steiner 2005; Heyer et al. 2012). Unemployed individuals have a legal claim if they qualify for UB I, and if the business plan of the start-up receives a positive evaluation from the Chamber of Industry and Commerce ("Industrie- und Handelskammer"). In 2003, the start-up subsidy (SUS, "Ich-AG") was introduced. The SUS differs from the BA in that it has a considerably longer duration (three years compared to 6 months), and the monthly payments are significantly lower. Participation in the SUS measure is limited to UB I receivers or former participants of public job creation I, and it is a one-time offer.

In 2006, in order to simplify the funding system, the two main components of BA and SUS were combined and became the new start-up subsidy (NSUS, "Gründungszuschuss"). The German Bundesrat expected that the creation of a single start-up subsidy and the reduction of the subsidy's overall duration, would lead to savings of around five billion Euros⁴ in the first three years (Deutsche Bundesrat 2015). In fact, the consolidation of both measures did lead to a significant reduction in overall expenditures, primarily due to reduced bureaucratic requirements. Furthermore, the savings generated by combining the two programs allowed the government to prioritize an individual's livelihood and social security by providing additional monthly payments as a social insurance contribution (Caliendo and Kritikos 2009; Heyer et al. 2012). The new measure has a longer funding period than the BA, but a shorter funding period than the former SUS. Thus, individuals who normally receive a lower unemployment benefit due to lower qualifications are able to increase their chances to survive during the start-up phase (Caliendo et al. 2012). Those unemployed individuals that receive UB I, participate in a start-up seminar and are able to present a sustainable business plan (evaluated by the Chamber of Industry and Commerce) have a legal claim to receive NSUS. Similar to the older measures, unemployed individuals can only participate once. Findings from early evaluations indicate that the new measure attracts

⁴ The assumption is that after the program expires, participants are still self-employed and earn an income beyond the poverty threshold. If the transition to self-employment was not successful, participants receive, again, UB I or UB II.

participants with characteristics similar to individuals who participated in the former BA (see section 5.4) (Caliendo and Kritikos 2009).

The integration bonus is a temporary subsidy provided by the employer to compensate for any initial disadvantages of an unemployed person, like missing working experience or lagging productivity. This employer contribution aims at establishing sustainable or regular employment for welfare recipients. UB II receivers have a legal claim to participate. The current integration bonus is based on an initial experimental clause that allowed municipalities to test new types of measures as pilot projects. During the Hartz reforms in 2003, the most successful of these projects, which promoted low income jobs (mini-jobs), became the national model (Kaltenborn et al. 2005; Heyer et al. 2012).

3.4 Employment creating measures

The aim of employment creating measures is to increase employability and to provide unemployed individuals with training to increase their chances of re-integration into the labour market. Furthermore, this measure aims at counteracting demotivation processes and getting unemployed persons used to work again (Heyer et al. 2012). These measures have been extensively analysed. This is surprising given the minor role they play in German ALMP (Caliendo and Steiner 2005; Heyer et al. 2012). Further details about employment creating measures are available in Table 3.

Public job creation I (“Arbeitsbeschaffungsmaßnahmen”) was a measure designed to maintain and increase the qualifications of participants in order to re-integrate them into the labour market. To achieve this goal, unemployed individuals work temporarily in publicly financed and low qualified jobs with a charitable purpose (Heyer et al 2012). Only unemployed persons with a legal claim for UB I can participate. It is the oldest measure and was terminated in 2012 after some evaluation studies showed negative results for participants. Indeed, people had a lower probability of labour market re-

Table 3: Measures to improve the employment promotion

<i>Name</i>	<i>Measure's duration</i>	<i>Claim</i>	<i>Additional information</i>
Public job creation I / § 437 Social Code III / 1980s - 2012	12 months, but can be extended to 36 months.	Since 2009, only for UB I receivers.	Especially during the transformation process after the German reunification, the measure public job creation I was often used in East Germany. Since 2009, promotion is limited to UB I receivers. Since the Hartz reforms, the public job creation I is characterized by a declining number of participants (Caliendo and Steiner 2005).
Public job creation II / § 16d Social Code II / 2005 ongoing	-	Limited to UB II receivers.	-
Employment subsidies / § 16e Social Code II / 2007 ongoing	Two times 12 months. After 24 months, permanent participation is possible if re-integration into the labour market cannot be expected.	Limited to receivers of UB II with more than one placement obstacle.	75 % (max) of the local or standard wage are paid by the government.

integration after participation, as will be shown in sections 5.3 and 6 (Wunsch and Lechner 2008).

Public job creation II aims at maintaining or recovering employability, especially of long-term unemployed persons, by creating supplementary jobs ("Zusatzjob"). These supplementary jobs are publicly financed and should pursue a charitable purpose. Only unemployed individuals that receive UB II can participate. Besides their UB II benefits, recipients earn a compensation of 1 to 2 Euros per hour for additional expenditures such as work wear (Bernhard et al. 2008; Heyer et al. 2012).

Employment subsidies focus on long-term unemployed workers with very low labour market prospects and with two or more placement obstacles ("Vermittlungshemmnis"), such as unemployed individuals with restricted mobility. A precondition of receiving employment subsidies is that unemployed

individuals must have already participated in activation measures like those described in sections 3.2 and 3.3, and receive UB II. If the re-integration into a regular job after 24 months was not successful, unemployed persons can be supported by job promotion where a maximum of 75% of the local or standard wage is paid by the government. Further, employer's contribution to pension and health insurance are publicly financed (Koch, Kvasnicka and Wolff 2010; Heyer et al. 2012).

4. The challenge of evaluating Germany's active labour market policies

The Hartz labour market reforms of 2002 - 2005 were accompanied by a rigorous evaluation of the newly introduced ALMP measures. One challenge of evaluating ALMP is that there are conflicting targets (Caliendo and Steiner 2005). The first target is the rapid and sustainable re-integration of unemployed persons into the labour market. The second goal is to increase the participation of certain disadvantaged groups of unemployed individuals such as women, individuals who are older, people with disabilities, and the long-term unemployed. The third goal is creating measures that have low costs and significant benefits (economic efficiency) (Caliendo and Steiner 2005; Bohlinger 2007).

Especially conflicts between the first two goals can be problematic for the evaluation of ALMPs. Evaluations have shown that ALMP measures for qualified unemployed individuals are more efficient than for unemployed workers with placement obstacles such as age or duration of unemployment. Furthermore, studies have shown that unemployed individuals with better labour market prospects have a higher probability of participating in ALMP measures (Caliendo and Steiner 2005). Hence, if the focus lies on rapid and sustainable re-integration of unemployed persons into the labour market (goal 1), then a policy that focuses on groups of unemployed individuals with high labour market prospects improves the measures' success. Such a policy would, however, neglect the second goal of integrating disadvantaged groups

of unemployed persons, like elder or long-term unemployed workers with lower labour market prospects (Hagen and Steiner 2000; Caliendo and Steiner 2005). As a consequence, policy makers are faced with a trade-off between the rapid and sustainable re-integration of unemployed persons and the promotion of disadvantaged groups. Most empirical studies focus on the first criterion since the sustainable re-integration of unemployed individuals into the labour market is the main goal of the ALMP.

Another challenge encountered by ALMP evaluators is that the programs are constantly modified (Caliendo and Hogenacker 2012). This must be taken into account when interpreting the results. Micro level evaluations investigate the effect of the programs on the likelihood of an unemployed individual becoming integrated into the labour market, whereas macro level evaluations look at aggregated impacts of the programs including impacts on non-participants.

Micro level evaluations must not only identify counterfactual situations, but also address the problem of selection bias. Since policies are designed to improve the success of specific measures, there is a systemic selection bias in many labour market programs created by a tendency to select participants with good labour market prospects in order to maximise the effectiveness of the programs (Hujer and Fitzenberger 2002). Thus, the estimated average effect of the measure is biased upwards due to the large number of participants who already have good labour market prospects (Hujer and Fitzenberger 2002). This phenomenon is known as participant creaming. Conversely, another problem of micro level evaluations is the lock-in effect where participants reduce their search intensity to find a job while participating an ALMP measure. This is often referred to as Ashenfelter's Dip (Ashenfelter and Card 1985). Consequently, this tendency reduces the probability that a participant will be integrated into the labour market decrease.

Macro level evaluations try to estimate the effect of the ALMP measures for participants as well as non-participants. An evaluation at the

macro level must deal with an endogeneity problem. If there is an increased demand for ALMP measures during times of high unemployment, there can be a negative correlation between the level of expenses and the measures' results even when the programs are having a positive effect (Hujer and Fitzenberger 2002). Furthermore, substitution and deadweight loss effects have to be taken into account (Calmfors 1994). There is a substitution effect when participants in ALMP programs crowd out regular employment. For example, if a firm hires an ALMP participant that qualifies for an employer contribution, instead of choosing a non-subsidized worker (non-participant). There is a deadweight loss effect when the labour market outcome of ALMP program participants is no different than the outcome obtained without running the program. This outcome indicates that ALMP failed in the sense that it did not have an impact on the employment level of the labour market (Calmfors 1994; Hujer, Caliendo and Thomsen 2004; Hujer et al. 2005).

5. Micro level analysis: Does active labour market policies have an impact on individual employment promotion?

In this section we summarize the results and findings reported by micro-evaluation studies of the German ALMP. Due to the large number of micro level evaluations, our summary considers only the most relevant ones. Not all ALMP measures have been evaluated because of a lack of data. We first summarize the evaluation results of the measures designed to improve an unemployed individual's chances of re-integration into the labour market (Section 5.1). We then outline the assessment of the measures that deal with the improvement of employment promotion (Section 5.2). In the subsequent section, we present the findings of the net effect of employment creation schemes (Section 5.3). Finally, we outline the findings of the entrepreneurship promotion evaluations, a centrepiece of the report (Section 5.4).

5.1 Measures designed to improve labour market prospects

The placement voucher measure is an ALMP program that enables an unemployed worker to increase their opportunities of integrating into the labour market by searching for private providers of placement services, received a mainly positive evaluation (Dann et al. 2005; Heinze et al. 2005; Bernhard and Kruppe 2010; Heyer et al. 2012) (see Table 4). Most studies found significant, but only weak positive effects for participants. On average, 5 or 6 out of

Table 4: Micro level analyses – Placement voucher

<i>Author(s)</i>	<i>Observation period</i>	<i>Main results</i>
Dann et al. (2005)	<ul style="list-style-type: none"> - July 2004 - 9 months 	<ul style="list-style-type: none"> - Higher employment rates of participants. The positive net effect is narrowed lock-in effects. - Vouchers with lower financial value have a higher effectiveness than vouchers with high financial equipment.
Heinze et al. (2005)	<ul style="list-style-type: none"> - May and June 2003 - 6 months 	<ul style="list-style-type: none"> - Participation creaming was taken into account when computing the measure's impact. - West German participants increase their labour market prospects by 4.8 % and East German participants by 3.7 % compared to non-participants. - Higher effectiveness for short term unemployed individuals.
Bernhard and Kruppe (2010)	<ul style="list-style-type: none"> - Year 2004 and 2007 - 6 months 	<ul style="list-style-type: none"> - The majority of participants have already a high employment opportunity. This trend increased since 2004. - East German unemployed persons and short-term unemployed individuals have higher chances to participate (participation creaming).

Note: The first column displays the authors of the respective study, whereas the second column exhibits the sample (e.g. unemployed individuals in July 2004). The third column Summarizes the main findings of each evaluation study.

100 participants found a non-subsidized job after using a placement voucher (Dann et al. 2005; Heinze et al. 2005; Heyer et al. 2012). Overall, men and West Germans benefit more than women and East Germans, and short-term unemployed workers benefit more than long-term unemployed persons (see

also Table 4). An analysis of group specific benefits indicates that the measure's efficiency could be improved if it focused more on groups that benefit most such as short-term unemployed individuals (Koch et al. 2011). A lack of private service providers in some regions, as well as an information asymmetry regarding the abilities and quality of private service providers, are the main obstacles for an effective and efficient achievement for the measure's re-integration success (Bruttel 2005).

Table 5: Micro level analyses – Contracting-out placement services

<i>Author(s)</i>	<i>Observation period</i>	<i>Main results</i>
WZB (2005, 2006)	- Year 2003 and 2004 - 9 months	More efficient for unemployed individuals with placement obstacles.
Kruppe (2006)	- Year 2003 and 2004 - 12 months	- Negative effect on employment prospect in the short-term. - Slightly positive effect for West German female, elder and young unemployed individuals.
Pfeifer and Winterhagen (2006)	- May 2003 - 12 months	Only 5% of all participants found a job after the program expired.

Notes: see Table 4.

The small number of evaluations of the effect of contracting-out placement services range from a negative to a small positive impact on the re-integration of unemployed individuals into the labour market (Kruppe 2006; Pfeifer and Winterhagen 2006; WZB 2005, 2006). As already mentioned, contracting-out placement services enable unemployed persons to use the service of private placement providers to find a job. In West Germany, there are only slightly positive effects amongst females, workers older than 50 years, unemployed individuals younger than 24 years, and unemployed individuals with placement obstacles. The measure actually decreases the labour market prospects of short-term unemployed persons. It seems that the measure is inappropriate for this group (for more details see Table 5) (Kruppe 2006; Pfeifer and Winterhagen 2006; WZB 2005, 2006). Hence, in order to use the

Table 6: Micro level analyses – Short-term measures

<i>Author(s)</i>	<i>Observation period</i>	<i>Main results</i>
<i>Group 1: No differentiation between participants</i>		
Hujer, Thomsen and Zeiss (2006)	<ul style="list-style-type: none"> - Aug and Oct 2000 - 36 months 	<ul style="list-style-type: none"> - Short-term measures clearly reduce the time that unemployed persons search for employment. - Already positive effect on the labour market prospects at the beginning of the program. - Impact of the program is larger for men than for women. - Low qualified persons with some work experience benefit most from the programs.
Biewen et al. (2007)	<ul style="list-style-type: none"> - Feb 2000 - Jan 2002 - 30 months 	<ul style="list-style-type: none"> - West German men increase their employment rate by 5 to 10 %. The effect for women is even larger. - Short-term measures are more effective than medium run measures.
Lechner and Wunsch (2009)	<ul style="list-style-type: none"> - Jan 2000 - Jun 2005 - 2,5 years 	<ul style="list-style-type: none"> - Programs fail to increase the labour market prospects of their participants. - Negative results can be explained by the difficult situation going on in the East German labour market.
<i>Group 2: Distinction between operational and non-operational measures</i>		
Jozwiak and Wolff (2007)	<ul style="list-style-type: none"> - Feb - Apr 2005 - 20 months 	<ul style="list-style-type: none"> - The effects of operational short-term measures emerge nearly immediately and are stronger compared to non-operational measures. - The effect is stronger among elderly unemployed individuals.
Wolff and Jozwiak (2007)	<ul style="list-style-type: none"> - Year 2002 - 2 years 	The measures tend to be less effective for people younger than 25 years.
Hartig, Jozwiak and Wolff (2008)	<ul style="list-style-type: none"> - Feb - Apr 2005 - 20/25 months 	<ul style="list-style-type: none"> - Operational short-term measures have a high effect (20%) for young unemployed worker. This result can be explained by substitution effects. - Educational short-term training measures increase the labour market prospects for young unemployed worker. The positive net effect emerges in the longer run.
Koch et al. (2011)	<ul style="list-style-type: none"> - Year 2005 - 20 months 	<ul style="list-style-type: none"> - The measures affect the labour market prospects of unemployed persons in the long-run. - No effect for young unemployed individuals.

Table 6: Micro level analyses – Short-term measures (*continued*)

<i>Author(s)</i>	<i>Observation period</i>	<i>Main results</i>
Stephan and Pahnke (2011)	<ul style="list-style-type: none"> - Year 2000 - 2007 - 1-3, 4-6, 7-12 and 44 months. 	<ul style="list-style-type: none"> - Participants in shorter training programs have better employment prospects as compared to participants of long-run measures. - Short-term qualification programs increase the probability of re-integration by 13% after 3.5 years. - Non-operational measures increase the probability of re-integration by 9% after 3.5 years.

Notes: see Table 4.

measure as efficiently as possible, ALMP measures should focus on participants that are likely to benefit the most, such as unemployed individuals with low labour market prospects due to placement obstacles (Koch et al. 2011).

Short-term measures aim to activate and integrate unemployed individuals into the labour market by participating in a variety of training and qualification programs (upskilling). Micro evaluations focusing on these kinds of measures can be separated into two types of studies (see Table 6). The first type of evaluation studies investigate the overall effect of all of the short-term measures. The results show mainly positive effects for participants (Hujer, Thomsen and Zeiss 2006; Biewen et al. 2007; Lechner and Wunsch 2006, 2008; ZEW et al. 2008). In the case of East Germany, short-term measures seem to decrease the labour market prospects of participants. This negative result can be explained by the particularly difficult situation in the East German labour market (Lechner and Wunsch 2009).

The second group of evaluation studies focus on two subgroups of short-term measures. These subgroups are operational and non-operational short-term qualifications. Operational training primarily promotes capabilities of participants and supports knowledge transfer within a firm, whereas non-operational training (or educational training) aims at improving general skills.

Table 7: Micro level analyses – Vocational training programs

<i>Author(s)</i>	<i>Observation period</i>	<i>Main results</i>
<i>Group 1: Impact of occupational measures (or further vocational training)</i>		
Fitzenberger, Osikominu and Völter (2008)	<ul style="list-style-type: none"> - Year 1986/87 and 1993/94 (West Germany) - 6 years 	<ul style="list-style-type: none"> - Lock-in effect in the first stage of the program starts. - Positive effect on labour market prospects of participants in the medium and long-run.
Stephan and Pahnke (2011)	<ul style="list-style-type: none"> - Year 2000 - 2007 - 1-3, 4-6, 7-12 and more than 12 months. 	Strong correlation between program duration and strength of the lock-in effects.
Bernhard and Krupp (2012)	<ul style="list-style-type: none"> - Feb-Apr 2005 - 25 months 	<ul style="list-style-type: none"> - Participants increase their employment prospects by 13%. - No significant differences between participants with employment obstacles and less disadvantaged unemployed persons. - High positive effect on participants' labour market prospects. - No positive effect on avoiding UB II for women in East Germany and for younger unemployed individuals.
<i>Group 2: Impact on the graduation prospects into a qualified job</i>		
Lechner and Wunsch (2006)	<ul style="list-style-type: none"> - Jan 2000 - Dec 2002 - 30 months 	No significant effect of vocational training programs.
Rinne, Schneider and Uhlendorff (2011)	<ul style="list-style-type: none"> - Year 2002 - 28 months 	Positive effects of all program types on participant's employment prospects after 24 months.
<i>Group 3: Evaluations without differentiation</i>		
Fitzenberg, Osikominu and Paul (2010)	<ul style="list-style-type: none"> - July 1999 - Dec 2000 - 16 quarters or until end of 2004 	<ul style="list-style-type: none"> - Effects are higher in West Germany than in East Germany. - Women benefit more than men.
Bernhard and Krupp (2012)	<ul style="list-style-type: none"> - Feb-Apr 2005 - 25 months 	<ul style="list-style-type: none"> - Participating in vocational training programs reduce the share of people UB II. - Participating increases the employment rate in the long-run.

Notes: see Table 4.

Both sub-measures show positive and significant effects on the probability of integrating an unemployed individual into the labour market. The evaluations

also show that participants in short-term operational qualification programs benefit more than participants in non-operational short-term measures.⁵

Evaluations of the ALMP measure vocational training programs can be divided into three categories (see Table 7). This measure aims at improving the qualifications of participants (see section 3.2). The first group of evaluations focuses on the participants of occupational training measures, or further vocational training. These evaluations report positive effects on the probability of re-employment. The measure decreased the share of unemployed persons receiving UB II and raised the employment rate in the intermediate term (Fitzenberger and Speckesser 2007; Fitzenberger, Osikominu and Völter 2008; Lechner, Ruth and Wunsch 2011; Bernhard and Kruppe 2012; Heyer et al. 2012). In the long-run, vocational training programs contribute to a decrease in the unemployment level.

The second group of evaluation studies are aimed at assessing vocational training and its impact on the prospects of finding a qualified job after graduation. The results are inconclusive and range from no effect to positive effects (Lechner and Wunsch 2006; Rinne, Schneider and Uhlenborff 2011; Heyer et al. 2012). Some possible reasons for these mixed results depend on the situation into the labour market when the program was initiated, and whether or not the measure was evaluated as a whole or separated into its sub-measures (Heyer et al. 2012). The last group of evaluation studies assesses vocational training programs as a whole. The results exhibit positive effects for all groups of participants (Fitzenberg, Osikominu and Paul 2010; Bernhard and Krupp 2012).

Summing up, the positive effects of most measures are limited to specific groups of participants, like elderly unemployed workers, or unemployed persons with placement obstacles. To improve the success of ALMP measures and avoid the participation of unemployed individuals in inappro-

⁵ Jozwiak and Wolff (2007), Wolff and Jozwiak (2007), Hartig, Jozwiak and Wolff (2008), Koch et al. (2011), Stephan and Pahnke (2011), Heyer et al. (2012).

priate programs, policy should try to improve how measures are targeted. Targeting specific measures to those groups that have been shown to benefit the most, will increase a measure's efficiency, improve its success rate, and have a more positive impact on the labour market.

5.2 Employment promotion measures of active labour market policies

Wage subsidies is a common instrument of the German ALMP. As already mentioned, wage subsidies include temporary public payments to employers as an encouragement to hire unemployed individuals with specified characteristics (see section 3.3). In this subsection, we summarize the existing micro evaluations of this instrument (see Table 8). Most evaluation studies find that an individual who receives wage subsidies is more likely to work in an unsubsidized job after receiving these subsidies (Bernhard and Wolff 2008). Furthermore, participants are more likely to stay into the labour market longer

Table 8: Micro level analyses – wage subsidies

<i>Author(s)</i>	<i>Observation period</i>	<i>Main results</i>
Jaenischen (2002, 2005)	- Jan 1999 – Mar 2001 - 6, 12 and 23 months	Participants have a 20-40% higher probability of remaining in the subsidized job after the program expires.
ZEW et al. (2006)	- Apr – Jun 2001 - 3, 4-6, 7-12 months	- 40 to 70% of the participants have a regular job after three years. - 60 to 80% were neither unemployed persons nor participating in any ALMP measure.
Boockmann et al. (2007)	- Years 2002 and 2004 - 180 days	The initial large positive effect on the participant's labour market prospects decreases slightly over time.
Bernhard and Wolff (2008)	- Feb-Apr 2005 - 20 months	- 70% of participants are in regular employment after 20 months. - Lock-in effects during the first months.

Notes: see Table 4.

than non-participants. However, participation also leads to the aforementioned lock-in effects. Participants tend to decrease the intensity of their job search while participating in the program. In addition, the significantly positive effects of wage subsidies decrease slightly over time.

There is a relatively high risk that wage subsidies lead to deadweight effects. Firms are likely to hire program participants as a way to improve their competitive position by lowering labour costs. The impacts of these effects were analysed by Hartmann (2004) and Bernhard and Wolff (2008).

5.3 Employment creation schemes

Public job creation I is designed to safeguard or increase the employability of unemployed individuals by providing them with a subsidized job. Most studies have shown that public job creation I has a negative effect on the participants' prospects of re-integration. Wunsch and Lechner (2008) concluded that this measure did not safeguard or increase the participants' employability, thus, it totally failed (see also Lechner and Wunsch 2009). Other studies that focused on specific target groups, however, shows positive results for certain groups of unemployed persons, like older workers and individuals with placement obstacles (see Table 9). Overall, public job creation I did not decrease the unemployment rate over time and the program was terminated in 2012 (Caliendo and Steiner 2005, Heyer et al. 2012).

Public job creation II is designed to maintain or recover the employability of an unemployed individual by offering supplementary jobs ("Zusatzjob") (see section 3.4). Evaluations have indicated that, overall, this policy has a negative impact on a participant's labour market prospects (see Table 10). The ALMP measure increases the labour market prospects for only a few groups of unemployed workers. Groups benefiting the most from this program are female East and West German participant, individuals who have experienced long-term unemployment and young persons who have not completed

Table 9: Micro level analyses – Public job creation I

<i>Author(s)</i>	<i>Observation period</i>	<i>Main results</i>
Caliendo, Hujer and Thomson (2004)	<ul style="list-style-type: none"> - Jan 2000 - Feb 2000 - 2 years 	<ul style="list-style-type: none"> - A target oriented evaluation shows positive net effects for unemployed persons with employment obstacles. - No or negative effects for participants without employment obstacles.
Caliendo, Hujer and Thomsen (2005)	<ul style="list-style-type: none"> - Jan 2000 – Feb 2000 - 2 years 	<ul style="list-style-type: none"> - Strong lock-in effects for participants. - The lock-in effects are more pronounced in West Germany as compared to East Germany. - Significant positive effect for women in West Germany only (4.6 %), whereas the effect for men in West Germany is insignificant. - For men (-2.9 %) and women (-1.4 %) in East Germany the effects are significantly negative.
Wunsch and Lechner (2008)	<ul style="list-style-type: none"> - Jan 2000 - Dec 2002 - 30 months 	<ul style="list-style-type: none"> - Overall, public job creation I has a negative impact on the participant's labour market prospects. - West German participants have a 20 % lower employment chance than non-participants. - The re-integration rate for East German participants decreases by 10 %.
Hohmeyer and Wolff (2010)	<ul style="list-style-type: none"> - Jan 2005 (Unemployed basic social care recipients) - 2 years 	<ul style="list-style-type: none"> - Positive effects for participants, particularly for female unemployed individuals. - Low levels of lock-in effects.

Notes: see Table 4.

an apprenticeship program (Hohmeyer and Wolff 2007; Wolff and Hohmeyer 2008; Wolff, Popp and Zabel 2010). These results suggest that ALMP should focus more on groups of unemployed individuals that are likely to benefit most from participation. A stronger focus on these groups of unemployed persons could fulfil the second goal of ALMP (support of disadvantage groups) and increase the measure's efficiency (goal 1).

Table 10: Micro level analyses – Public job creation II

<i>Author(s)</i>	<i>Observation period</i>	<i>Main results</i>
Hohmeyer and Wolff (2007)	<ul style="list-style-type: none"> - Jan 2005 (Unemployed basic social care recipients) - 2 years 	<ul style="list-style-type: none"> - Only effective for some groups. Otherwise it decreases the labour market prospects. - Female East and West German participants and participants older than 36 years benefit from participating. - Long-term unemployed individuals and young unemployed workers without completed apprenticeship have benefited most regarding their labour market prospects. - Participants do not reduce their search intensity during the program (low lock-in effects).
Wolff, Popp and Zabel (2010)	<ul style="list-style-type: none"> - Feb - Apr 2005 - 28 months 	Young men and women without completed apprenticeship from West Germany benefit after 28 months.

Notes: see Table 4.

5.4 Entrepreneurship funding as an efficient concept of the active labour market policies

There is extensive literature on the importance of entrepreneurship for regional growth. New firms increase the level of competition leading to productivity improvements. Furthermore, start-ups often introduce innovations and new technologies to the market creating knowledge spillovers (Koellinger and Thurik 2012; Fritsch 2013). These effects are of fundamental importance and provide an economic rationale for start-up subsidies.

Entrepreneurs that are unemployed face a number of specific obstacles that employed entrepreneurs do not experience. Start-up subsidies can help unemployed individuals compensate for disadvantages they have to face. For example, because they have lower financial means it is more difficult to obtain resources on the credit market (Perry 2006). Additionally, a job seeker's specific human and social capital tends to decrease during unemployment (Pfeiffer and Reize 2000). Furthermore, unemployed persons suffer from a lack of awareness stemming from imperfect information about business opportunities that leads to a strong tendency for regular employment instead of self-employment (Storey 2003). Caliendo et al. (2015) provide some evidence

of the effects of these obstacles by comparing the characteristics of unemployed subsidized business founders with unsubsidized business founders who started their business from regular employment, 19 months after the initiation of the start-up subsidies program. The lower income and growth rates of subsidized start-ups might be interpreted as the result of special problems created by their initial unemployment status, such as the problem of obtaining financial resources. The high level of subsidized business founders that remain self-employed, relative to non-subsidized business founders, suggests that the measure is successful in compensating disadvantages arising from unemployment (Caliendo et al. 2015).

Start-up subsidies represent only a small part of ALMP measures in most countries. For instance, in the year 2003, the EU-15 states invested 0.697 percent of their GDP in ALMP measures. Only a very small fraction of that share (4.8 percent) was assigned to start-up subsidies (Baumgartner and Caliendo 2008). The highly positive results indicated by the evaluation studies of these measures, however, highlighted the effectiveness of entrepreneurship funding and led to a stronger emphasis on these ALMP measures. From 1994 to 2004, the number of participants per year in Germany increased from around 37,000 to 350,000 (Baumgartner and Caliendo 2008).

The primary purpose of offering start-ups subsidies is to decrease unemployment, increase the start-up rate in Germany, and create new jobs. In Germany, the bridging allowance (BA) was the first measure to be introduced, followed by the introduction of the start-up subsidy (SUS). The SUS aimed at attracting potential participants from a variety of different groups. Because of its attractiveness to unemployed women and less qualified unemployed workers, the number of SUS participants increased rapidly. By 2004, around 170,000 unemployed received monthly payments in (see Figure 3). First evaluations showed that the subsidy was fundamentally important in counteracting the early stage difficulties of starting a new firm for only 30% of BA and SUS participants (Caliendo and Kritikos 2010). This result suggests a pronounced deadweight effect and led to changes in eligibility requirements. The

most important change was that in order to qualify for a subsidy applicants were required to draft a business plan and receive a positive evaluation from the Chamber of Industry and Commerce (see Table 2).

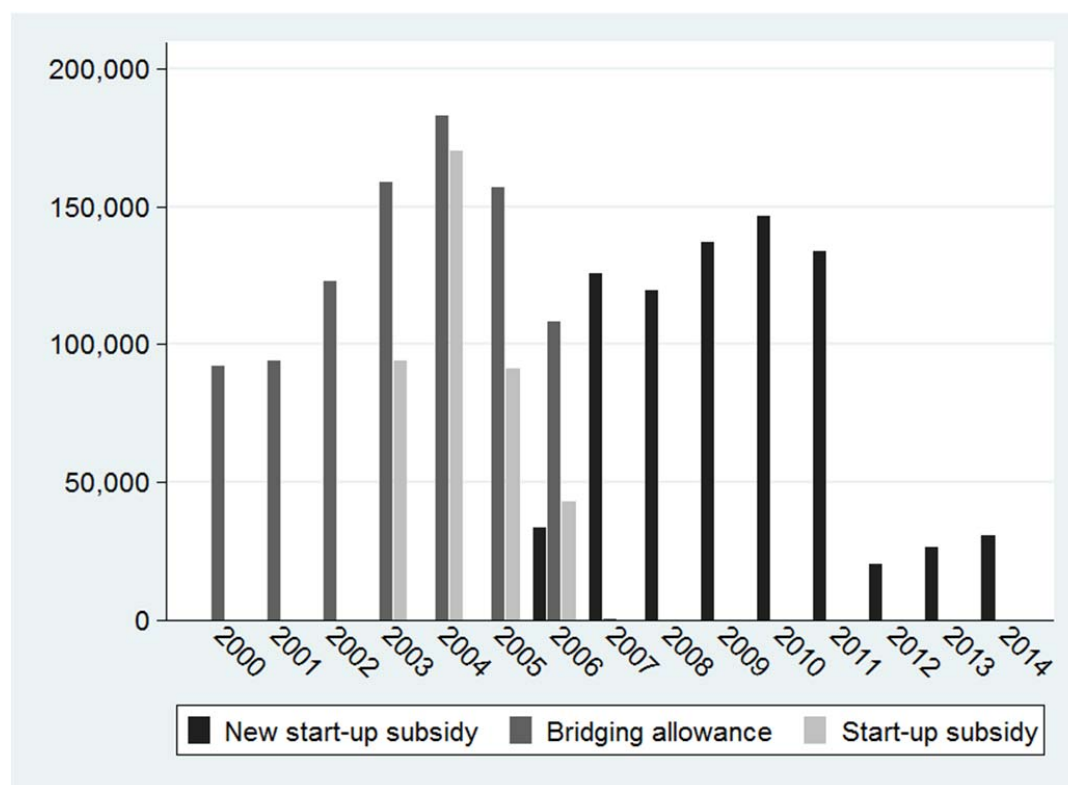


Figure 3: Inflows into entrepreneurship promotion measures (Source: Caliendo and Kritikos 2010; Federal Employment Agency 2016)

In the following, we briefly summarize the most important evaluation studies and discuss the critical differences of both measures. In 2006, to simplify the German funding system, both measures were replaced by the new start-up subsidy (NSUS) (Heyer et al. 2012). Although very little is known about the effectiveness of this new measure, and due to a lack of data only a few evaluation studies exist, we summarize the most important studies on the measure's effectiveness

SUS and BA can be considered as two very successful ALMP measures. The majority of participants became and remained (self-) employed and, in this way, increased their personal incomes. Only a small share

of participants became unemployed again after the program expired. In contrast to the other ALMP measures, both measures exhibit a positive lock-in effect of participation since being self-employed reduces incentives to search for free vacancies in dependent employment. In the short-run, the probability of becoming unemployed is much lower for participants as compared to non-participants. However, this result must be interpreted carefully since the observed start-ups were still subsidized during the period under consideration. In addition, evaluation studies show that SUS exhibits better results compared to BA. This can be attributed to the longer program duration of SUS (Baumgartner and Caliendo 2008; Caliendo and Kritikos 2009; Caliendo and Kritikos 2010).

Besides the goal of reducing the unemployment level, subsidized start-ups play a highly relevant role in direct job creation. The so called double dividend describes the situation in which an unemployed person not only becomes self-employed, but further lowers the unemployment rate by creating new jobs. The evaluation studies by Caliendo and Kritikos (2009, 2010) find that in the long-run, BA participants create more jobs than SUS participants.

The overall results show that promoting entrepreneurial activities is an effective tool to decrease unemployment in a sustainable way. On average, 70 percent of former participants are still self-employed after a few years and around 30 percent of subsidized start-ups had at least one employee. The current studies do not offer an explanation for this high level of job creation. The cost of funding businesses that participate in the BA program is lower than the payments made by the Federal Employment Agency to UB II recipients. This fact illustrates the remarkable cost efficiency of BA. The monetary efficiency for the SUS is negative but with respect to its success rate, it is still acceptable (for more information see Table 11).

Table 11: Micro level analyses – Bridging allowance and start-up subsidy

<i>Author(s)</i>	<i>Observation period</i>	<i>Main results</i>
Baumgartner and Caliendo (2008)	<ul style="list-style-type: none"> - Third quarter of 2003 - 28 months 	<ul style="list-style-type: none"> - Both measures exhibit high survival rates and show positive lock-in effects, since being self-employed reduces incentives to search for free vacancies in dependent employment. Participation decreases the probability of unemployment after 28 months by 27% (BA participants) and by 28.2% (SUS participants), respectively. - SUS male (female) participants spend 12.2 (9.7) months less unemployed than non-participants. The effect for BA participants is slightly lower. Hence, BA male (female) participants are unemployed on average 8.6 (9.1) months less throughout the year than non-participants. - SUS male (female) participants earn on average 600 (290) Euros per month more and BA male participants earn about 770 Euros per month more than non-participants.
Caliendo and Kritikos (2009)	<ul style="list-style-type: none"> - Years 2005 and 2006 - 5 Years 	<ul style="list-style-type: none"> - BA and SUS are both highly efficient measures. 70% (BA) and 60% (SUS) of the participants remain self-employed after 5 years. - 20% of BA and SUS participants have a regular job after 5 years. - 23% of subsidized start-ups create on average between 2.8 to 4.2 additional jobs after 2.5 years. - The ALMP measure BA is monetarily efficient, whereas the SUS is not. However, compared to other ALMP measures, SUS is still affordable.
Caliendo and Kritikos (2010)	<ul style="list-style-type: none"> - Year 2003 - 2.5 years 	<ul style="list-style-type: none"> - Relatively high survival rates of founders for both ALMP measures (around 70%). - BA participants are higher qualified than SUS participants. - Men and BA participants in general invest more into their own business as compared to women and SUS participants. 50% of the SUS participants, and 35% of the BA participants, have no start-up capital. - Between 8 and 17% of the participants (differences between program and gender) found a regular job, and only 8 to 15% were unemployed again after 2.5 years. - About 30-40% of the BA participants create on average three full-time equivalent jobs after five years and 20% of the SUS participants create 1.5 full-time equivalent jobs.

Notes: see Table 4.

Although the two programs attract different groups of unemployed individuals, some general similarities are shared. Overall, around 50 percent of the observed participants had general or specialized secondary schooling. Most business founders are between 30 and 40 years old. Further, 72 percent of BA and SUS participants are male. Personal income increased for all program participants. Recipients of the BA, however, are more likely to expand their business faster, have a higher income and create more jobs than SUS participants. The most attractive business sector for male participants in both BA and SUS is the construction sector (around 12 percent) followed by crafts. Female participants prefer “other services” (around 60 percent) (Caliendo and Kritikos 2010). A majority of female participants establish small businesses without employees and prefer the SUS program (see Table 11). A possible explanation is that women tend to be more risk averse and consequently prefer the extended financial support provided by SUS. This eases the stress of survival during the initial periods of self-employment and makes SUS more attractive for risk averse unemployed individuals (Caliendo and Kritikos 2010; Heyer et al. 2012). The number of female participants grew substantially after SUS was introduced.

In 2006, both entrepreneurship measure (BA and SUS) were replaced by the new start-up subsidy (NSUS). The NSUS is an effective tool in helping unemployed individuals reintegrate into the labour market. However, only a few studies exist that evaluate this ALMP measure, and little is known about its long-run effectiveness (see Table 12). The initial results indicate that NSUS is highly successful and able to sustainably integrate unemployed persons into the labour market. The survival rates of the funded businesses are higher than the former measures (around 80 percent). This is a good indicator of the effectiveness and the importance of the start-up promotion program. However, a longer average funding period leads to an overall decrease of the cost effectiveness of NSUS (Caliendo and Kritikos 2009; Caliendo et al. 2012; Caliendo, Künn and Weißenberger 2016).

Table 12: Micro level analyses – New start-up subsidy

<i>Author(s)</i>	<i>Observation period</i>	<i>Main results</i>
Caliendo and Kritikos (2009)	<ul style="list-style-type: none"> - 2007 - 12 months 	<ul style="list-style-type: none"> - Participants have a higher probability to remain self-employed or to be in a salaried job than non-participating unemployed individuals. - Target group of participants is nearly equal to BA participants. - 60 % of the participants were short-term unemployed persons. - Risk averse unemployed persons with lower qualifications have a lower probability to take part in the new program. Compared to the former measures, the average qualification increases due to the kind of selection bias.
Caliendo et al. (2012)	<ul style="list-style-type: none"> - Year 2009 - 6, 19 months 	<ul style="list-style-type: none"> - The majority of the evaluated start-ups are solo entrepreneurs. - 75 to 84% of participants remain self-employed or switch into a regular salaried job. - Female participants mostly become self-employed for necessity reasons. - A considerable share of participants use the firms as a supplementary income. - On average, each firm creates between 1.6 and 1.8 full-time jobs after 19 months. - Male participants create slightly more jobs than female participants. - Only 19% of the participants would have founded a firm without any funding (deadweight effect is quite low). - Start-up funding is highly important for firm survival during the first six months.
Caliendo et al. (2015)	<ul style="list-style-type: none"> - Year 2009 - 19 months 	<ul style="list-style-type: none"> - 80.7 % of subsidized business founders remain self-employed as compared to 72.6 % in the case of business founders out of regular employment. - Subsidies during the founding period compensate for initial disadvantages arising from unemployment such as special problems of obtaining financial resources (discrimination on the credit market). - Non-subsidized business founders have higher earnings than subsidized business founders. - Only 36.1% of previously subsidized business owners employ on average three full-time equivalent workers, compared to 56.5 % of regular business founders who employ on average 6 full-time equivalent workers.

Table 12: Micro level analyses – New start-up subsidy (*continued*)

<i>Author(s)</i>	<i>Observation period</i>	<i>Main results</i>
Caliendo, Künn, and Weißenberger (2016)	<ul style="list-style-type: none"> - Year 2009 - 20 to 40 months 	<ul style="list-style-type: none"> - 77 (69) % of men (women) are still self-employed after two years - The new ALMP measure is less attractive for women because they earn less and have stronger family commitments compared to men. - Attendance has a positive impact on individual income. - After 40 months, 40 (30-35) % of the male (female) participants create on average 3.6 (2.4) full-time equivalent jobs.

Notes: see Table 4.

After a significant increase in the number of participants from 2006 to 2011 (see Figure 3), the content and participation requirements of NSUS changed in an effort to address deadweight effects and save financial resources (Bundesrat 168/15). Consequently there has been a significant decline in the number of participants. The new participation requirements classify UB II receivers as having a discretionary claim. Thus, the final decision on whether or not a person qualifies for participation in the program depends on the evaluation of the local unemployment agency. The decision is based on several criteria including a positively evaluated business plan and participation in preparatory courses (see section 3.4 and Table 2). In addition, the measure's duration was shortened (from 9 to six months).

The shortened duration and stricter restrictions of NSUS not only led to a significant decline in the number of participants, it changed the participant profile. NSUS is less attractive for risk averse unemployed individuals, and initial evaluations indicate that the average age and qualification level of participants has increased (Caliendo and Kritikos 2009). The higher average qualification level of the NSUS participants is a sort of positive selection and might explain why the survival rate is higher for NSUS compared to the two former programs (Caliendo et al. 2012; Caliendo, Künn and Weißenberger 2016). NSUS participants have similar characteristics when compared to participants of the BA. However, the general purpose of entrepreneurship subsi-

dies is to decrease the barriers of starting a firm for a wide range of unemployed individuals. Since the new measure attracts only a select group of unemployed people, it does not achieve this goal. Hence, NSUS should be adjusted to increase its attractiveness for a broader range of unemployed persons, like former SUS participants.

Overall, start-up subsidies matter. The BA and SUS can be regarded as successful ALMP measures due to their high effectiveness and efficiency. NSUS, which started in 2006, exhibits similar positive effects, but long-term evaluations are still lacking. Although a direct comparison between start-up subsidy programs and other types of ALMP measures is not possible,⁶ start-up subsidies appear to be the most promising type of program. No other ALMP measure increases the labour market prospects of participants to the same extent. The survival rates of these subsidized start-ups are extremely high and exceed, in some cases, the survival rates of non-subsidized new businesses. This might be explained by the monthly payments granted by the program. It may also be, however, that formerly unemployed business founders have only minor opportunities to switch into a salaried job and, therefore, prefer to stay self-employed instead of being unemployed (Poschke 2012). Further, only start-up promotion measures are able to decrease the level of unemployment and foster the creation of additional jobs after a certain time (double dividend).

6. Macro level analyses: What is the active labour market policies' aggregated impact on the economy?

Over the last decades, the expenditures on ALMP measures in Germany exhibit an above-average increase compared to other European and OECD countries (Bohlinger 2007; Caliendo and Hogenacker 2012). This trend has led to an increased need for macro level evaluations of their effectiveness. A

⁶ Since participants in an entrepreneurship program have to found a firm, they are therefore employed. In other ALMP programs, unemployed are hopefully employed when the program expires.

macro perspective is needed because ALMP measures might exhibit positive results at the micro level, but only at the costs of the non-participants (Layard, Nickell and Jackman et al. 1991; Hujer, Caliendo and Zeiss 2004; Bohlinger 2007). As already mentioned in section 4, macro level analyses focus on the net gain of ALMP measures by taking non-participants into account, including any spillover effects (Hujer, Caliendo and Zeiss 2004).

Any macro level evaluation, however, is confronted with a number of critical challenges. The first challenge is a lack of reliable data (Hujer, Caliendo and Zeiss 2004). Data limitations restrict the researcher's ability to estimate the direct effect of ALMP measures on the matching process, employment, and the wage rate. Another challenge confounding accurate evaluations at the macro level are political reforms that lead to changes in a measure's magnitude and content (e.g. its claim and duration), such as the Hartz reforms. The impact of these adjusted measures can only be analysed after a certain period of time, and thus, an evaluation of these political changes can only be done *ex post* (Bohlinger 2007). These critical obstacles have led to a paucity of aggregate evaluations (Hujer, Caliendo and Zeiss 2004; Hujer et al. 2005; Heyer et al. 2012).⁷

Most of the following macro level studies followed Calmfors and Skedinger's (1995) strategy of analysing the effect of ALMP measures on both the unemployment level and the job seeker rate (which also includes non-participants into the labour market). Public job creation I was frequently evaluated at the macro level (see Table 13). The results and findings range from negative to positive effects in the short and the long-run depending on the observed cohort of unemployed individuals. Following the most recent evaluation studies, public job creation I has only a slight positive effect in the long-run (Fertig et al. 2006a, b; Hujer et al. 2005). Hujer, Caliendo and Thomsen (2004) argue that the measure's weak effect can be explained by lock-in

⁷ At the aggregated level, ALMP measures are not distinguished according to their sub-measures.

Table 13: Macro level analyses – Public job creation I

<i>Author(s)</i>	<i>Observation period</i>	<i>Main results</i>
Büttner and Prey (1998)	<ul style="list-style-type: none"> - Years 1986 to 1993 - 74 planning regions in West Germany 	Public job creation I leads to a decrease of structural unemployment.
Schmidt, Speckesser and Hilber (2000)	<ul style="list-style-type: none"> - Years 1994 to 1997 - 142 local labour districts 	The measure reduces long-term unemployment, but only in the short-term.
Hagen and Steiner (2001)	<ul style="list-style-type: none"> - Years 1990 to 1999 - West and East Germany 	Public job creation I leads to a significant increase of the unemployment rate.
Hujer, Caliendo and Thomsen (2004)	<ul style="list-style-type: none"> - Feb 2000 – Dec 2002 - West and East Germany 	<ul style="list-style-type: none"> - Strong lock-in effects during participation. - Public job creation I has no effect on the labour market prospects of participants. - The program should be substantially revised: shorter duration, stricter concentration on specific target groups, and more qualification elements to increase participant's skill level.
Hujer, Caliendo and Zeiss (2004)	<ul style="list-style-type: none"> - Years 1999 to 2001 - 175 German labour office districts 	<ul style="list-style-type: none"> - In West Germany, public job creation I is only able to improve the situation on the labour market in the short-run. - In East Germany, public job creation I does not effect on the job seeker rate.
Hujer et al. (2005)	<ul style="list-style-type: none"> - Years 1999 to 2001 - 175 labour office districts 	<ul style="list-style-type: none"> - In West Germany, public job creation I shows a negative effect on the job seeker rate in the short but not in the long-run. - In East Germany, public job creation I decreases unemployment in the short and the long-run, but the effect is not statistically significant.
Fertig, Kluge and Schmidt (2006)	<ul style="list-style-type: none"> - Years 2000 to 2004 - 91 regional labour market districts 	Public job creation I decreases long-term unemployment only slightly.
Hujer, Rodriguez and Wolff (2009)	<ul style="list-style-type: none"> - Years 2003 to 2005 - 141 local employment districts 	Public job creation I has no significant effect on the reduction of unemployment.

Notes: see Table 4.

effects that lead to a decreasing employability. Shorter program duration, more skill-enhancing elements, and a stricter concentration on specific target groups, like young unemployed persons, could lead to an improvement of the outcome. Since most evaluation studies found insignificant impacts on the unemployment level, it is not surprising that the program was not continued after 2012 (Wunsch and Lechner 2008).

Table 14: Macro level analyses – Vocational training programs

<i>Author(s)</i>	<i>Observation period</i>	<i>Main results</i>
Büttner and Prey (1998)	<ul style="list-style-type: none"> - Years 1986 to 1993 - 74 planning regions in West Germany 	Vocational training programs have no effect on labour market efficiency.
Schmidt, Speckesser and Hilber (2000)	<ul style="list-style-type: none"> - Years 1994 to 1997 - 142 local labour districts 	Vocational training programs reduce structural unemployment in the long-run.
Hagen and Steiner (2001)	<ul style="list-style-type: none"> - Years 1990 to 1999 - West and East Germany 	Vocational training programs increase the unemployment rate significantly.
Hujer, Caliendo and Zeiss (2004)	<ul style="list-style-type: none"> - Years 1999 to 2001 - 175 labour office districts 	<ul style="list-style-type: none"> - In West Germany, vocational training decreases the unemployment rate. This effect becomes stronger over time. - In East Germany, vocational training has an only minor effect on the unemployment level.
Hujer et al. (2005)	<ul style="list-style-type: none"> - Years 1999 to 2001 - 175 labour office districts 	<ul style="list-style-type: none"> - In West Germany, vocational training has a permanent negative effect on the job seeker rate. - In East Germany, the effect of vocational training programs on the job seeker rate is positive but insignificant.
Hujer, Rodriguez and Wolf (2009)	<ul style="list-style-type: none"> - Years 2003 to 2005 - 141 local employment districts 	Vocational training programs have no significant effect on the unemployment level.
Lechner and Wunsch (2009)	<ul style="list-style-type: none"> - Years 1986 to 1995 	Measure is able to decrease the unemployment rate over time.

Note: see Table 4.

The results of the macro evaluation on vocational training programs are inconclusive (see Table 14). While some evaluation studies exhibit that vocational training programs are able to decrease structural unemployment (see, e.g., Schmidt, Speckesser and Hilber 2000; Lechner and Wunsch 2009), other evaluation studies show that this measures has no effect or might even increase the unemployment rate (see e.g. Büttner and Prey 1998; Hagen and Steiner 2001; Hujer, Rodriguez and Wolf 2009). No clear results regarding differences in East and West Germany were found either. Furthermore, the results are rather sensitive to the method used (Hujer, Caliendo and Zeiss 2004; Hujer et al. 2005).

Table 15: Macro level analyses – Structural adjustment program

<i>Author(s)</i>	<i>Observation period</i>	<i>Main results</i>
Hagen and Steiner (2001)	- Years 1990 to 1999 - West and East Germany	Structural adjustment schemes contribute to a decrease of the unemployment rate in East Germany.
Hujer, Caliendo and Zeiss (2004)	- Years 1999 to 2001	In East Germany, structural adjustment schemes lead to a decreasing unemployment level.
Hujer et al. (2005)	- Years 1999 to 2001 - 175 labour office districts	In East Germany, structural adjustment schemes show a significantly negative impact on the job seeker rate in the long-run.

Notes: see Table 4.

Structural adjustment schemes are mostly used in East Germany. The evaluation studies summarized in Table 15 show that the measure has a decreasing effect on the unemployment rate in East Germany in the long-run. Due to the low number of West German participants, no evaluations for the measure's impact on the unemployment level in West Germany exist (Hagen and Steiner 2001, Hujer, Caliendo and Zeiss 2004; Hujer et al. 2005).

The macro level evaluations of short-term measures are inconclusive. The findings of Hujer and Zeiss (2006) are positive, whereas Hujer, Rodriguez, and Wolf (2009) found no effect of these measures.

The impact of the Hartz reforms on the German ALMP was evaluated by Fertig, Kluve, and Schmidt (2006) and Fahr and Sunde (2009). The studies investigate the impact of the Hartz reforms on the efficiency of the matching process. These results are also highly inconclusive. The study by Fertig, Kluve, and Schmidt (2006) shows that the Hartz reforms led to a decreasing efficiency of some sub-instruments of ALMP like short-term measures, whereas the results of Fahr and Sunde (2009) indicate that the reforms accelerated the matching process. The differences might be explained by the shorter period of time taken into consideration by the assessment of Fahr and Sunde (2009). Fahr and Sunde (2009) investigated the political reforms of 2003 and 2004 (Hartz reforms III and IV), while Fertig, Kluve and Schmidt (2006) investigated the impact of the political reforms from 2000 to 2004 (Hartz reforms I to IV). Fahr and Sunde (2009) justify their focus on a shorter time period by pointing to the fundamental change in the Federal Employment Agency's dataset with regard to computing the outflow of unemployment into employment.

The ambiguity of the results on the effectiveness of ALMP measures may have diverse reasons. First, different datasets were used in all of the studies. Second, because the evaluation studies focus on different periods of time, their results may be affected by critical and time sensitive changes in ALMP measures. Third, the empirical methodology used, namely the way of matching participants and non-participants, has a tremendous effect on the results (Calmfors and Skedinger 1995) and can be viewed as a major reason why these studies lead to different findings. The use of different specifications for the empirical analysis may result from the fact that ALMP measures are usually designed to impact a specific group of unemployed individuals. Hence, they are likely to have only a marginal effect in the whole economy.

The discussion in this section illustrates that, in most cases, ALMP is partly able to decrease the level of unemployment and have a positive effect on the labour market matching process, subsequently increasing the level of employment (Layard, Nickell and Jackman 1991; Calmfors, Forslund, and

Hemstrom 2002; Hujer, Caliendo, and Zeiss 2004; Bohlinger 2007). It is important to remember that macro level evaluations analyse the aggregate impact of ALMP programs, including the impact on non-participants. Thus, a positive result connotes that the degree of benefits received by participants is high enough to compensate for the possible disadvantages of non-participants caused by substitution or deadweight effects.

7. Future challenges of the active labour market policies in Germany

While ALMP measure face the challenge of counteracting long-term unemployment, demographic and technological changes pose new challenges that ALMP must confront. The ageing of the German workforce increases the importance of developing strategies to keep older people employed in order to compensate for the decreasing share of the economically active population (Caliendo and Hogenacker 2012; Rinne and Zimmermann 2012). Due to the steep increase in average life expectation and the simultaneous decrease of the birth rate since the 1960s, Germany's older age dependency ratio⁸, which increased in the past, will continue to increase in the future. The Federal Statistical Office (2014) predicts a significant decrease in the working population of more than 30 percent by 2060. If labour demand exceeds labour supply, firms are expected to face problems of skill mismatch due to skill shortages (Fuchs et al. 2010; Caliendo and Hogenacker 2012; Rinne and Zimmermann 2012). This raises the questions of how to maintain sustainable economic growth in the face of a shrinking workforce, and how to maintain the current social security system in the wake of an ever-growing number of older people eligible for retirement benefits. Due to the fact that only a small number of women are working full-time, one possible solution could be to create incentives for women to work full-time (Caliendo and Hogenacker 2012).

⁸ This indicator is the ratio between the number of individuals aged above 64 years and the number of persons aged between 15 and 64 years.

To compensate for the decreasing labour supply, older and female workers play a crucial role. One possibility to raise the total working population would be to elevate the retirement age, or to improve the employability of older unemployed individuals (OECD 2012). There is a widespread belief that a worker's productivity decreases with age. In Germany, this belief reduces the willingness of businesses to hire older people (Heywood et al. 2010; Caliendo and Hogenacker 2012). The studies by Malmberg et al. (2008) as well as Göbel and Zwick (2009) have shown, however, that such a productivity decrease with age does not generally apply. Börsch-Supan and Weiss (2011) have even shown that as workers age their productivity actually slightly increases.

Furthermore, due to technological changes there is a decreasing demand for routine tasks and an increasing need for highly qualified labour to handle the new technologies (Goos, Manning and Salomons 2014). Hence, policy should provide education and create incentives the workers to keep their skills up to date. Technological change and globalization lead to new demands on the labour market, as the number of low skilled jobs decrease, occupations requiring higher skills are growing. This pattern is expected to continue over the next decades and implies low employment opportunities for workers with a low educational levels (Spitz-Oener 2006; Michaels, Natraj and Van Reenen 2014). The increasing educational requirements for workers create a need for upskilling. For this reason, it may also be desirable to facility access to tertiary education in order to improve the labour supply of skilled personnel.

Besides the demographic and technological changes, ALMP should put a special focus on the accuracy of the targeting of their measures. As we pointed out in sections 5.1 to 5.3, most ALMP measures are only effective for a small group of potential participants (Koch et al. 2011). Thus, an increasing accuracy regarding the selection of the participants would increase the total effectiveness. Furthermore, since entrepreneurship promotion appears to be

one of the most effective instruments of the German ALMP, NSUS should be made more attractive for a broader range of unemployed individuals.

8. Conclusions

The German ALMP comprises a large number of measures to increase employment for different groups of unemployed workers. This review of evaluation studies shows that most ALMP measures provide positive effects only for specific groups of unemployed individuals. Some inappropriate measures may even lower the labour market prospects of unemployed worker. Thus, improving the selection process for participation in ALMP measures should be an important goal of policy writers. Reducing the number of measures would simplify the German funding system and improve efficiency. Since the current micro evaluations have shown that ALMP measures exhibit positive effects for only a few specific groups of unemployed people, the targeting of the instruments should be improved.

In spite of the more or less weak results of the micro level evaluations of the effectiveness of the German ALMP, we would like to point out that especially entrepreneurship promotion programs perform relatively well and may thus play a crucial role in the sustainable re-integration of several groups of unemployed persons. No other instrument provides such positive evaluation results in the short, medium, and long-run. The BA was the first ALMP instrument to promote start-ups out of unemployment. Evaluations of this ALMP measure show that participants who founded a firm with the support of the BA measure have quite similar characteristics compared to founders who started their businesses out of a regular employment. To make entrepreneurship promotion attractive for more groups of unemployed individuals, the SUS was introduced in the year 2003. Both measures have shown enormously high rates of re-integration into the labour market: 70 to 80 percent of the participants remained self-employed or found a job in dependent employment after a few years.

Since 2006, both measures were replaced by the NSUS to simplify the German funding system. The NSUS contains characteristics of the BA and SUS; unfortunately, the NSUS is attractive for only a select group of unemployed individuals, mainly participants who share the same characteristics as participants in the former BA measure. Although the NSUS also shows significantly positive results, the selection of the participants is biased due to the high attractiveness of the program for unemployed persons with a high employability. Thus, policy should adjust the NSUS in such a way that it increases its attractiveness for a broader range of unemployed persons, such as former SUS participants. One possibility would be to increase the duration of the NSUS making it more attractive for those unemployed individuals who are more risk averse. However, a longer duration of the measure would lead to higher costs and would contradict the goal of the 2011 reform. An alternative possibility is to provide an NSUS participant with longer duration time, but lower monthly payments ending up with the same total expenditures. This could make this measure more attractive for more risk averse unemployed individuals such as former SUS participants.

The German ALMP has to face many challenges in the future, as pointed out in section 6. Demographic changes will create a shrinking German workforce and increased average age. In particular, strategies to keep older people employed and to increase female labour market participation to address this structural challenge are desirable. Besides demographic change, technological change creates steadily growing demands with regard to the educational level of workers.

Overall, the changes and improvements of active labour market policies over the last decades tell one story, the effects have been positive. Especially the promotion of entrepreneurship has been very successful and is creating a sustainable way to integrate unemployed persons into the labour market. Therefore, labour market policies should focus on making the new start-up subsidy attractive for more target groups. Besides further changes of current ALMP measures, institutional adjustments such as elevating the re-

tirement age or creating incentives for keeping skills up to date are important to counteract demographic change and the challenge of technological transition.

Literature

- Ashenfelter, Orley and David Card (1985): Using the longitudinal structure of earnings to estimate the effect of training programs. *The Review of Economics and Statistics*, 67, 648-660.
- Baumgartner, Hans and Marco Caliendo (2008): Turning unemployment into self-employment: Effectiveness of two start-up programmes. *Oxford Bulletin of Economics and Statistics*, 70, 347-373.
- Bernhard, Sarah and Joachim Wolff (2008): *Contracting out placement services in Germany. Is assignment to private providers effective for needy jobseekers?* IAB discussion paper 5/2008, Nuremberg: Institut für Arbeitsmarkt- und Berufsforschung der Bundesagentur für Arbeit.
- Bernhard, Sandra, Katrin Hohmeyer, Eva Jozwiak, Susanne Koch, Thomas Kruppe, Gesine Stephan and Joachim Wolff (2009): Aktive Arbeitsmarktpolitik in Deutschland und ihre Wirkungen. In: Joachim Müller and Ulrich Walwei (eds.), *Handbuch Arbeitsmarkt*, Bielefeld: Bertelsmann Verlag, 149-201.
- Bernhard, Sarah and Thomas Kruppe (2010): *Vermittlungsgutscheine für Arbeitslose: Oft ausgegeben und selten eingelöst*. IAB-Kurzbericht 21/2010, Nuremberg: Institut für Arbeitsmarkt- und Berufsforschung der Bundesagentur für Arbeit.
- Bernhard, Sarah and Thomas Kruppe (2012): Effectiveness of Further Vocational Training in Germany - Empirical Findings for Persons Receiving Means-tested Unemployment Benefits. *Schmollers Jahrbuch*, 132, 501-526.
- Biewen, Martin, Bernd Fitzenberger, Aderonke Osikominu and Marie Waller (2007): *Which program for whom? Evidence on the comparative effectiveness of public sponsored training programs in Germany*. IZA discussion paper 2885, Bonn: Institute of Labor Economics.
- Bohlinger, Sandra (2007): Zur Wirksamkeit von Maßnahmen aktiver Arbeitsmarktpolitik. *Arbeit - Zeitschrift für Arbeitsforschung, Arbeitsgestaltung und Arbeitspolitik*, 16, 132-147.
- Bonin, Holger and Hilmar Schneider (2006): Wirksamkeit der Förderung der beruflichen Weiterbildung vor und nach den Hartz-Reformen. *Wirtschaftspolitische Blätter*, 2, 161-172.
- Bonoli, Giuliano (2010): The political economy of active labor-market policy. *Politics & Society*, 38, 435-457.
- Boockmann, Bernhard, Thomas Zwick, Andreas Ammermüller and Michael Maier (2007): *Do hiring subsidies reduce unemployment among the elderly? Evidence from two natural experiments*. ZEW discussion paper 07-001, Mannheim: Zentrum für Europäische Wirtschaftsforschung.

- Bruttel, Oliver (2005): Delivering active labor market policy through vouchers – experiences with training vouchers in Germany. *International Review of Administrative Sciences*, 71, 391-404.
- Bugzel, Christian (2011): Handreichung mit Regelungen zu Maßnahmen der aktiven Arbeitsmarktförderung. *Arbeitskreis Rahmenrichtlinien und Empfehlungen*, 3, Recklinghausen: Jobcenter Recklinghausen.
- Büttner, Thiess and Hedwig Prey (1998): *Does active labour market policy affect structural unemployment? An empirical investigation for West German regions, 1986 to 1993*. Discussion Paper No. 42, Konstanz: Center for International Labor Economics (CILE).
- Börsch-Supan, Axel and Matthias Weiss (2011): *Productivity and age: Evidence from work teams at the assembly line*. MEA Discussion Paper Series 07145, Maastricht: Maastricht University School of Business and Economics, Graduate School of Business and Economics (GSBE).
- Caliendo, Marco, Reinhard Hujer and Stephan Thomsen (2004): Evaluation der Eingliederungseffekte von Arbeitsbeschaffungsmaßnahmen in reguläre Beschäftigung für Teilnehmer in Deutschland. *Journal for Labour Market Research*, 37, 211-237.
- Caliendo, Marco, Reinhard Hujer and Stephan Thomsen (2005): The Employment Effects of Job Creation Schemes in Germany - A Microeconomic Evaluation. In: Tom Fomby, Carter Hill, Daniel L. Millimet, Jeffrey A. Smith and Edward J. Vytlačil (eds.), *Modelling and Evaluating Treatment Effects in Econometrics*, Bonn: Emerald Group Publishing Limited, 381-428.
- Caliendo, Marco and Viktor Steiner (2005): Aktive Arbeitsmarktpolitik in Deutschland: Bestandsaufnahme und Bewertung der mikroökonomischen Evaluationsergebnisse. *Zeitschrift für Arbeitsmarktforschung*, 38, 396-418.
- Caliendo, Marco and Alexander Kritikos (2009): Die reformierte Gründungsförderung für Arbeitslose – Chancen und Risiken. *Perspektive der Wirtschaftspolitik*, 10, 189-213.
- Caliendo, Marco and Alexander Kritikos (2010): Start-ups by the unemployed: characteristics, survival and direct employment effects. *Small Business Economics*, 35, 71-92.
- Caliendo, Marco, Jens Hogenacker, Steffen Künn and Frank Wießner (2012): Alte Idee, neues Programm: Der Gründungszuschuss als Nachfolger von Überbrückungsgeld und Ich-AG. *Journal for Labour Market Research*, 45, 99-123.
- Caliendo, Marco and Jens Hogenacker (2012): The German labor market after the Great Recession: successful reforms and future challenges. *Journal of European Labor Studies*, 1, 1-24.

- Caliendo, Marco, Jens Hogenacker, Steffen Künn and Frank Wießner (2015): Subsidized start-ups out of unemployment: a comparison to regular business start-ups. *Small Business Economics*, 45, 165-190.
- Caliendo, Marco, Steffen Künn and Martin Weißenberger (2016): Personality traits and the evaluation of start-up subsidies. *European Economic Review*, 86, 87-108.
- Calmfors, Lars (1994): Active Labour Market Policy and Unemployment. *OECD Economic Studies*, 22, 7-47.
- Calmfors, Lars and Per Skedinger (1995): Does active labour-market policy increase employment? Theoretical considerations and some empirical evidence from Sweden. *Oxford Review of Economic Policy*, 11, 91-109.
- Calmfors, Lars, Anders Forslund and Maria Hemstrom (2002): Does active labour market policy work? Lessons from the Swedish experiences. CE-Sifo Working Paper Series No. 675, Munich: Center for Economic Studies & Ifo Institute for Economic Research.
- Cunha, Flavio and James Heckman (2008): Formulating, identifying and estimating the technology of cognitive and noncognitive skill formation. *Journal of Human Resources*, 43, 738-782.
- Dann, Sabine et al. (2005): *Arbeitsmarktpolitik, Vermittlungsgutscheine auf dem Prüfstand*. IAB-Kurzbericht 05/2005, Nuremberg: Institut für Arbeitsmarkt- und Berufsforschung der Bundesagentur für Arbeit.
- Deutscher Bundesrat (2015): Drucksache 168/15, Bericht der Bundesregierung über die Umsetzung der Neuregelung zum Gründungszuschuss mit dem Gesetz zur Verbesserung der Eingliederungschancen am Arbeitsmarkt, Bonn: Deutscher Bundesrat.
- Fahr, René and Uwe Sunde (2009): Did the Hartz Reforms Speed-Up the Matching Process? A Macro-Evaluation Using Empirical Matching Functions. *German Economic Review*, 10, 284-316.
- Fertig, Michael, Jochen Kluve and Christoph Schmidt (2006): Die makroökonomische Wirkung aktiver Arbeitsmarktpolitik – eine Panelanalyse auf Ebene regionaler Arbeitsmärkte. *Zeitschrift für Arbeitsmarktforschung*, 3, 575-601.
- Fertig, Michael, Christoph Schmidt and Hilmar Schneider (2006): Active labor market policy in Germany – is there a successful policy strategy? *Regional Science and Urban Economics*, 36, 399-430.
- Fitzenberger, Bernd and Reinhard Hujer (2002): Stand und Perspektiven der Evaluation der aktiven Arbeitsmarktpolitik in Deutschland. *Perspektiven der Wirtschaftspolitik*, 3, 139-158.
- Fitzenberger, Bernd and Stefan Speckesser (2007): Employment effects of the provision of specific professional skills and techniques in Germany. *Empirical Economics*, 32, 529–573.

- Fitzenberger, Bernd, Aderonke Osikominu and Robert Völter (2008): Get training or wait? Long-run employment effects of training programs for the unemployed in West Germany. *Annales d'Économie et de Statistique*, 91-92, 321-355.
- Fitzenberger, Bernd, Aderonke Osikominu and Marie Paul (2010): *The heterogeneous effects of training incidence and duration on labor market transition*. IZA discussion paper 5269, Bonn: Institute of Labor Economics.
- Fritsch, Michael and Joern Mallok Fritsch (1998): Surviving the Transition: The Process of Adaptation of Small and Medium-Sized Firms in East-Germany. In: Horst Brezinski, Egon Franck and Michael Fritsch (eds.), *The Microeconomics of Transformation and Growth*, Cheltenham: Edward Elgar Publishers, 163-184.
- Fritsch, Michael (2013): New business formation and regional development: A survey and assessment of the evidence. *Foundations and Trends in Entrepreneurship*, 9, 249-364.
- Fritsch, Michael, Elisabeth Bublitz, Alina Sorgner und Michael Wyrwich (2014): How much of a socialist legacy? The re-emergence of entrepreneurship in the East German transformation to a market economy. *Small Business Economics*, 43, 427-446.
- Fuchs, Johann, Markus Hummel, Sabine Klinger, Eugen Spitznagel, Susanne Wagner and Gerd Zirka (2010): *Der Arbeitsmarkt schließt an den vorherigen Aufschwung an*. IAB-Kurzbericht 18/2010, Nuremberg: Institut für Arbeitsmarkt- und Berufsforschung der Bundesagentur für Arbeit.
- Goos, Maartem, Alan Manning and Anna Salomons (2014): Explaining job polarization: Routine-biased technological change and offshoring. *The American Economic Review*, 104, 2509-2526.
- Göbel, Christian and Thomas Zwick (2009): *Age and productivity-Evidence from linked employer employee data*. ZEW Discussion Paper 09-020, Mannheim: Zentrum für Europäische Wirtschaftsforschung.
- Hagen, Tobias and Viktor Steiner (2000): Von der Finanzierung der Arbeitslosigkeit zur Förderung von Arbeit. *ZEW Wirtschaftsanalysen*, 51, Baden-Baden: Nomos.
- Hartig, Martina, Eva Jozwiak and Joachim Wolff (2008): *Trainingsmaßnahmen - Für welche unter 25-jährigen Arbeitslosengeld-II-Empfänger erhöhen sie die Beschäftigungschancen?* IAB-Forschungsbericht 06/2008, Nuremberg: Institut für Arbeitsmarkt- und Berufsforschung der Bundesagentur für Arbeit.
- Hartmann, Josef (2004): *Lohnkostenzuschüsse und Integration schwer vermittelbarer Personen in den ersten Arbeitsmarkt*. Beiträge zur Arbeitsmarkt- und Berufsforschung, 284, Nuremberg: Institut für Arbeitsmarkt- und Berufsforschung der Bundesagentur für Arbeit.
- Heinze, Anja, Friedhelm Pfeiffer, Alexander Spermann and Henrik Winterhager (2005): *Vermittlungsgutscheine, Zwischenergebnisse der Begleitfor-*

- schung 2004, Teil III: Mikroökonomische Wirkungsanalyse*, IAB Forschungsbericht 3/2005, Nuremberg: Institut für Arbeitsmarkt- und Berufsforschung der Bundesagentur für Arbeit.
- Heyer, Gerd, Susanne Koch, Gesine Stephan and Joachim Wolff (2012): Ein Sachstandsbericht für die Instrumentenreform. *Journal for Labour Market Research*, 45, 41-62.
- Heywood, John, Uwe Jirjahn and Georgi Tsertsvardze (2010): Hiring older workers and employing older workers: German evidence. *Journal of Population Economics*, 23, 595-615.
- Hohmeyer, Katrin and Joachim Wolff (2007): *A fistful of euros - does one-euro-job participation lead means-tested benefit recipients into regular jobs and out of unemployment benefit II receipt?* IAB discussion paper 32/2007, Nuremberg: Institut für Arbeitsmarkt- und Berufsforschung der Bundesagentur für Arbeit.
- Hohmeyer, Kathrin and Joachim Wolff (2010): *Direct job creation in Germany revisited - is it effective for welfare recipients and does it matter whether participants receive a wage?* IAB discussion paper 21/2010, Nuremberg: Institut für Arbeitsmarkt- und Berufsforschung der Bundesagentur für Arbeit.
- Hujer, Reinhard, Marco Caliendo and Christopher Zeiss (2004): Macroeconometric evaluation of active labour-market policy – a case study for Germany. In: Pascaline, Descy and Manfred Tessaring (eds.), *Impact of education and training - Third report on vocational training research in Europe*, Luxembourg: Office for Official Publications of the European Communities, 179-214.
- Hujer, Reinhard, Marco Caliendo and Stephan Thomsen (2004): New evidence on the effects of job creation schemes in Germany - a matching approach with threefold heterogeneity. *Research in Economics*, 58, 257-302.
- Hujer, Reinhardt, Uwe Blien, Marco Caliendo and Christopher Zeiss (2005): Macroeconometric Evaluation of Active Labour Market Policies in Germany - A Dynamic Panel Approach Using Regional Data. In: Floro Carleo and Sergio Destefanis (eds.), *Regions, Europe and the Labour Market. Recent Problems and Developments*, Heidelberg: Physica, 287-309.
- Hujer, Reinhardt and Christopher Zeiss (2006): *Macroeconomic effects of short-term training measures on the matching process in western Germany*. Discussion Paper 2489, Bonn: Institute of Labor Economics.
- Hujer, Reinhardt, Stephan Thomsen and Christopher Zeiss (2006): *The effects of short-term training measures on the individual unemployment duration in West Germany*. ZEW-discussion paper 06-065, Mannheim: Zentrum für Europäische Wirtschaftsforschung.

- Hujer, Rheinhard, Paul Rodriguez and Katja Wolf (2009): Estimating the macroeconomic effects of active labor market policies using spatial econometric methods. *International Journal of Manpower*, 30, 648-671.
- Jaenichen, Ursula (2002): Wage subsidies and individual unemployment: analyses on the basis of combined survey and process data using propensity score matching. *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung*, 35, 327-351.
- Jaenichen, Ursula (2005): Lohnkostenzuschüsse und individuelle Beschäftigungschancen. *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung (mittAB)*, 294, 137-156.
- Jozwiak, Eva and Joachim Wolff (2007): *Wirkungsanalyse: Kurz und bündig – Trainingsmaßnahmen im SGB II*. IAB-Kurzbericht 24/2007, Nuremberg: Institut für Arbeitsmarkt- und Berufsforschung der Bundesagentur für Arbeit.
- Kaltenborn, Bruno, Gerhard Krug, Helmut Rudolph, Claudia Weinkopf and Eberhard Wiedermann (2005): *Evaluierung der arbeitsmarktpolitischen Sonderprogramme CAST und Mainzer Model*. Forschungsbericht No. 552, Nuremberg: Institut für Arbeitsmarkt- und Berufsforschung der Bundesagentur für Arbeit, 1-76.
- Koch, Susanne, Michael Kvasnicka and Joachim Wolff (2010): *Ein neues Instrument als Ultima Ratio*. IAB-Kurzbericht 2/2010, Nuremberg: Institut für Arbeitsmarkt- und Berufsforschung der Bundesagentur für Arbeit.
- Koch, Susanne, Christiane Spiel, Gesine Stephan and Joachim Wolff (2011): Kurz vor der Reform: Arbeitsmarktinstrumente auf dem Prüfstand. *IAB-Kurzbericht* 11/2011, Nuremberg: Institut für Arbeitsmarkt- und Berufsforschung der Bundesagentur für Arbeit.
- Koellinger, Philipp and Roy Thurik (2012): Entrepreneurship and the business cycle. *Review of Economics and Statistics*, 94, 1143-1156.
- Kruppe, Thomas (2006): *Private Vermittlung als Unterstützung, Eine Evaluation von Vermittlungsgutscheinen und Beauftragungen Dritter*. Beiträge zur Arbeitsmarkt- und Berufsforschung, 301, Nuremberg: Institut für Arbeitsmarkt- und Berufsforschung der Bundesagentur für Arbeit.
- Layard, Richard, Stephen Nickell and Richard Jackman (1991): *Unemployment - Macroeconomic Performance and the Labour Market*, New York: Oxford University Press.
- Lechner, Michael and Conny Wunsch (2006): Active labour market policy in East Germany - waiting for the economy to take off. *Economics of Transition*, 17, 661-702.
- Lechner, Michael, Ruth Miquel and Conny Wunsch (2007): The curse and blessing of training the unemployed in a changing economy: the case of East Germany after unification. *German Economic Review*, 8, 468-509.

- Lechner, Michael and Conny Wunsch (2009): Are training programs more effective when unemployment is high? *Journal of Labor Economics*, 27, 653-692.
- Lechner, Michael, Ruth Miquel and Conny Wunsch (2011): Long-run effects of public sector sponsored training in West Germany. *Journal of the European Economic Association*, 9, 742-784.
- Malmberg, Bo, Thomas Lindh and Max Halvarsson (2008): Productivity Consequences at the Plant Level of Work-Force Ageing: Stagnation or a Horndal Effect? *Population and Development Review*, 34, 238-256.
- Michaels, Guy, Ashwini Natraj and John Van Reenen (2014): Has ICT Polarized Skill Demand? Evidence from Eleven Countries over Twenty-Five Years. *The Review of Economics and Statistics*, 96, 60-77.
- OECD (2012): *Employment Outlook - Moving Beyond the Crisis*. Paris: OECD.
- Perry, Geoff (2006): *Are business start-up subsidies effective for the unemployed: Evaluation of enterprise allowance*, Working paper, Auckland: Auckland University of Technology.
- Pfeiffer, Friedhelm and Frank Reize (2000): Business start-ups by the unemployed-an econometric analysis based on firm data. *Labour Economics*, 7, 629-663.
- Pfeiffer, Friedhelm and Henrik Winterhager (2006): Selektivität und direkte Wirkungen von Vermittlungsgutscheinen, Empirische Befunde aus der Einführungsphase. *Perspektiven der Wirtschaftspolitik*, 7, 395-415.
- Poschke, Markus (2012): Entrepreneurs out of necessity- a snapshot. *Applied Economic Letters*, 20, 658-663.
- Rinne, Ulf, Marc Schneider and Arne Uhlendorff (2011): Do the skilled and prime aged unemployed benefit more from training? Effect heterogeneity of public training programmes in Germany. *Applied Economics*, 43, 3465-3494.
- Rinne, Ulf and Klaus Zimmermann (2012): Another economic miracle? The German labor market and the Great Recession. *Journal of Labor Policy*, 1, 1-21.
- Schmid, Günther, Stefan Speckesser and Cristoph Hilber (2000): Does active labour market policy matter? An aggregate impact analysis for Germany. In: Jaap Koning and Hugh Mosley (eds.), *Labour Market Policy and Unemployment: Impact and Process Evaluations in Selected European Countries*, Cheltenham: Edward Elgar, 77-114.
- Federal Statistical Office (2014): *Statistisches Jahrbuch 2013*. Statistischen Bundesamt, Wiesbaden.
- Stephan, Gesine and André Pahnke (2011): The relative effectiveness of selected active labor market programs - an empirical investigation for Germany. *The Manchester School*, 79, 1262-1293.

- Storey, David (2003): Entrepreneurship, small and medium sized enterprises and public policies. In: David Audretsch and Zoltan Acs (eds.), *Handbook of entrepreneurship research*. Boston/ Dordrecht: Springer US, 2003, 473-511.
- Spitz-Oener, Alexandra (2006): Technical change, job tasks, and rising educational demands: looking outside the wage structure. *Journal of Labor Economics*, 24, 235-270.
- Wießner, Frank (1998): Das Überbrückungsgeld als Instrument der Arbeitsmarktpolitik – eine Zwischenbilanz. *Mitteilungen aus der Arbeitsmarkt- und Berufsforschung (mittAB)*, 31, 122-142.
- Wolff, Joachim and Kathrin Hohmeyer (2008): *Wirkungen von Ein-Euro-Jobs: Für ein paar Euro mehr*. IAB-Kurzbericht 02/2008, Nuremberg: Institut für Arbeitsmarkt- und Berufsforschung der Bundesagentur für Arbeit.
- Wolff, Joachim and Eva Jozwiak (2007): *Does short-term training activate means-tested unemployment benefit recipients in Germany?* IAB discussion paper 29/2007, Nuremberg: Institut für Arbeitsmarkt- und Berufsforschung der Bundesagentur für Arbeit
- Wolff, Joachim, Sandra Popp and Cordula Zabel (2010): Ein-Euro-Jobs für hilfebedürftige Jugendliche. Hohe Verbreitung, geringe Integrationswirkung. *WSI-Mitteilungen*, 63, 11-18.
- Wunsch, Conny and Michael Lechner (2008): What did all the money do? On the general ineffectiveness of recent West German labour market programmes. *Kyklos*, 61, 134–174.
- WZB, infas (2005): *Zwischenbericht zum „Modul 1a: Neuausrichtung der Vermittlungsprozesse“ im Rahmen der Evaluation der Maßnahmen zur Umsetzung der Vorschläge der Hartz-Kommission*, Berlin/Bonn.
- WZB, infas (2006): *Endbericht zum „Modul 1a: Neuausrichtung der Vermittlungsprozesse“ im Rahmen der Evaluation der Maßnahmen zur Umsetzung der Vorschläge der Hartz-Kommission*, Berlin/Bonn.
- ZEW, IAB, IAT (2006): *Endbericht zum „Modul 1d, Eingliederungszuschüsse und Entgeltsicherung“ im Rahmen der Evaluation der Maßnahmen zur Umsetzung der Vorschläge der Hartz-Kommission*, Nuremberg/Gelsenkirchen/Mannheim.
- ZEW, IAB, tns emnid (2008): *Endbericht zur Evaluation der Experimentierklausel nach § 6c SGB II – Vergleichende Evaluation des arbeitsmarktpolitischen Erfolgs der Modelle der Aufgabenwahrnehmung „Zugelassener kommunaler Träger“ und „Arbeitsgemeinschaft“, Untersuchungsfeld 3: „Wirkungs- und Effizienzanalyse“*, Nuremberg/Gelsenkirchen/Mannheim.
- Zwick, Thomas (2011): *Why training older employees is less effective*. ZEW Discussion Paper 11-046, Mannheim: Zentrum für Europäische Wirtschaftsforschung.