

# Effective employment policy under tight fiscal constraints:

An application using the GEL model

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#### **Main findings**

- Countries have stretched their fiscal space in dealing with the consequences of the global crisis. In G20 advanced economies, public debt reached, on average, 79 per cent of GDP in 2011, compared with 56 per cent in 2007. In emerging economies, the figures are 40 per cent and 36 per cent, respectively. Ensuring fiscal consolidation has therefore become a major medium-term priority for a number of countries. At the same time, however, it is crucial for advanced economies to boost employment, and for emerging and developing countries to support quality jobs and social protection. These employment policies may require some fiscal spending in the short term, but the chapter shows that, if well-designed, employment policies will boost the recovery while at the same time supporting fiscal goals over the medium term. When complemented with an adequate tax base, as identified in Chapter 5, employment programmes are a crucial component of a strategy for sustainable recovery.
- The chapter is based on four simulations produced by the Global Economic Linkages model. First, it is shown that spending cuts that lead to an increase in unemployment will tend to erode the tax base, exert upward pressure on social budgets and thus significantly reduce – and in some cases entirely eliminate – the fiscal savings associated with the spending cut.
- Second, so-called active labour market policies (ALMPs) which effectively support job searching among unemployed workers can boost labour market participation. It is estimated that an increase in spending on ALMPs by only 0.5 per cent of GDP will increase employment by between 0.2 per cent and 1.2 per cent over the medium term, depending on the country. This result

<sup>1.</sup> Important contributions were made by Slim Bridji and excellent research assistance was provided by Federico Curci (IILS).

arises because ALMPs have a double benefit in terms of both stimulating demand and improving matching between jobseekers and any vacancies which may arise as a result of increased demand and output.

- Third, carefully designed unemployment benefits can provide much-needed income support, keep workers attached to the labour market and, if combined with active measures such as training, prevent skills erosion. As such, benefit measures of this nature can speed up the employment recovery and lower unemployment over the near term. In addition, over the medium term, early support in times of crisis pays off through both a reduced risk of labour market exclusion and gains in productivity. At the same time, such passive and active labour market policies typically come at a moderate fiscal cost, often below 2 per cent of GDP, even in countries with well-developed income support systems.
- Fourth, the quality of social dialogue matters. In particular, efficient collective bargaining helps to improve the employment reaction to macroeconomic measures the impact on employment is up to twice as high as in situations without effective social dialogue. This is because in certain circumstances worker and employer organizations can help improve the design of employment measures while also ensuring social support for a pro-employment strategy which is central to addressing issues related to social unrest raised in Chapter 1.

#### Introduction

Safeguards to limit the fallout in the financial sector and stimulus packages to prop up aggregate demand have pushed up public debt in most advanced economies, and in some emerging economies. Many countries are facing rapidly worsening sovereign debt problems, with potentially large negative spillover effects on private investment and job creation. Resolving both pre-crisis and crisis-related imbalances, however, takes time, perpetuating labour market challenges and making crisis exit more complicated. Nevertheless, the current policy space within which further action can be taken to spur job creation and place the global economy on a stable recovery path is limited – and deteriorating.

This is particularly problematic given that, as Chapter 1 highlighted, there are risks of an employment double dip. Already, in the majority of countries employment growth is slowing – and in some instances is negative. In a situation of tight fiscal space and large central bank balance sheets, policy actions have to be assessed carefully with respect to both their employment and budgetary impacts. This chapter demonstrates the employment creation potential of cost-effective policy measures as advocated in the ILO's Global Jobs Pact.

The first part of this chapter presents a brief overview of the fiscal challenges faced by governments around the world. The second part examines the employment potential inherent in the adoption of core policies of the ILO's Global Jobs Pact, taking the limited fiscal space available into account.

#### A. Fiscal challenges

#### Debt levels have increased dramatically ...

Governments across the globe reacted quickly and decisively to the abrupt downturn in world GDP growth at the end of 2008, stimulating their economies with between 2 per cent and 5 per cent of GDP in government spending and tax cuts. Despite recent efforts to rein in spending and to reduce budget deficits, government debt levels have increased significantly in advanced economies (table 6.1). In contrast, the rise in debt levels in emerging economies has slowed, or even reversed, in the past year.

#### ... leading to widening interest rate spreads and increased debt burden.

Increased debt levels, budget deficits and worries about the future of the euro area itself have also led to a deterioration of borrowing conditions as government bond spreads with respect to German bonds have widened considerably. While borrowing conditions for Greece, Ireland and Portugal have been dire for some time, large economies such as France and Italy, and even countries such as the Netherlands, have seen widening risk spreads in the past months. Conversely, non-euro countries, such as the United Kingdom and the United States, have seen lowering spreads vis-à-vis German bonds. Higher interest rates increase not only the cost of new debt, but also the cost of rolling over existing debt, thus placing large costs on highly indebted countries.

As a consequence, most advanced economies lack fiscal space, be it either for political reasons (as in the United States) or due to increasing borrowing costs. Unfortunately, with a double dip in employment looming ahead for the world economy, countries will require every bit of fiscal space available. Thus, both spending and tax instruments need to be redesigned to maximize their impact on employment while having a minimum impact on the budget deficit.

Table 6.1 Public debt dynamics in G20 countries					
	Emerging non-EU	Advanced non-EU	Emerging EU	Advanced EU	
2008	43.5 (40.6)	93.3 (75.6)	38.6 (28.9)	65.8 (55.5)	
2009	46.2 (41.5)	109.3 (86.9)	43.8 (38.0)	76.2 (64.0)	
2010	44.4 (39.0)	114.3 (89.8)	48.9 (42.7)	81.9 (70.0)	
2011	42.2 (37.1)	122.0 (94.4)	50.1 (45.0)	85.0 (74.8)	

Note: The table presents the GDP-weighted (unweighted) average gross government debt as percentage of GDP.

Country groupings: Emerging non-EU: Argentina, Brazil, India, Indonesia, Mexico, Russian Federation, Saudi Arabia, South Africa and Turkey; Advanced non-EU: Australia, Canada, Japan, Republic of Korea and the United States; Advanced EU: Austria, Belgium, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden and United Kingdom; Emerging EU: Czech Republic, Latvia, Poland, Slovak Republic and Slovenia.

Source: IMF World Economic Outlook, September 2011

#### B. Employment policies under tight fiscal conditions

Chapter 5 presented various measures that countries can introduce to broaden their tax base and increase their tax revenue – as opposed to relying excessively on spending cuts. Indeed, this section demonstrates that ill-conceived spending cuts will increase unemployment, decrease the tax base and increase expenditures on programmes related to inactivity. The net effect is a further erosion of the fiscal position.

With this in mind, this section presents policy measures to be taken in the face of a limited fiscal space and slowing job creation. There are two criteria for successful policy measures in this context: (i) they should have a significant impact on employment; and (ii) they should take into account the available fiscal space. Such an approach is possible by strengthening labour market institutions and through the implementation of both active and passive labour market policies. Labour market institutions have been weakened by the crisis, while labour market policy spending has been underutilized by government. The *World of Work Report 2010* (Chapter 3) shows that the composition of fiscal stimulus measures in G20 countries has been biased toward tax measures and infrastructure spending, which account for 28 per cent and 32 per cent of the total package size, respectively. Contrastingly, active and passive labour market spending accounts for 2.5 per cent and 2.1 per cent of the total package size, respectively.

To address the twin challenges of spurring job creation under constrained budgets, the Global Economic Linkages (GEL) model has been extended to include detailed accounts of labour market flows and assessments of various potential policy responses (see Appendix A). The GEL modelling platform is used to discuss four important labour market features: (i) spending cuts; (ii) active labour market policies (ALMPs); (iii) unemployment benefits; and (iv) social dialogue.

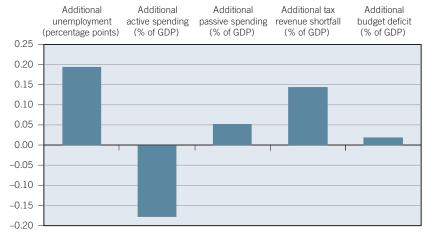
# Ill-conceived budget cuts affect employment and complicate the achievement of fiscal goals in the medium term ...

Poorly designed spending cuts can in fact worsen the fiscal balance and have a negative impact on the economic outlook. This occurs through three main channels. First, budget cuts negatively affect aggregate demand. Second, when targeted towards investment and employment, reduced spending may adversely affect the productive capacities of firms. Third, the recessionary effect of spending cuts leads to a reduction in the tax base and an increase in automatic spending. In the case of cuts to spending on ALMPs, the net fiscal effect can be negative, with adverse effects on unemployment also.

Indeed, simulations with the GEL model show that a cut in ALMP spending will actually cause a further increase in the budget deficit as well as a rise in unemployment (figure 6.1). More specifically, the baseline scenario assumes a recession that increases unemployment by 2 per cent, which increases unemployment benefit payments and erodes the tax base. In addition, if the government were to cut active labour market spending in response to the increased deficit, unemployment would increase a further 0.2 per cent, thereby increasing the unemployment cost of the recession by 10 per cent.

Moreover, increased unemployment erodes the tax revenue even further, by 0.15 per cent of GDP, as well as requiring increased spending on unemployment benefits of 0.05 per cent of GDP. Thus, the net effect on the fiscal deficit of a cut

Figure 6.1 Employment and fiscal impact of a budget cut



Note: The GEL model is subjected to a productivity shock leading to a 2 per cent increase in the unemployment rate. The graph shows the effect of cutting active labour market spending by 0.18 per cent of GDP. Passive spending (on unemployment benefits) and revenues from labour tax income fall further by a total of 0.2 per cent of GDP, thus causing a net negative effect on the fiscal budget.

Source: GEL with active labour market policies, Bridji and Charpe (2010a).

in ALMP spending will be negative, while at the same time unemployment will be increased.

This example shows that budgetary cuts have to be carefully considered with respect to their direct and indirect effects. Of course, the indirect effects of a spending cut will be much smaller in countries with a low reliance on labour taxes and with small automatic stabilizers. In such countries, the costs of a spending cut will be borne directly by households.

# ... whereas increased emphasis on active labour market policies would yield positive output and employment gains ...

Traditional fiscal tools such as tax cuts and infrastructure spending aim to stimulate the economy, taking it for granted that employment creation will follow. In contrast, ALMP spending targets the challenge of unemployment more directly, for instance by providing job-search support and skills upgrading. As such, it is potentially more powerful than traditional fiscal tools.

ALMPs take various forms, such as public employment services or training provision. Empirical evidence on the efficiency of ALMPs is mixed. Studies sometimes point to the perverse effects associated with these measures, such as the locking-in effect which reduces the search intensity of unemployed workers. It seems, however, that ALMP spending yields positive outcomes when the empirical studies control for the various forms of this spending. In particular, labour market training and public employment services are more effective than subsidized jobs (see Boon and van Ours, 2004).

Case studies also underline that the way these measures are implemented in practice is a key component of their success. The effectiveness of training programmes and job-search assistance depends on the resources at the disposal of public employment services. The staff to client ratio fluctuates between 1:75 and 1:150 across countries. These policies also have to target disadvantaged workers, rather than entire groups, to limit deadweight costs. For instance, training programmes for youth workers have often disproportionately benefited high-skilled workers rather than more disadvantaged young workers.

#### ... with minimal impact on fiscal balances in the short term ...

The value added of the analysis presented here is that the benefits of ALMP spending takes into account the general equilibrium effects, while existing studies only consider partial equilibrium effects. The approach therefore considers both the positive supply-side effect of increased efficiency of the labour market and the negative impact on the private sector financing these measures. Indeed, the model reveals that ALMP spending is associated with large increases in production and employment. In particular, figure 6.2 demonstrates that the employment multipliers associated with ALMP spending are positive, and in some cases quite large. The figure presents the percentage increase in employment two years after an increase in ALMP spending equal to 0.5 per cent of GDP, as it takes time for some measures to become fully effective. The multiplier ranges from 0.2 in Denmark to 1.2 in the United States. The multipliers are typically larger when countries currently spend relatively little on ALMPs (decreasing returns to scale), thus lowering the costs of job creation. For instance, as many as 1.7 million jobs could be created in the United States and 262,000 in the United Kingdom.

In terms of policy recommendations, countries with the lowest ALMP spending to GDP ratio are likely to harvest the largest benefit from conducting such policies. This also implies that countries not yet engaged in ALMPs will be able to reap large benefits from introducing such programmes. It is important to keep in mind, however, that the design of programmes is equally important in terms of policy effectiveness.

ALMP spending facilitates the matching of unemployed workers to vacancies within firms on the labour market. The greater efficiency of the labour market then leads to higher levels of employment by firms. Moreover, where there is a low spending to GDP ratio, the output effect is sufficiently strong that it completely overcomes the crowding-out effect on consumption and investment associated with the spending's use of resources. In these circumstances, consumption and investment are crowded in by fiscal intervention. It therefore follows that the multiplier can be

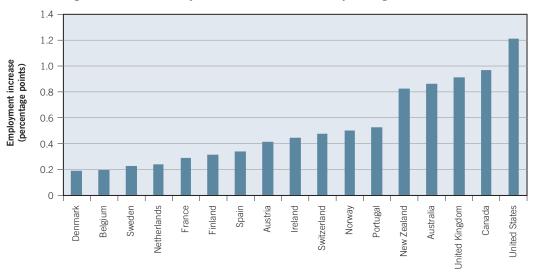


Figure 6.2 Efficiency of active labour market spending

Note: The graph displays the increase in employment expected two years after an active labour market spending programme equivalent to 0.5 per cent of GDP.

#### Box 6.1 Reinforced public employment services: The case of Germany

In an attempt to improve the ratio of unemployed persons to caseworkers, Germany's first two stimulus packages announced measures to recruit, on a short-term basis, 1,000 and 4,000 additional staff. The efforts to recruit additional staff are an attempt to improve the effectiveness of service delivery to unemployed persons. A new law states that the ratio of staff to clients among longer-term unemployed should be reduced to 1.75 (for persons under 25) and 1.150 (for persons 25 and over). Currently, the ratio is 1.85 for youth and 1.158 for adults.

Meanwhile, the public employment service (PES) in Germany allocated €1.12 billion in 2009 for training purposes – of which €200 million was targeted to re-employ temporary workers (in the same firm) and another €770 million for the extension of a re-education programme for older and low-skilled workers. Moreover, the federal Government, through loan provisions and grants, has ensured that the PES can run a deficit during times of crisis. This means the PES can function as an automatic stabilizer, i.e. there is no disruption in benefits and programmes or increases in contribution rates during downturns.

Source: ILO, 2011a.

larger than 1. Thus, ALMP spending has a high employment effect for small spending increases, making it the ideal instrument in a situation of limited budgetary scope.

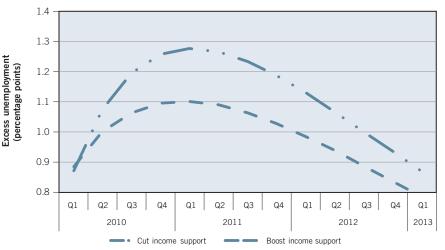
A few countries have engaged in ALMPs since the beginning of the crisis. Germany has reinforced its public employment services (box 6.1). Chile has enacted additional training measures, for a total cost of 0.1 per cent of GDP. Japan has relaxed the eligibility criteria for the employment adjustment subsidy programme and set up a training programme for the elderly – these measures, in addition to others, amount to 0.15 per cent of GDP.

Policies of this nature, however, have been implemented by only a few countries, and those which have been introduced are limited in scale. Moreover, the expected increase in labour market spending in OECD countries shows that most of the increase is linked to automatic stabilizers, and that the share of active over passive labour market spending is forecast to drop from 0.9 in 2007 to 0.5 in 2010. To boost jobs in a sustainable manner, greater emphasis will have to be placed on employment measures of this nature.

### ... and if complemented by income support measures would stimulate job creation further.

A major obstacle to higher employment creation is the response of households and businesses to economic uncertainty. For example, households that fear the loss of their income through unemployment engage in precautionary savings and limit their consumption spending, which depresses aggregate demand. Similarly, given the rather volatile and uncertain economic environment, banks restrict new credit to firms, which depresses investment, reduces intra-firm activity and, ultimately, limits their hiring capacity. Passive labour market spending, in the form of higher income support measures for unemployed workers, can positively affect the expectations of households. The existence of a public insurance against unemployment risk reduces the need for households to save excessively – the subsequent increase in private consumption is a critical factor in generating output and employment

Figure 6.3 Additional unemployment rate under different degrees of income support measures



Note: The graph displays the development of the unemployment rate during the recovery process after an adverse shock that increased unemployment by 0.9 per cent. With larger countercyclical income support measures the recovery proceeds more quickly.

Source: GEL with passive labour market policies, Challes et al. (2011).

growth.<sup>2</sup> It also allows workers to continue to look for jobs that are commensurate with their skills profile – thus positively affecting productivity and individuals' earnings profiles over the medium to long term.

With this in mind, figure 6.3 shows how the unemployment rate is sensitive to whether income support measures are pro- or countercyclical. Two alternative policy options are presented in reaction to an increase in the unemployment rate caused by a shock. In the first option, "Cut income support", income support measures are reduced by 1.6 per cent of real wages following the shock. In the second option, "Boost income support", income support measures are extended by an equal amount. The difference in fiscal spending between the two scenarios is limited to around 0.2 per cent of GDP.

As figure 6.3 illustrates, a cut in income support measures during a crisis will exacerbate the increase in unemployment. Conversely, extending income support measures during a crisis will limit the increase in unemployment and accelerate the recovery process.

This model variant is based on the hypothesis that labour demand and output decisions are constrained by available credit, not productive capacity. Firms are subject to credit rationing, which sets a ceiling on employment opportunities. However, firms can get around credit rationing by selling assets they have previously accumulated. In the model, liquidity hoarding takes the form of government bonds. The government issues public bonds to finance income support measures. Firms accumulate these bonds and thereby relax their credit constraint. Firms then expand labour demand, which hastens economic recovery. During the crisis, however, very few countries have strengthened income support. Some exceptions include Japan, which has widened the coverage of unemployment benefits, and Canada, which has extended the maximum duration of unemployment insurance by five weeks.

<sup>2.</sup> In the GEL model it is assumed that a share of households consume all their income, therefore their consumption patterns are strictly a function of the level of income support.

Table 6.2 Output, employment, hours and inflation effects of policy changes under different degrees of social dialogue

Panel A. Fiscal policy

	Output	Employment	Hours	Inflation
Efficient social dialogue	1.83	0.10	1.92	0.09
Restricted social dialogue	1.56	0.05	1.70	0.08
Relative performance (%)	17	109	13	10

Panel B. Monetary policy

	Output	Employment	Hours	Inflation
Efficient social dialogue	2.92	0.18	3.06	0.14
Restricted social dialogue	2.76	0.15	2.92	0.13
Relative performance (%)	6	19	5	5

Note: The tables display reactivity of output, employment, hours worked and inflation in response to fiscal (panel A) or monetary (panel B) expansion under extended and restricted social dialogue.

Source: GEL with social dialogue, Bridji and Charpe (2010b).

Moving forward, however, the implementation or extension of any public unemployment benefit or insurance scheme must be done in a way that does not distort the incentives structure of the labour market. This implies that eligibility criteria have to be designed carefully.

# The dual employment and fiscal goals are best achieved through effective social dialogue.

The GEL model of the labour market includes an element which assesses the effect of bargaining between workers and employers. Two types of social dialogue institutions are considered: (i) "efficient social dialogue" – bargaining between employers and workers over wages and hours; and (ii), "restricted social dialogue" – bargaining which is limited to wages, while hours are set by firms freely. The model simulations show that joint bargaining over wages and hours worked, i.e. efficient social dialogue, can significantly improve the efficiency of government spending and monetary policy on employment creation and output (see table 6.2, panels A and B). In fact, policy effectiveness is greater under an extended degree of social dialogue than when firms retain the right to manage the average number of hours worked. Output reactivity is 17 per cent (6 per cent) higher under extended social dialogue for fiscal (monetary) policy.

With respect to the labour market, employment reacts much more vigorously under an efficient bargaining process than otherwise as consistently more vacancies are created throughout the duration of the policy intervention. In addition, average hours worked per employed individual increase more strongly, at least in the initial periods after the impact of the shock, raising total hours worked more than in the case of restricted social dialogue. As a consequence, output increases faster. The model predicts that the changes in labour input (total hours worked) implied by spending and monetary shocks are mostly adjusted along the intensive margin, but also that extended social dialogue significantly enhances the use of the extensive margin.

In part, the two-speed recovery of labour markets in the G20 can be related to the different degrees of social dialogue in the different countries. Indeed, during

the crisis, several governments have strengthened incentives for firms to hoard labour by reducing the average number of hours of work, instead of cutting jobs, following the advice given by the Global Jobs Pact (paragraph 11(3)). The intention was to maintain jobs and labour income while retaining the skills within firms, in order to speed up the economic recovery. This strategy has started to pay off, as countries which incentivized labour hoarding indeed seem to be faring better during the recovery than others, dissipating the fears of job misallocation that some observers have warned would result from such a policy. Moving forward, collective bargaining institutions can play a key role in determining the effectiveness of policy interventions and should, therefore, play a central role in building a sustainable, job-rich recovery.

#### C. Policy considerations

The global economic outlook has deteriorated significantly since 2010, signalling that the policies implemented to date have failed on a number of fronts. First, despite the significant and coordinated efforts of governments, the boost to economic activity was short-lived. Second, the modest gains in output, notably in advanced economies, have not yielded sufficient job creation. Third, against the backdrop of weak private sector demand, governments have now come under pressure by financial markets, limiting their ability to address persistent and emerging challenges, particularly as regards job creation. Fourth, efforts to curb public spending have been poorly designed – cuts to employment-friendly programmes have exacerbated labour market conditions and are likely to worsen fiscal conditions.

As long-term unemployment rises and workers begin to leave the labour market entirely, the window for taking decisive action is closing. Urgent action to place employment creation at the centre of the recovery plan is necessary. Moreover, as this chapter has shown, the right policy interventions can meet employment objectives while also being consistent with the need to rein in government expenditure. Indeed, the budgetary impacts of labour market measures are limited, while large spending cuts lead to a worsening of the budget deficit. Placing the emphasis on active and passive labour market policies – introduced through effective social dialogue – will have positive fiscal, output and employment effects, all of which are badly needed given the current employment crisis. It is not too late to prioritize jobs over financial markets.

#### Appendix A

#### Model mechanisms

This appendix gives a short overview of the model mechanisms underlying the three variants of the GEL model presented in section B of this chapter. The GEL model is a dynamic stochastic general equilibrium (DSGE) model extended with search and matching function on the labour market. The model variants used in the chapter present different modifications to this baseline model. These modifications allow studying the effects of various alternative policy measures.

#### **GEL** with active labour market policies

Both the simulation of budget cut effects as well as the simulation concerning the effectiveness of ALMP utilize the GEL with active labour market policies. This model variant introduces an additional type of government spending: public spending to improve the process of matching job vacancies and unemployed workers (e.g. through an increase in the staffing ratio of public employment services). The model assumes an elasticity of matching to public spending of 0.1. The elasticity of matching to vacancy (or searching unemployed workers) is 0.5. Labour market spending improves total employment and output. At the same time, the negative wealth effect on private consumption that results from increased government debt tends to counterbalance any positive public spending effect. In this respect, active labour market spending programmes allow the balance to tip in the positive direction. This occurs through the additional supply-side effect of more efficient functioning of the labour market and hence a reduced aggregate cost of job-search activities. However, even in this case, higher public spending still has a negative displacement effect on private expenditure, suggesting the existence of an optimal spending level (see Bridji and Charpe, 2010a).

#### **GEL** with social dialogue

The GEL model with social dialogue additionally considers price rigidities to allow for inflation dynamics and an inflation–unemployment trade-off along a (New Keynesian) Phillips curve. In addition, government activity is introduced through (fully tax-financed) general spending, following an autonomous, pre-set path. Monetary policy is also being considered through the lenses of a simple interest rate rule that influences the user costs of capital for firms.<sup>3</sup> Together, both government spending and monetary interventions will influence the dynamics of aggregate demand, but it cannot influence the extent to which firms would rather hire more workers instead of increasing the number of hours worked per employee.

Key to the dynamics of the model is the form that the bargaining process over wage and hours worked per employed worker takes. The GEL with social dialogue considers two widely used types of bargaining patterns: right-to-manage bargaining and efficient bargaining. In the first form, firms and workers negotiate over the appropriate wage and leave the determination of hours worked per employed worker entirely to the firm. In the second form, workers and firms negotiate over

<sup>3.</sup> The interest rate rule follows the so-called Taylor rule, a weighted average between (past) inflation, inflation expectations and the output gap.

both average hours worked and average pay. The total hours worked will then be determined through the number of open vacancies and the bargaining outcome on the hours of work per employed individual. Only in the second case a maximum number of new job vacancies can be guaranteed: when firms keep the final word over the number of hours worked, they tend to impose more hours than socially optimal and hence there are fewer job openings. As a consequence, not only will social welfare depend on the type of social dialogue institutions, it will also affect the extent to which government interventions can help to create new jobs (see Bridji and Charpe, 2010b).

#### **GEL** with passive labour market policies

Besides their important role in preventing job seekers from falling into a poverty trap, unemployment benefits in the set-up of this model also allow aggregate demand to be strengthened, thereby fostering a faster recovery of job creation. This requires the introduction of an additional element that has not been sufficiently covered in the preceding model variants: cross-sectional income dispersion, i.e. income and consumption inequality between households. The GEL with passive labour market policies model variant allows for such household heterogeneity by assuming that job seekers have only limited access to credit markets and are not allowed to take out loans in order to insure themselves against this adverse shock. In other words, private unemployment insurance is ruled out. Instead, households can only rely on government interventions, alleviating their economic situation through (public) unemployment benefits that are levied through taxes from employed households. At the same time, firms suffer from credit constraints during downturns, which limit their capacity to hire new workers as the recovery sets in. Only when the recovery is well under way will the credit constraint gradually be relieved and allow for more forceful employment creation (see Challes et al., 2011).

#### References

- Bacchetta, M.; Ernst, E.; Bustamante, J.P. 2009. *Globalization and informal jobs in developing countries* (Geneva, International Labour Office and World Trade Organization).
- Boone, J.; van Ours, J. 2004. Effective active labour market policies. CEPR WP 4707. Bridji, S.; Charpe M. 2010a. Active labour market policies, search costs and positive fiscal multiplier, mimeo (Geneva, International Institute for Labour Studies).
- 2010b. Collective bargaining and the fiscal multiplier, mimeo (Geneva, International Institute for Labour Studies).
- —. 2010c. *Dual labour markets with search costs*, mimeo (Geneva, International Institute for Labour Studies).
- Challes, E.; Charpe M.; Ernst E.; Ragot X. 2011. *Countercyclical unemployment benefits and unemployment fluctuations*, mimeo (Geneva, International Institute for Labour Studies).
- Charpe M. 2010. How much will countries spend on labour market policies in the crisis? Forecasting the changes in the size and composition of labour market policies, mimeo (Geneva, International Institute for Labour Studies).
- Ernst, E. 2011. Determinants of unemployment dynamics. Economic factors, labour market institutions and financial development (Geneva, International Institute for Labour Studies).
- International Labour Office. 2010. World of Work Report 2010: From one crisis to the next? (Geneva, International Institute for Labour Studies).
- 2011a. Country studies: Germany (Geneva, International Institute for Labour Studies).
- —. 2011b. Country studies: Brazil (Geneva, International Institute for Labour Studies).
- —. 2011c. Global employment trends 2011: The challenge of a jobs recovery (Geneva, International Labour Office).
- Monacelli, T.; Perotti, R.; Trigari, A. 2010. "Unemployment fiscal multipliers", in *Journal of Monetary Economics*, Vol. 57, No. 5, pp. 531–553.
- Schmieder, J.; von Wachter, T.; Bender, S. 2011. *The effects of extended unemployment insurance over the business cycle: Regression discontinuity estimates over 20 years*, mimeo (Cambridge, MA, Harvard University).