TAX POLICY RESPONSES TO THE 2008-2010 ECONOMIC DOWNTURN IN EU COUNTRIES

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Tax policy responses to the 2008-2010 economic downturn in EU countries[*]

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Abstract:

Following the serious turmoil that had affected world financial markets during 2007 and 2008, in late 2008 the world entered a major recession, the deepest since the 1929 Great Depression. The financial crisis, and the ensuing generalised loss of confidence in financial markets, resulted in strong constraints to the liquidity of the economic system. This triggered a contraction of demand, which in turn caused cuts on investments and jobs, in a downward spiral. In 2009, GDP fell by 4 percentage points over OECD countries, demand shrank drastically, industrial production and global trade contracted and unemployment in industrial countries swiftly rose into double digits. Signs of slow recovery started being detected in the second half of 2009, but by mid 2010 world economic conditions were still weak. By late 2008 both governments and central banks had taken swift and unprecedented measures to contrast the effects of the financial crisis. These actions prevented the world from going through an economic collapse similar to the one experienced in the 1930s. In addition, many governments approved also major fiscal stimulus packages which, together with the effects of automatic stabilisers, help contain the economic downturn and paved the way for the economic recovery. This paper focuses on policy responses to the crisis implemented in the EU and on the steering role taken by EU institutions. After briefly detailing the main prescriptions for governments put forward by EU institutions in late 2008, the paper describes the main tax reforms introduced by individual EU Member States in 2009-2010 as part of their fiscal stimulus packages, to contrast the economic downturn and favour economic recovery. It also proposes an assessment of the major trends characterizing the discretionary tax reforms implemented.

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1. Introduction

In late 2008 the world entered a major recession, the deepest since the 1929 Great Depression. During 2009, GDP fell by 4 percentage points over OECD countries, demand shrank drastically, industrial production and global trade contracted and unemployment in industrial countries swiftly rose into double digits. Some signs of slow recovery started being detected in the second half of 2009, but by mid 2010 world economic conditions were still weak.

The 2008-2010 economic downturn was prompted by a financial crisis, which started in the second half of 2007 with a subprime mortgage related turmoil in the US, and evolved by the third quarter of 2008 into a generalised loss of confidence in financial markets. This produced strong constraints to the liquidity of the economic system and therefore triggered a contraction of demand, which in turn caused cuts on investments and jobs, in a downward spiral.

The negative effects of the wide and deep financial crisis were partly mitigated by swift and unprecedented measures taken by governments and central banks. These actions prevented the world from going through an economic collapse similar to the one experienced in the 1930s. In addition, many governments approved major fiscal stimulus packages which, together with the effects of automatic stabilisers, help contain the economic downturn and paved the way for the economic recovery.

This paper describes the main tax reforms introduced by EU Member States in 2009-2010 as part of their fiscal stimulus packages, to contrast the economic downturn and favour economic recovery. It primarily builds upon information available through the European Commission "Taxes in Europe database" and "Taxation trends reports", and discusses the evidence thus collected.

The paper is organized as follows: after the introduction, section 2 describes the background to the economic crisis, i.e. the financial crisis of 2008, and then turns to depict the main features of the economic recession. Section 3 offers an overview of policy responses by EU Member States to the economic crises, while section 4 focuses on tax policies and discusses the main tax policy reforms introduced by EU Member States in response to the economic crisis during the years 2009 and 2010. Finally, section 5 proposes an assessment of the discretionary tax reforms implemented. Section 6 concludes.

2. The 2008-2010 economic downturn

2.1. The prelude: the 2007-2008 financial crisis

In the second half of 2007 US sub-prime mortgage loans suffered wide losses, revealing the vulnerability of financial intermediaries. This caused a crisis of confidence in financial institutions and concerns over their solvency, rapidly spreading and producing significant losses to financial assets and undermining banks liquidity. The magnitude of the crisis became manifest in March 2008, with the US government-facilitated take-over of the investment bank Bear Stearns by JPMorgan Chase. The financial system was deeply weakened, but there were expectations that the crisis would mostly remain restricted to the US.

In contrast, from mid March 2008 concerns about banks' solvency spread, putting increased stress on the global financial sector. In June doubts about banks' capital position resurfaced as rating agencies downgraded some insurance companies. The US government stepped in, providing liquidity support to a number of financial institutions, but the turmoil in the US financial market deepened up to 15 September, when the investment bank Lehman Brothers went bankrupt.

From mid September to late October 2008 the crisis of confidence spread rapidly across markets and countries and many other financial institutions faced the risk of default. Policymakers were forced to strengthen their interventions, to move from mere liquidity support to broader measures, including banks recapitalisation, nationalisations, and to act in a coordinated manner. This helped contain the financial distress, and from the second quarter of 2009 the first signs of financial market stabilisation were detectable.

Two broad categories of causes contribute to explain the upsurge of the financial crisis, namely macroeconomic and microeconomic causes. In addition, the crisis spread rapidly due to strong financial market integration and trade openness.

As for macroeconomic causes, these comprise global imbalances in countries current accounts and a long period of low interest rates (since the beginning of the decade). Low interest rates reduced the cost of borrowing, led to a credit boom and yielded to an increase of home purchases and households revolving debt in most developed economies. Low interest rates also induced asset managers in financial intermediaries to take on more risks, in order to guarantee higher returns to investments.

In addition, a number of microeconomic factors caused a growth of risks in the financial sector, which eventually led to its collapse and to the ensuing crisis. Among these, asymmetric information in capital markets, compensation schemes for financial sector employees which rewarded risk taking, and skewed incentives of rating agencies. Further, risk measurement techniques were probably inadequate with respect to the newest financial instruments.

2.2. The economic recession

Although national authorities coordinated actions helped contain the financial distress, the financial crisis spread quickly and since mid 2007 industrial economies were hit by a restraint on liquidity and started experiencing a contraction of growth. The weakening hit the US first, while in most other advanced economies growth slowed down only by early 2008. Emerging market economies continued to experience growth, but export-oriented economies were hit by plummeting exports and tightening financial conditions and started showing signs of a slowing down. From late October 2008 the global economy experienced a severe decline, the worst in decades, magnified by rapid fall in trade volumes, large employment cuts and a huge crisis of confidence. EU Member States where also largely hit.

The global macroeconomic conditions before the crisis were characterised by a polarisation of savings and consumptions and by global imbalances in international demand patterns. Consumption growth was highly concentrated in few industrialized countries (mainly the US) and countries current accounts showed large global imbalances. Saving rates were high and increasing in most emerging market countries (particularly China and the Middle East) and declining in advanced economies. In addition the composition of capital spending in advanced economies showed a drift turn towards residential construction.

Expansionary policies allowing low policy rates for a very long period of time, contributed to a household spending boom in many industrialized countries and to a misallocation of resources. Advanced economies were affected by three main critical factors which made them highly vulnerable to negative income and asset price shocks. First, household debt relative to income rose swiftly, particularly in the US and UK. Second, residential investments and real house prices increased (this reinforced the growth of household debt, as it eased borrowing against housing collaterals). Third, the spending boom generated distorted signals to producers, causing overproduction and overinvestment in some sectors, primarily consumer durables, such as the automotive industry.

When the financial crisis burst, household balance sheets deteriorated significantly, household consumption contracted, as did output. This in turn caused a severe reduction of employment, and unemployment rates rose sharply. Similarly to households, also corporate balance sheets before the crisis had experienced increasing debt levels. The crisis reduced both corporate profitability and the value of corporate investments, with further negative effects on investments and employment.

The economic crisis affected all European economies, though with significant differences across countries, mainly reflecting the differing conditions of housing markets, the degree of export-dependency of the economy, the status of public finances, the size of the financial sector and its exposure to toxic assets. First, the more real estate were overvalued and the construction industries were oversized, the more domestic demand fell (for instance in Spain). Second, export-dependent economies suffered more from the collapse of global trade (for instance Germany). Third, when public finances were not healthy, governments faced stronger constraints to the implementation of discretionary expansionary policies (e.g. Greece). Finally, exposed financial sectors produced significant damages to the economies of Ireland, UK and Luxembourg, for instance.

The economic crisis brought to a halt the trend of GDP growth experienced in the EU during previous years (+3.2% in 2006 and +3.0% in 2007). Technically the recession began in the third quarter of 2008, after two successive quarters of negative quarter-on-quarter growth, and the EU economy deteriorated further in the following two quarters, when sharp GDP contractions were recorded (-1.9% and -2.5% respectively). The GDP fall resulted primarily from the severe reduction of output in the manufacturing and construction sectors. In mid 2009, at the height of the recession, GDP was down by 5.1% year-on-year. Despite modest signs of recovery during 2009, EU economic output at the end of 2009 had contracted by 2.2% compared to end 2008 and became positive, year-on-year, only in the second quarter of 2010 (+1.9%), when however EU output was still 3.3% less than before the burst of the crisis in the second quarter of 2008.

Table 1. Selected macroeconomic and public finance indicators for the EU27

	2008	**2009**	**2010**
GDP (% change)	0.5%	-4.3%	1,8%
Unemployment rate	7.1%	9.0%	9.6%
Inflation rate	3.7%	1.0%	2.1%
Government deficit/GDP	2.4%	6.8%	6.4%
Government debt/GDP	62.3%	74.4%	80.0%

Source: Eurostat

Table 1 shows selected indicators for the EU economy and government finances. As the result of the crisis, in the EU GDP grew only by 0.5% in 2008, then contracted by -4.3% in 2009 and started recovering during

2010. Simultaneously, inflation drop dramatically, from 3.7% in 2008 to 1% in 2009 and 2.1% in 2010. European labour markets were also strongly hit. In 2009 about 4 million jobs were lost in Europe, unemployment rate rose sharply from 7.1% in 2008 to 9% in 2009 and 9.6% in 2010. These data conceal wide differences across Member States, as shown in table 2. For instance, unemployment increased more than average in Baltic countries, Spain and Ireland, while it rose only limitedly in Belgium, Finland, Italy, Luxembourg, Malta, Poland, Sweden, and The Netherlands.

In addition, EU public finances deteriorated markedly in 2009 compared to 2008. In the EU, the government deficit to GDP ratio increased from 2.3% in 2008 to 6.8% in 2009 and the government debt to GDP ratio increased from 61.8% to 74%. Again, as shown in table 3, debt and deficit increases and the pace of recovery are highly dispersed across EU Member States.

Table 2. Selected indicators on the impact of the crisis on EU27 Member States

Country*	Real GDP growth rate			Unemployment rate			Private consumption growth 2009–private consumption growth 2008	Fall in industry production index (09m2/08m2)	Export growth 2009 - Export growth 2008
	2008	**2009**	**2010**	**2008**	**2009**	**2010**			
AT	2.2%	-3.9%	2.1%	3.8%	4.8%	4.4	-0.8%	-14.6%	-12.9%
BE	1%	-2.8%	2.2%	7%	7.9%	8.3%	-1.7%	-19.0%	-15.2%
BG	6.2%	-5.5%	0.2%	5.6%	6.8%	10.2%	-5.1%	-17.4%	-14.0%
CY	3.6%	-1.7%	1%	3.6%	5.3%	6.5%	-6.0%	-5.1%	-7.3%
CZ	2.5%	-4.1%	2.3%	4.4%	6.7%	7.3%	-2.7%	-20.3%	-18.5%
DE	1%	-4.7%	3.6%	7.5%	7.8%	7.1%	-0.4%	-20.6%	-18.8%
DK	-1.1%	-5.2%	2.1%	3.3%	6%	7.4%	-1.5%	-11.8%	-12.9%
EE	-5.1%	-13.9%	3.1%	5.5%	13.8%	16.9%	-5.2%	-30.2%	-13.0%
ES	0.9%	-3.7%	-0.1%	11.3%	18%	20.1%	-3.2%	-22.0%	-10.9%
FI	0.9%	-8.2%	3.1%	6.4%	8.2%	8.4%	-3.4%	-19.9%	-17.2%
FR	-0.1%	-2.7%	1.5%	7.8%	9.5%	9.7%	-1.2%	-16.3%	-12.9%
GR	1%	-2%	-4.5%	7.7%	9.5%	12.6%	-1.8%	-4.9%	-9.5%
HU	0.8%	-6.7%	1.2%	7.8%	10%	11.2%	-5.9%	-25.4%	-16.5%
IE	-3.5%	-7.6%	-1%	6.3%	11.9%	13.7%	-7.1%	n.a.	-8.5%
IT	-1.3%	-5.2%	1.3%	6.7%	7.8%	8.4%	-0.8%	-20.7%	-11.9%
LT	2.9%	-14.7%	1.3%	5.8%	13.7%	17.8%	-22.2%	-12.4%	-26.4%
LU	1.4%	-3.6%	3.5%	4.9%	5.1%	4.5%	-0.6%	n.a.	-6.6%
LV	-4.2%	-18%	-0.3%	7.5%	17.1%	18.7%	-11.0%	-24.2%	-11.6%
MT	5.4%	-3.3%	3.2%	5.9%	7%	6.8%	-3.3%	n.a.	6.2%
NL	1.9%	-3.9%	1.8%	3.1%	3.7%	4.5%	-1.8%	-5.9%	-13.3%
PL	5.1%	1.7%	3.8%	7.1%	8.2%	9.6%	-4.7%	-12.4%	16.8%
PT	0%	-2.5%	1.3%	7.7%	9.6%	11%	-2.9%	15.6%	-11.2%
RO	7.3%	-7.1%	-1.3%	5.8%	6.9%	7.3%	-12.8%	-13.9%	-36.3%
SE	-0.6%	-5.3%	5.7%	6.2%	8.3%	8.4%	-2.8%	-20.3%	-11.1%
SL	3.7%	-8.1%	1.2%	4.4%	5.9%	7.3%	-2.6%	-21.2%	-15.1%
SK	5.8%	-4.8%	4%	9.5%	12%	14.4%	-5.6%	-27.4%	-13.4%
UK	-0.1%	-4.9%	1.4%	5.6%	7.6%	7.8%	-4.8%	-13.9%	-10.6%
EU	0.5%	-4.3%	1.8%	7.1%	9%	9.6%	-	-	-

* For the meaning of abbreviations, see annex 1

Source: Eurostat and European Commission (2009b) for the last three columns.

Table 3. Impact of the crisis on public finances of EU27 Member States: selected indicators (% GDP)

Country	Budget balance 2008	Budget balance 2009	Budget balance 2010	Government debt 2008	Government debt 2009	Government debt 2010
AT	-0.9%	-4.1%	-4.6%	63.8%	69.6%	72.3%
BE	-1.3%	-5.9%	-4.1%	89.6%	96.2%	96.8%
BG	1.7%	-4.7%	-3.2%	13.7%	14.6%	16.2%
CY	0.9%	-6.0%	-5.3%	48.3%	58.0%	60.8%
CZ	-2.7%	-5.9%	-4.7%	30.0%	35.3%	38.5%
DE	0.1%	-3.0%	-3.3%	66.3%	73.5%	83.2%
DK	3.2%	-2.7%	-2.7%	34.5%	41.8%	43.6%
EE	-2.8%	-1.7%	0.1%	4.6%	7.2%	6.6.0%
ES	-4.2%	-11.1%	-9.2%	39.8%	53.3%	60.1%
FI	4.2%	-2.6%	-2.5%	34.1%	43.8%	48.4%
FR	-3.3%	-7.5%	-7.0%	67.7%	78.3%	81.7%
GR	-9.8%	-15.4%	-10.5%	110.7%	127.1%	142.8%
HU	-3.7%	-4.5%	-4.2%	72.3%	78.4%	80.2%
IE	-7.3%	-14.3%	-32.4%	44.4%	65.6%	96.2%
IT	-2.7%	-5.4%	-4.6%	106.3%	116.1%	119.0%
LT	-3.3%	-9.5%	-7.1%	15.6%	29.5%	38.2%
LU	3.0%	-0.9%	-1.7%	13.6%	14.6%	18.4%
LV	-4.2%	-9.7%	-7.7%	19.7%	36.7%	44.7%
MT	-4.5%	-3.7%	-3.6%	61.5%	67.6%	68.0%
NL	0.6%	-5.5%	-5.4%	58.2%	60.8%	62.7%
PL	-3.7%	-7.3%	-7.9%	47.1%	50.9%	55.0%
PT	-3.5%	-10.1%	-9.1%	71.6%	83.0%	93.0%
RO	-5.7%	-8.5%	-6.4%	13.4%	23.6%	30.8%
SE	2.2%	-0.7%	0.0%	38.8%	42.8%	39.8%
SL	-1.8%	-6.0%	-5.6%	21.9%	35.2%	38.0%
SK	-2.1%	-8.0%	-7.9%	27.8%	35.4%	41.0%
UK	-5.0%	-11.4%	-10.4%	54.4%	69.6%	80.0%
EU	-2.4%	-6.8%	-6.4%	62.3%	74.4%	80.0%

Source: Eurostat

3. Policy responses to the economic downturn

At the onset of the financial crisis authorities all over the world implemented emergency measures to stabilise financial markets, including both monetary and fiscal policy. At first, in 2008, **bank rescue packages** and other **measures to stabilize the financial system** were introduced to ease financial markets distress, together with **policy rates cuts**, to improve the liquidity of the system. Policy choices varied across countries, depending on the distinctive features of their financial systems and economic structures. By the end of 2008 it was clear that these measures were not enough to definitely stabilize the financial system nor to prevent a sharp contraction of the real economy and give impulse to economic activity in the short term. As the contagion spread to the real economy, and economic growth and employment collapsed, governments introduced also measures to stimulate aggregate demand and support supply. From late 2008 and early 2009 **fiscal stimulus packages** were approved and implemented in many countries. These included a mixture of public spending increases and tax cuts. In early 2009 the fiscal packages approved by most EU Member States to stimulate growth amounted to up to 2% of GDP on a two year period.

3.1. Measures to stabilise financial markets

In 2008, **bank rescue packages** were introduced with the aim to stabilize the financial system. Following the bankruptcy of Lehman Brothers in September 2008, the solvency of many important financial institutions was put under question and with it the liquidity of the economic system. In order to prevent a deepening of the financial crisis, many central banks and governments, including the European Central Bank and other European central banks, engaged in direct operations in financial markets and provided liquidity to the financial system, in addition, policy rates were also reduced. Banks and governments acted to restore the confidence in the financial system, to prevent further bankruptcies and to ensure that lines of credit to households and businesses were not endangered.

The initial targeted actions to rescue specific banks taken in early 2008 were soon followed by special **measures to stabilise the financial system**. This wide array of financial relief measures introduced between mid 2008 and mid 2009 addressed banks assets, banks liabilities and banks behaviour.

Measures tackling banks assets comprised deposit insurance (Austria, Belgium, Czech Republic, Denmark, Finland, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Netherlands, Poland, Portugal, Slovakia, Spain, Sweden, Switzerland, UK, USA, Australia, Hong Kong, New Zealand) and capital injections to ensure bank solvency (Austria, Belgium, Denmark, Germany, Greece, Finland, France, Hungary, Iceland, Ireland, Italy, Japan, Luxembourg, Netherlands, Norway, Poland, Portugal, Sweden, Switzerland, UK, USA, Brazil, Hong Kong, Korea). Bank recapitalisation was pursued mostly through purchases of preferred shares, which limit the risk of losses to the taxpayers. Government capital injections often came with strings attached, such as France requirements for beneficiary banks to extend new domestic loans or US, UK and German limits to the payment of common dividends. In other cases debt guarantees were provided (Austria, Belgium, Denmark, Germany, Finland, France, Greece, Hungary, Ireland, Italy, Japan, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, UK, USA, Australia, Canada, Korea, Mexico, New Zealand). Finally, the nationalisation of insolvent financial institutions was a last resort to protect savings and prevent contagion. Banks were nationalised in Austria, Iceland, Ireland, Netherlands, Portugal, United Kingdom and the United States.

As regards bank liabilities, the measures introduced included both asset purchases (Germany, Japan, Ireland, Switzerland, UK, USA, Australia, Canada, Korea) and asset insurance (UK, Netherlands, USA), which were offered in order to address impaired assets. In particular, asset insurance was offered by the Dutch, UK and US governments and benefitted banks such as ING, RBS, Lloyds TSB, Bank of America and Citigroup. Finally, restrictions on short selling were introduced (Austria, Belgium, Denmark, Germany, Finland, France, Iceland, Italy, Japan, Netherlands, Portugal, Spain, UK, USA, Australia and Canada).

These actions were successful in preventing the collapse of the financial system and in limiting the crisis of confidence. However concerns about the health of major global banks remained high and banks continued to find it difficult to raise new capital from private investors. To increase confidence, stress test were conducted in the US and UK. In addition, the implemented measures were not as successful in targeting the credit exposures of main banks. This remains a main unresolved weakness of the financial system, even more critical if analysed in the light of lessons from the banking crises that hit Finland, Norway and Sweden in the late 1980s and early 1990s. Policy responses in Nordic countries showed that, besides acting quickly, optimal financial crisis management requires in-depth actions to clean up balance sheets and eradicate bad assets, thus restoring the ability of the financial system to operate effectively and achieve long-term profitability.

It is debatable whether in the current crisis authorities fully pursued this objective. Surely, given the width of the crisis and the significant financial dimension of rescue packages financed by governments, it proved hard to stress public finances further. In addition, emergency measures should be scaled back as financial markets normalise. At the same time, problem assets in banks' balance sheets need to be addressed. The focus for further strengthening the financial sector and prevent future crises is therefore rather on regulation than on direct public sector intervention (OECD Outlook 2010).

Bank rescue packages were coupled with **monetary policy** measures: policy rates were cut by Central Banks, to historically low levels, in many cases near to zero. Significantly, these measures were often taken in a coordinated manner by central banks. At the same time, central banks ensured liquidity to the system by establishing swap lines with other central banks. These were needed in particular for US dollars, the euro and Swiss francs. So the Federal Reserve announced swap lines with the European Central Bank and the Central Bank of Switzerland (end 2007) with the Central Banks of Japan, England, Australia, Canada, Denmark, Norway, Sweden, Brazil, Korea, Mexico, New Zealand and Singapore (Autumn 2008).

As regards policy rates, cuts were often coordinated, so, for instances, in October 2008 there was a joint policy rate cut by the European Central Bank, the Federal Reserve, and the central banks of Canada, Switzerland, Sweden and England. By mid 2009 the Federal Reserve and the central Banks of Japan, England, Canada, Sweden, Switzerland had cut policy rates close to zero. The European Central Bank had cut its rate by ¾ percentage points between September 2008 and mid 2009, stopping before the zero lower bound. A few countries, such as Hungary and Iceland, were not able to follow this trend, due to a run on their currency, which their Central Bank contrasted through a tightened policy.

However monetary policy was less effective than forecasted, mostly because lending institutions reduced nominal rates but simultaneously tightened their credit standards, as a response to the crisis of confidence in the financial system. Therefore liquidity in the system remained constrained.

3.2. Measures to support the real economy

Towards the end of 2008 it was clear that both bank rescue packages and monetary policy were not enough, neither to definitely stabilize the financial system nor to prevent a sharp contraction of the real economy and give impulse to economic activity in the short term. By mid 2009 **fiscal stimulus packages** were approved in many countries for the purpose of stimulating aggregate demand and containing the economic downturn.

Faced with collapsing output and rising unemployment in EU countries, in late November 2008 the European Commission approved a European Economic Recovery Plan (European Commission, 2008a), providing a framework for growth-sustaining fiscal and structural measures to be implemented both by Member States and EU institutions. The set of actions proposed under the EERP include financial rescue packages, fiscal stimuli, temporary support to hard-hit sectors, and targeted support to vulnerable groups.

In response to the economic crisis, by late 2008-early 2009 most EU Member States took a proactive stance and adopted fiscal measures to support the real economy, generally including both tax cuts and increased government spending, and broadly in line with the EERP principles (European Commission 2009b).

The size and composition of fiscal stimulus packages implemented in 2009 and 2010 is highly dispersed across countries. Differences are first explained by the varying degrees to which Member States were hit by the crisis and by the country-specific features of the recession, caused by the diverse sector composition and macroeconomic conditions across countries. In addition, the different status of each Member State public finances at the outset of the crisis set differing constraints to government fiscal policies. Thus, expansionary policies prevailed during the year 2009, while in 2010 they continued to be implemented by those Member States whose public finances were relatively healthy at the outset of the crisis (Austria, Czech Republic, Finland, Germany, Sweden). Conversely, Member States with less healthy public finances or whose public finances deteriorated sharply, had to reduce or even reverse the previous year expansionary policies. In 2009-2010 some countries had to pursue fiscal discipline through tighter fiscal policies and consolidation measures due to public finances sustainability concerns and financial market constraints (Estonia, Greece, Hungary, Ireland, Latvia, Lithuania). In order to contrast the economic crisis and, at the same time, to prevent strong imbalances in public finances, some of the measures introduced were only temporary, aiming to provide an immediate support to the economy, while avoiding long term effects on public finances.

Under the EERP, the EU Commission proposed a 200 billion euro package of short- and long- term measures to boost aggregate demand and support growth and employment. Measures taken by Member States under the European Economic Recovery Plan are estimated to amount to approximately 2% of the European Union GDP in 2009-10. Measures introduced in 2009 were slightly above 1% of GDP and those introduced in 2010 were a little below 1% of GDP. Overall the financial dimension of revenue side measures is slightly larger than that on the expenditure side. As reported in table 4, among the biggest stimulus packages approved in the EU, there is Germany's, with an estimated fiscal cost of about 3.6% of GDP over 2009 and 2010; Finland, 3.8% of GDP in 2009-2010; Austria, 3.5% of GDP in 2009-2010; Sweden, 3.2% of GDP in 2009-2010; the UK, 2.6% of GDP in 2009-2010. Outside the EU, the US announced the largest package among OECD countries, with estimated fiscal costs equal to 2% of 2008 GDP both in 2009 and 2010. Japan approved a vest package too, amounting to 1.5% of the country's 2008 GDP in 2009 and 0.5% in 2010.

The size of the fiscal package is not a good proxy of the size of overall fiscal impulse to the economy, which is better captured by the change in governments' expected near-term budget balance (table 4, last column). The latter captures the effects of the fiscal packages as well as of the financial rescue packages and of the revenue deterioration due to the drop in asset prices. It also captures the effects of automatic stabilisers, which contribute to smoothing the trend even when discretionary stimulus packages are absent.

As for the composition of stimulus packages, they generally include both tax cuts and increased public expenditure. Over OECD countries, cuts in personal taxes outweigh all other measures (approximately 0.3% of GDP on average in 2009), but overall increases in government spending outweigh overall tax cuts (approximately 1% of GDP versus approximately 0.55% of GDP on average in 2009). Besides for personal taxes, tax cuts were approved also for business taxes and consumption taxes. Some cuts were also introduced for contributions for public pensions, unemployment, health care, invalidity. The increase in spending included public consumption, public investments, transfers to households and transfers to businesses. On average, spending on public investments as well as transfers to households was larger than expenditures for public consumption.

In the EU, under the EERP Member States were steered to implement programmes to support aggregate demand, employment and/or household income in the short-run, but at the same time to design measures that are consistent with the long term policy objectives of raising growth and jobs potential in the longer run, in line with the Lisbon strategy and with objectives of smooth functioning of the single market and of facilitating a conversion of the economy towards "greener" approaches.

Table 4. Composition of fiscal stimulus packages in EU27

Country	**Discretionary fiscal stimulus (2009-2010) %GDP**					**Fiscal balance % change (aggregate 2008-2010)**
	Overall	Measures aimed at households	Increased expenditures on labour market	Measures aimed at businesses	Increased investment expenditures	
AT	3.5%	2.6%	0.2%	0.2%	0.5%	-5.2%
BE	1.8%	0.9%	0.5%	0.1%	0.3%	-4.9%
BG	0.1%	0.0%	0.0%	0.0%	0.1%	-1.9%
CY	1.8%	0.0%	0.0%	0.0%	1.8%	-3.5%
CZ	2.2%	0.1%	1.1%	0.5%	0.5%	-3.4%
DE	3.6%	1.5%	0.5%	0.8%	0.9%	-5.8%
DK	1.5%	0.0%	1.0%	0.1%	0.4%	-7.5%
EE	0.6%	0.0%	0.5%	0.0%	0.1%	-0.9%
ES	4.0%	1.6%	0.1%	1.4%	0.9%	-6.0%
FI	3.8%	2.6%	0.0%	0.7%	0.4%	-7.1%
FR	1.0%	0.2%	0.1%	0.4%	0.3%	-3.6%
GR	0.3%	0.3%	0.0%	0.0%	0.0%	-0.8%
HU	0.0%	0.0%	0.0%	0.0%	n.a.	-0.5%
IE	1.4%	0.8%	0.2%	0.4%	0.0%	-8.5%
IT	1.2%	0.2%	0.4%	0.5%	0.1%	-2.1%
LT	0.0%	0.0%	0.0%	0.0%	n.a.	-4.7%
LU	n.a. %	n.a.	n.a.	n.a.	1.7%	-5.4%
LV	0.9%	0.6%	0.0%	0.3%	0.1%	-9.7%
MT	1.2%	0.4%	0.0%	0.2%	0.6%	1.5%
NL	1.6%	0.4%	0.2%	0.5%	0.5%	-7.1%
PL	2.8%	1.2%	0.0%	0.4%	1.2%	-3.4%
PT	1.3%	0.4%	0.2%	0.4%	0.3%	-4.0%
RO	0.3%	0.1%	0.0%	0.2%	n.a.	-0.2%
SE	3.2%	0.4%	1.8%	0.4%	0.6%	-6.4%
SL	2.2%	0.0%	0.8%	0.2%	1.2%	-5.5%
SK	1.2%	0.6%	0.2%	0.2%	0.2%	-3.2%
UK	2.6%	1.7%	0.3%	0.4%	0.2%	-8.2%

n.a.: not available

Source: European Commission 2009b.

Table 4 displays a breakdown of measures approved by EU Member States distinctively by target: households, labour market, businesses, investments. It shows that in most countries the financial weight of measures aimed at supporting household purchasing power was the highest, but that no uniform ranking of measures can be detected for all countries. In some countries investment expenditures rank second, in some other measures aimed at businesses and, finally, some countries put significant resources on labour market measures. On average, around 39% of the Member States' stimulus measures have been directed towards supporting households' purchasing power (including vulnerable groups), 16% to supporting labour market, 20% to investment activities, and 25% as support to businesses (European Commission, 2010c).

Labour market measures included both tax and expenditure measures. The former are described in paragraph 3.4, but a brief outline of non-tax labour market measures implemented by EU member states is provided here.

3.3. Non tax reforms targeting the labour market

Besides tax reforms, EU Member States introduced also significant non-tax measures to sustain employment and improve the functioning of the labour market. The European Economic Recovery Plan provided a framework for action also in this respect, further detailed at the beginning of 2009 in a communication by the European Commission (European Commission, 2009a) stating the following guiding principles for labour market policy:

- keep people in viable employment, by supporting employability and easing transitions to new jobs;
- support income and activation;
- introduce measures to boost labour demand and labour supply;
- invest in training and skills upgrading, and improve employment services.

Labour market policies approved by EU Member States were mostly consistent with these guidelines (European Commission, 2009b) and with the labour market strategies prevailing before the economic crisis. In addition, policy measures jointly pursue two objectives: i) containing the negative impact of the crisis on employment during the crisis and ii) not hampering reallocation and avoiding unemployment hysteresis, while preparing a well functioning labour market and a qualified workforce for the time when the economy will recover.

As shown in table 5, all Member States have introduced some kind of labour market support measures and 16 of them have also increased expenditures on labour market programmes (table 4). Table 5 shows that non-tax measures are highly diversified, but most countries have reinforced activation policies, to facilitate the transitions to new jobs, and invested in training and improvements of job placement systems. In addition, on the expenditure side, publicly sponsored short-time working schemes were reinforced (e.g. through part time unemployment support) and the coverage and generosity of unemployment and other social benefits were extended. However, the eligibility criteria and duration of benefit schemes was fine-tuned in order to prevent undesirable side-effects such as the unemployment trap and disincentives to work. Education and life-long learning measures were less common, while measures cutting labour costs were implemented in almost all countries (similarly, almost all countries introduced also some form of support for household purchasing power).

Despite unemployment rates rose since 2008, their increase has been below the worst expectations and labour shedding and job losses have not soared excessively. Discretionary measures introduced to contain the impact of the crisis on the labour market may have played their role, for instance through the increased flexibility granted by shorter hours or partial unemployment benefits. In addition, reinforced social safety nets are acting as automatic stabilisers to soften the impact of the economic downturn. Conversely, less emphasis was given to policies aimed at increasing labour productivity, such as enhancing education and life-long learning. These reforms would strengthen human capital and would have a positive impact on future EU competitiveness. In addition policies were also not sufficiently targeted at improving labour utilisation, a purpose that would contribute also to favourable future developments of European labour markets.

From a financial point of view, table 4 shows that increased expenditures on labour market measures make up only a minor share of total discretionary expenditures in all but few countries. Exceptions include Estonia, where labour market expenditures make up nearly all discretionary spending (0.5% GDP over a total of 0.6%), followed by Denmark, Sweden, and the Czech Republic, where labour market expenditures make up more than half of total discretionary expenditures (respectively: 1% GDP on a total of 1.5% GDP; 1.8% GDP over 3.2% GDP; 1.1% GDP over 2.2% GDP).

Table 5. Labour market measures in EU27 recovery plans (as of mid 2009)

	Encouraging flexible working-time	**Improving job placement and investing in re-training**	**Enhancing education and life-long learning**	**Reinforcing activation**	**Cutting labour costs**	**Reinforcing social protection**
AT	✓	✓	✓	✓	✓	
BE	✓	✓		✓	✓	✓
BG	✓	✓	✓	✓	✓	✓
CY	✓	✓				
CZ	✓	✓		✓		
DE	✓	✓	✓	✓	✓	
DK	✓	✓	✓	✓	✓	
EE						✓
ES		✓		✓	✓	
FI		✓		✓		✓
FR	✓	✓		✓	✓	✓
GR		✓		✓		✓
HU	✓	✓			✓	
IE		✓		✓		✓
IT	✓	✓		✓		✓
LT	✓	✓	✓	✓	✓	
LU	✓			✓	✓	
LV					✓	✓
MT		✓		✓		
NL	✓	✓			✓	
PL				✓		
PT	✓	✓	✓		✓	✓
RO		✓			✓	✓
SE		✓	✓	✓	✓	✓
SL	✓	✓		✓	✓	
SK	✓	✓		✓	✓	
UK		✓				✓

Source: European Commission, 2009b.

Despite most labour market measures are costly to the public budget, not all of them are expected to produce the same long-term effects. Expenditure on unemployment and other benefit schemes, on activation and training programmes and on measures to facilitate job reallocation introduced or reinforced during the crisis should decline as the economy recovers, while cuts on social security contributions are harder to reverse. In addition, the restructuring of labour support measures carried out under the urgency of the crisis, together with some kind of experimentation, may be a positive legacy for EU labour market institutions.

4. Tax policy responses by EU Member States

On average, approximately half of the fiscal stimulus over EU Member States came from tax cuts, aiming at supporting household purchasing power, and therefore aggregate demand, at sustaining the supply side and at easing hiring conditions to reduce the stress on the labour market. With reference to taxation and social benefits the EERP suggests to Member States:

- a temporary increase in transfers to the unemployed or low income households, or a temporary lengthening of the duration of unemployment benefit;
- a reduction of social contributions paid by employers and a decrease of taxation of labour income for low wage earners;
- temporary reductions in the level of the standard rate of VAT;
- a reduction of employers' social charges on lower incomes to promote the employability of lower skilled workers;
- the removal of the requirement for micro-enterprises to prepare annual accounts (which may require a reform of business taxation, usually based on annual account).

Furthermore the EERP urged the Council to adopt the directive to make permanent reduced VAT rates for labour-intensive services and announces a Commission proposal on reduced VAT rates for green products and services, aimed at improving in particular energy efficiency of buildings.

Among revenue measures implemented by Member States, besides the effect of automatic stabilisers (public revenues deteriorated significantly due to the substantial output drop), discretionary tax reforms accounted for most of the impulse, and included both delays of tax payments or refunds, mostly temporary, and changes to the tax structure (reduction of tax bases and rates), mostly permanent. In addition, in some cases tax reforms approved before the crisis were revised or their implementation postponed.

Table 6 reports, distinctively for major types of taxes, the breakdown of measures implemented since 2008 by EU Member States by target (tax base or tax rate) and direction of change (increase or decrease). It shows that the number and scope of discretionary tax measures adopted by Member States was highly diversified and that tax reforms affected both direct taxes (personal income tax, corporate income tax, social security contributions), and indirect taxes (value added tax, excise duties). In addition, both tax rates and tax bases were affected and the direction of change was not homogeneous, since both tax increases and tax cuts were introduced. Cuts most often affected personal and corporate income taxation, while increases prevailed in VAT and excise duties.

Tax reforms introduced to contrast the economic downturn include first measures to support aggregate demand and therefore prevent a deepening of the recession. These primarily include support to household disposable income, through reforms of direct taxation, such as revisions of the personal income tax rates and base (brackets, allowances and credits), as well as “green” tax credits and allowances (i.e. energy subsidies and facilitations for energy savings), direct support to low income earners and other vulnerable social groups, targeted reductions of social security contributions. Changes to indirect taxes for the purpose of sustaining aggregate demand were extremely sporadic, for instance VAT rate reductions were rare, generally only temporary or only targeted at specific sectors. In a high tax area as the EU, discretionary tax cuts contribute to offset the negative impact of the crisis on labour market conditions, on employment and on household purchasing power. In addition, support to the supply side was equally pursued for its side effects on employment and thus aggregate demand, but also to foster medium term growth. Measures include targeted reductions of social security contributions, tax breaks for business, reforms of corporate income tax, facilitations for VAT payments and refunds. Finally, preferential tax regimes were often introduced, including measures such as special low rates on certain activities.

As reported in European Commission (2010c), the budgetary impact of most expansionary measures was well below a half percentage point of GDP, but some measures, mostly those involving adjustments in the tax rate, amount to nearly one percentage point of GDP. Reforms of the personal income tax, the VAT, or the reforms of social security, as well as some excise rate increases, have often involved large amounts.

Table 6. Recent tax measures by type and direction of change

	Statutory rate	**Base or special regimes**	**Timing (revenue effect)**
	Personal income taxation		
Increase	FR, GR, IE, LV, PT, SL, UK (new top rate)	DK, EE, ES, GR, HU, IE, LT, LV, PT	
Decrease	AT, DE, DK, FI, FR, HU, LV, LT, PL, RO	AT, BE, BG, DE, DK, ES (2008), FI, GR, HU, IE, IT, LT, LV, LU, MT, NL, PL, PT, RO, SE, SL, SK	BE, DE, DK, PT,RO
	Social security contributions		
Increase	CY, EE, FI, HU, RO, SK	BG, CZ, EE, LT, LV	
Decrease	BG, CZ, FI, HU, RO, SE	FI, ES	
	Corporate income taxation		
Increase	HU, LT	BE, BG, GR (2009-2013), HU, IE, IT, LT (2009-2011)	IE
Decrease	CY, CZ, HU, LT, LU, GR (2010-2014), SE, SL, UK	AT, BE(2010-2011), CZ, DE, ES (2009-2011), IT, LT, NL, PL, PT, RO, SE, SK, SL, UK (2009-2011)	AT , FR, DE, NL, PT, IT
	Value added tax		
Increase	CZ, EE, ES, FI, GR, HU,IE, LV, LT,PT,RO	GR, LV, LT	CY
Decrease	IE, PT, UK (12.2008-2009)	BE, CY, DE, ES, FI, FR, HU, IT, LT, LV, MT, NL, RO, SK	BE, CZ, DK, ES, FR, IT, NL, PL, PT, SL, SK
	Excise duties		
Increase	BG, DK, EE, ES, FI, GR, HU, IE, LV, LT, PL, PT, RO, SL	DK, FI, GR, LV	
Decrease	IT, LT (2009-2011), PL, SK	BG	

Source: own elaborations based on European Commission (2010f) and European Commission (2010g).

Expansionary reforms were generally matched by measures to increase public revenue, in order to finance tax cuts and ensure public finances sustainability. They include primarily changes affecting indirect taxes, including increases in VAT rates and VAT base broadening measures, increases in excise duties rates and widening of the excisable base through the inclusion of previously exempted goods and services, primarily energy and alcoholic products. Environmental taxes were also increased, for instance by introducing or increasing carbon taxes or levies on motor vehicles. Property taxation increases were also introduced. Further, some expansionary measures had an explicit end date, so that their negative effects on the public budget were only limited to the short term. Finally, some Member States engaged also in tax administration reforms and introduced measures to contrast tax evasion. These measures help raising revenues and also contribute to a better functioning of tax systems once the economy will recover.

Therefore, expansionary measures were primarily pursued through reductions of direct taxation. This approach is broadly consistent with pre-crisis trends witnessed in the European Union and characterised by a greater reliance on consumption taxes and a reduction of the tax burden on labour and capital, in order to foster labour supply and labour demand and to increase employment and labour market participation (for instance, corporate income tax rates have been broadly declining since the 1980s). Furthermore, decreases of corporate taxation are also a result of increased fiscal competition, especially on mobile factors such as capital, and are consistent with recent trends towards a downward convergence of corporate tax rates in the EU. Finally, Member States have more room for manoeuvre when introducing changes to direct taxes than to partly harmonised EU taxes, such as VAT or excise duties.

4.1. Personal income tax reforms

During the years 2009-2010 a number of EU Member States introduced discretionary changes to their personal income tax rate and tax base. The reduction of the personal income tax liability was a primary measure to increase household disposable income and support household purchasing power. In many countries these expansionary measures are estimated to produce a budgetary impact of almost 1 %GDP on the two year period 2009-2010 (Austria: -1.15% GDP; Belgium: -2.11% GDP; Denmark: -1.62% GDP; Germany: -1.2 % GDP; Hungary: -1.1% GDP; Italy: - 1.2% GDP; Malta: -0.2% GDP; the Netherlands: -0.13% GDP; Poland: -0.6% GDP; Slovakia: -0.48% GDP; Slovenia: - 0.11% GDP; Spain: -0.75% GDP; Sweden: -1.1% GDP)[‡]. Often measures were targeted only to lower incomes, specifically pursuing the increase of disposable income of the social groups more threatened by the economic crisis. In addition, an increase of disposable income of the lower earners has a proportionally higher impact on consumption, due to the direct correlation between income and the marginal propensity to save: one euro increase of disposable income of the low income earners produces a higher increase of consumption than an equal increase of higher income earners' disposable income. Finally, most reforms were permanent, although in some cases temporary schemes were introduced. Measures offering only a temporary relief to taxpayers were also set up, for instance by introducing payment delays.

Main changes introduced to the personal income tax include the reduction of marginal rates (either all, or only some, for instance the lower ones), the revision of the tax scale, by broadening income brackets (either again a generalized revision, affecting all income brackets, or a more targeted one, focused only on selected income brackets, for instance the lower ones or the top one), the introduction or increase of exemptions and allowances.

Tax rate cuts were introduced less often than changes to the tax base, such as new or increased tax exemptions and allowances. First, measures affecting the tax base are generally less costly than changes to the tax rates in political terms. In addition, changes to the tax base can more easily be designed to target specific groups of taxpayers. Furthermore, increased allowances have a proportionally higher impact on the disposable income of low-income households. Finally, tax allowances were in some cases used to target

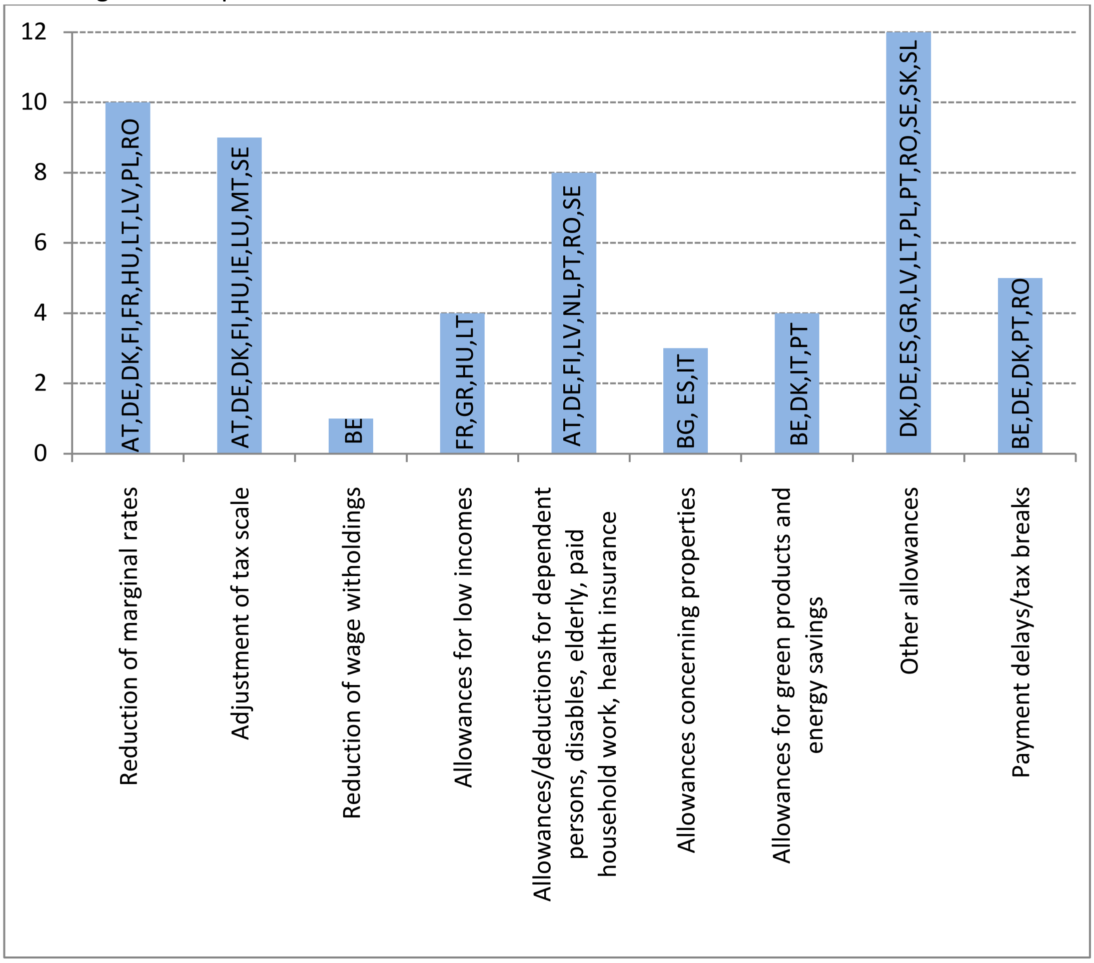
‡ The net budgetary effect of personal income tax reforms is given by the sum of the negative impact of expansionary measures and the positive impact of consolidation measures. Details on the latter are available in European Commission (2010f).

specific objectives. For instance, tax allowances for housing expenditures were introduced to dampen the slump in the housing sector.

Tax rate cuts were often introduced only for the lower brackets, and in some cases coupled with lower income brackets enlargement, so as to provide support to lower income earners. Conversely, for fiscal consolidation purposes, tax cuts were in some cases matched with top rate increases. This may increase the progressivity of the tax systems. Finally, some countries suffering from particularly stressed public finances adopted measures to increase personal income tax revenue or decided to postpone previously approved tax decreases (Greece, Ireland, Estonia, Portugal).

As shown in fig. 1, ten countries have reduced personal income tax marginal rates (Austria, Denmark, Finland, France, Germany, Hungary, Latvia, Lithuania, Poland and Romania), five of them have also revised the tax scale (Austria, Denmark, Finland, Germany and Hungary), and other four countries have revised only the tax scale (Ireland, Luxembourg Malta and Sweden). One country has adopted measures to reduce wage withholdings (Belgium). Finally, relatively short payment delays have been introduced in Belgium, Denmark, Germany, Portugal and Romania. Generally, these measures have been introduced in 2009 and some in 2010.

Fig. 1. Main personal income tax reforms 2008-2010



Source: European Commission (2010g).

In addition, many countries have sought to support income of taxpayers in specific conditions, by granting them special tax allowances and tax credits. Those entitled to these measures include families with children, dependent or disabled persons, elderly, and families incurring in costs related to childcare, healthcare and paid household works. Despite the existing differences across countries, these measures can be found in Austria, Finland, Germany, Latvia, the Netherlands, Portugal, Romania and Sweden. In order to support specific groups of taxpayers, that are more exposed to the effects of the economic downturn, other allowances or non taxable income or tax rate reductions can be found in some countries for specific sources of income, for instance pension income (Denmark, Germany, Greece, Latvia, Lithuania, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden).

Favourable treatments are also granted in some countries to household incurring costs related to the purchase or renovation or their homes: mortgage interest deductions or tax credits on renovation expenses have been introduced in Bulgaria, Italy and Spain.

Finally, the objective of supporting household income in some cases has been conjugated with the pursuit of a “greener” economy. So tax credits, allowances and benefits have been introduced for expenditure related to green products or for energy-saving restructuring of buildings (Belgium, Denmark, Italy, Portugal).

In conclusion it is worth noticing that many countries introduced also pro-cyclical measures such as increased tax rates, reduced personal allowances and increased taxation of bonuses and capital gains (in particular: Estonia, Greece, Latvia, Lithuania, Portugal).

4.2. Social security contributions reforms

The reduction of the tax wedge on labour was a policy issue in many countries well before the upsurge of the economic crisis in 2008. The crisis has added further incentives to these reforms. On average, the EU has a very high tax wedge on labour, and in two thirds of EU Member States, social security contributions by employers are the largest part of the tax wedge on labour, followed by income tax and employees’ social security contributions (European Commission, 2010d). Social security contributions increase the cost of labour for employers and reduce disposable income for employees. In addition, the lowering of social security contributions also attenuates their regressive effect (which partly offsets the progressive impact of personal income taxes). A cut in social security contributions was therefore a policy choice introduced to increase labour demand and labour supply, and also to stimulate aggregate demand, through the increase of workers net income.

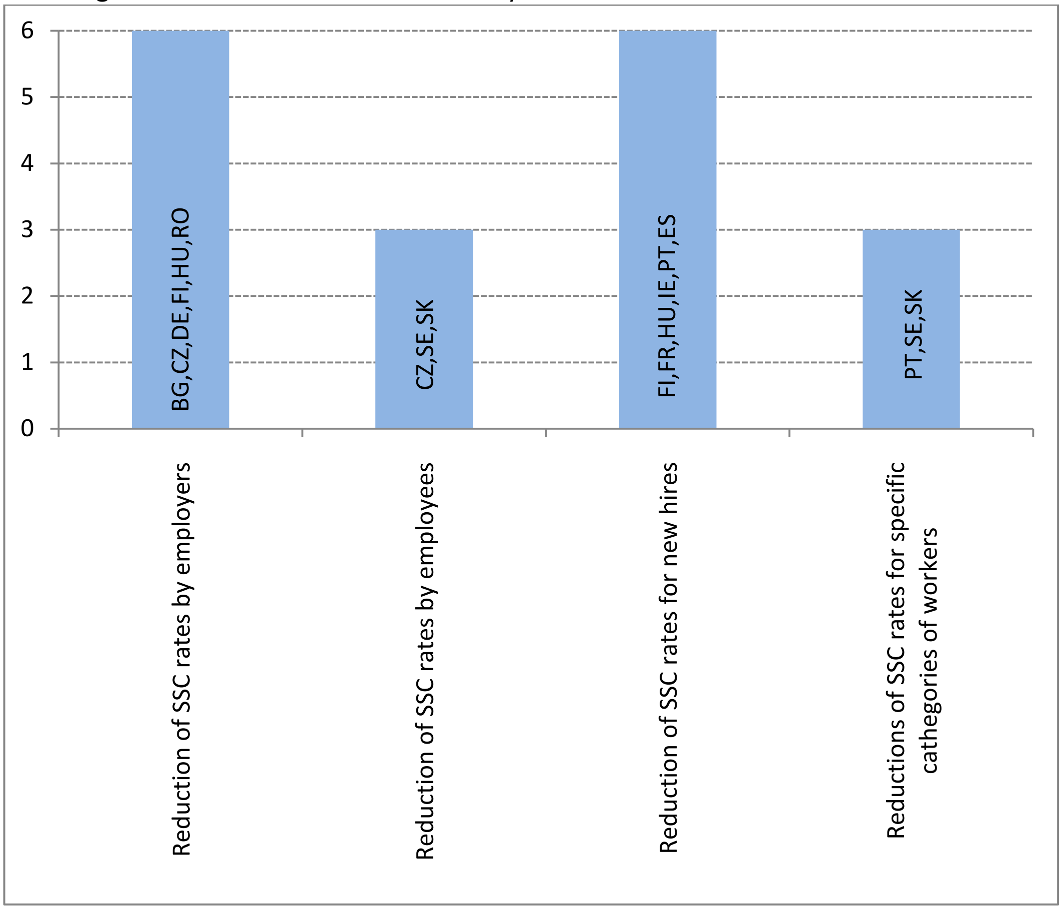
Despite the general pursuit of increased employment rates and participation to the labour market over EU countries, relatively few policy measures addressed social security contributions. Most often reforms reduced social security contributions only for low wage workers (at least this lessened the regressive structure of social security contributions) or for new hires. Even in countries adopting major expansionary reforms of social security contributions, the budgetary impact of such measures was on average much more limited than that of personal income tax changes (Bulgaria: -0.59% GDP; Hungary: -1.5% GDP; Slovakia: -0.06% GDP; Sweden: -0.3% GDP)

Generally, the restraints of public finances and the growing financing needs for expenditures related to labour market policies, such as increased unemployment benefits and widened employment support programmes, put additional constraints to governments' discretion over reducing social security contributions. In practice, more countries have introduced or revised their unemployment benefit or employment support systems than have reduced social security contributions. Thus incentives to labour demand and labour supply were mainly pursued through non-tax labour market measures and through changes to direct taxes (personal income tax and corporate income tax).

Among EU countries

- some lowered employers' social security contributions (Bulgaria, Czech Republic, Finland, Hungary, Romania and Germany – only temporarily);
- others lowered only employees' rates (Czech Republic, Sweden, Slovakia).

Fig. 2. Main reforms of social security contributions 2008-2010



Source: European Commission (2010g) and OECD (2010c).

In addition to generalised rates cuts, in a number of countries SSC reductions were targeted:

- at new hires (Finland, France, Hungary, Ireland, Portugal, Spain);
- at other specific groups of workers (Portugal, Slovakia, Sweden). For instance, Portugal eliminated or reduced employer social security contributions for the first years of employment for permanent contracts or for new hires of workers over 55 years of age, who have been unemployed for at least six months. Ireland eliminated employer social security contributions for one year for new hires of people

unemployed for at least six months. France and Spain reduced employer social contributions for new hires (reductions are relatively larger for low-wage workers). In Spain reductions apply to new hires of workers with family responsibilities on permanent contracts. In Hungary and Finland employer social contributions were reduced for specific groups, such as new hires of mid- to longer-term unemployed (Hungary) or workers in peripheral regions (Finland).

Conversely, a number of countries did not introduce any significant change (Austria, Belgium, Greece, Italy, Malta, the Netherlands, Poland, Slovenia, United Kingdom), while others increased social security contributions by employers, or employees or both, possibly under the pressure of increased financial needs to fund expenditure programs and of deteriorating public finances (Bulgaria, Cyprus, Estonia, Finland, Latvia, Lithuania, Romania).

4.3. Other tax reforms

4.3.1. Value added tax reforms

Counter-cyclical VAT reforms to sustain demand would include the lowering of tax rates (both standard and reduced ones) and base narrowing measures, including the extension of goods and services subject to the reduced rate. In practice most of the expansionary measures targeting the VAT were introduced only temporary, to encourage spending by businesses and consumers in the short-term, without imposing a significant long-term burden on the public budget.

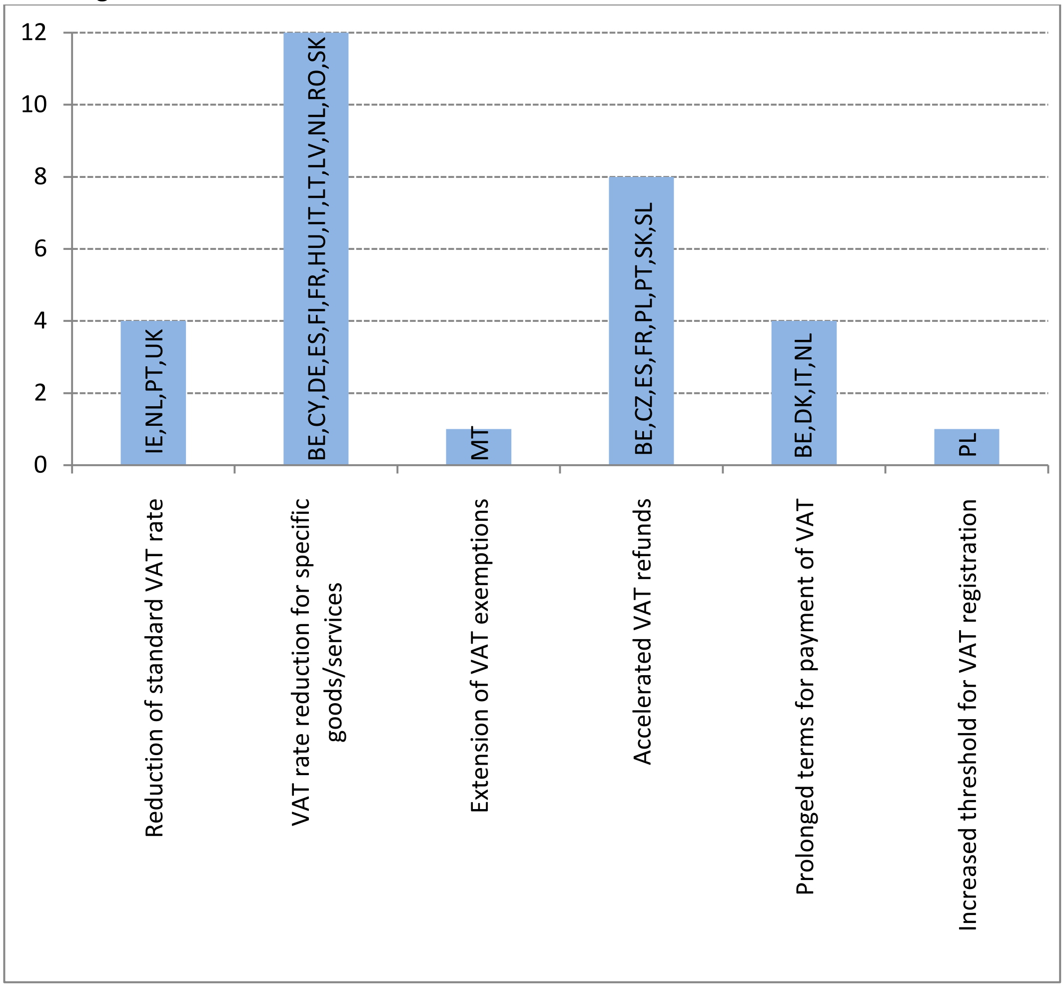
At the upsurge of the crisis, in late 2008 and early 2009 some countries postponed plans to increase VAT rates (Netherlands, from 19% to 20%) or actually reduced the standard VAT rate (Ireland, from 21.5% to 21% in 2010; Portugal, from 21% to 20%; UK, from 17.5%to 15% temporarily, between 1 December 2008 and 31 December 2009).

Later on, in 2009 and 2010, many more countries raised their VAT rates (Ireland, already in December 2008, from 21% to 21.5%; and, from mid 2009, Hungary, from 20% to 25%; Estonia, from 18% to 20%; Czech Republic from 19% to 20%; Latvia, from 21% to 23%; and then, from mid 2010: Lithuania, from 21% to 23%; Spain, from 16% to 18%; Portugal back to 21%; Greece, from 21% to 23%; Finland, from 22% to 23%; Romania, from 19% to 24%) and other increases are already planned for early 2011 (UK, from 17.5% to 20%).

These increases of VAT rates have undoubtedly a pro-cyclical effect and as VAT is shifted on to consumers, these measures may further depress demand. In addition, counter-cyclical reforms of VAT were introduced, but mostly with zero-effect on the long term public budget. These include, for instance, limited and temporary reliefs, for instance through the reduction of delays for value added tax refunds, or extending the deadlines for VAT payments. In addition, in a few cases, refunds and exemptions criteria were modified as well as other general provisions. As such, these reforms mostly benefitted businesses rather than consumers. Finally, a high number of base narrowing measures were introduced, in many cases for equity considerations: for instance the tax burden on food or necessities was reduced (Belgium, Finland, Hungary, Lithuania, Slovakia). In addition, some countries introduced reduced rates for labour intensive sectors, such as tourism or restaurants (Belgium, Cyprus, Finland, France, Germany, Hungary, Latvia). Generally, however, the positive budgetary impact of VAT rate increases was much larger than the negative effect of the base narrowing measures.

These measures may have been enacted to finance increased welfare spending (especially on social security) and other exceptional expenditures prompted by the economic crisis (such as measures adopted to save private banks) in order to limit the eroding effects on public finances and public debt. In addition, pro-cyclical reforms of the VAT may have been needed to offset the negative impact on the public budget caused by cuts to other taxes. If VAT rates increases are matched by cuts to direct taxes, then countries are experiencing some kind of tax shifting from direct to indirect taxes, also confirming the recent EU trends towards higher consumption taxes. This may be specifically the case for Finland, Hungary and Lithuania, that modified their personal income tax scale and/or rates in 2009 and 2010 and at the same time increased their VAT rates.

Fig. 3. Main reforms of value added tax 2008-2010



Source: European Commission (2010g).

The overall budgetary impact of both expansionary and consolidation VAT measures for 2009 and 2010 for countries that made available full estimates is highly dispersed, but in some countries is significantly positive: Belgium: -0.33% GDP; Bulgaria: -0.44% GDP; Estonia: +0.5% GDP; France: -0.45% GDP; Greece: +1.24% GDP; Hungary: +0.6% GDP; Latvia: +2.1% GDP; Lithuania: + 0.7% GDP; the Netherlands: -0.01% GDP; Poland: -0.25% GDP; Portugal: +0.3% GDP; Spain: -0.29% GDP; UK: -0.87% GDP.

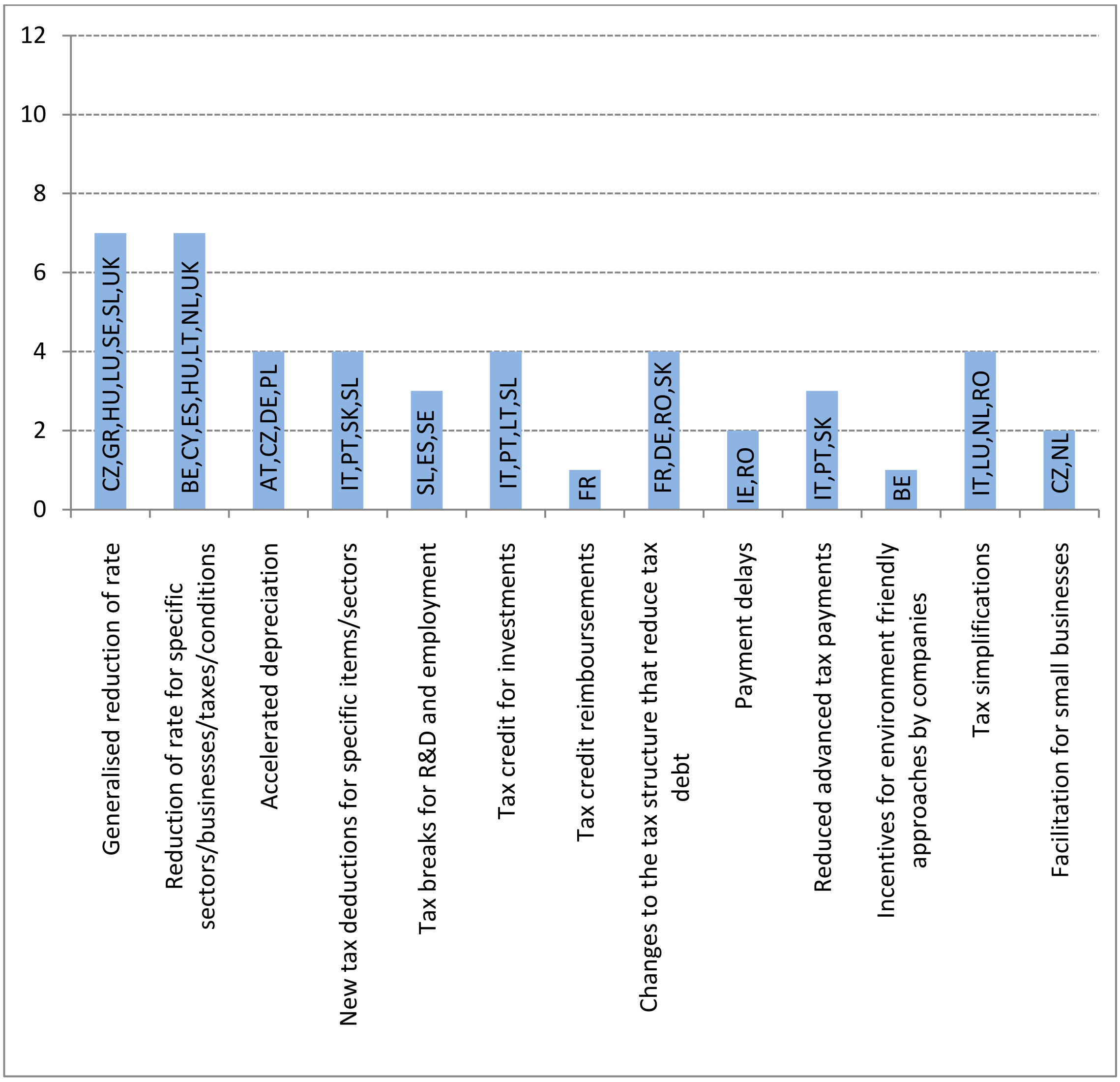
4.3.2. Corporate income tax reforms

A wide array of reforms affected the corporate income tax. Some countries reduced the general tax rate (Czech Republic, Greece, Hungary, Luxembourg, Sweden, Slovenia, United Kingdom) or the tax rate for specific sectors/businesses/taxes/conditions (Belgium, Cyprus, Hungary, Lithuania, the Netherlands, Spain). In times of recession these measures do not provide any benefit to the many loss making companies, but surely are consistent with recent trends towards a reduction of corporate taxation to increase a country attractiveness to investors. Other measures with zero effect on the public budget, but granting higher liquidity to companies, include payment delays (Ireland and Romania), reduced advanced tax payments (Italy, Portugal and Slovakia), tax simplifications (Italy, Luxemburg, the Netherlands, Romania), and facilitations for SMEs (Czech Republic, Slovakia).

Other countries opted for a revision of the tax base, for instance by introducing accelerated depreciation (Austria, Czech Republic, Germany, Poland) or new tax deductions for specific investments or sectors (Italy, Portugal, Slovakia, Slovenia), which should both bolster investments. In a few cases, tax cuts were granted to SMEs (Germany, the Netherlands).

Often tax base reforms were only temporary (for instance in Austria, Czech Republic, Italy). Tax breaks were also introduced for specific circumstances, for instance for Research & Development expenditures or for new employment (Spain, Sweden, Slovenia, France, Germany, Slovakia).

Fig. 4 Main corporate income tax reforms 2008-2010



Source: European Commission (2010g).

4.3.3. Excise duties and environmental reforms

Besides being used to contrast the economic crisis and avoid a deeper recession, tax reforms were also enacted to create the right incentives to change the economic structure and the behaviour of economic agents that will be useful to sustain growth when recovery will take hold. Thus, some countries reduced taxation on desirable choices and behaviours and increased taxation on undesirable choices and behaviours. The latter provide also an additional source of revenues. For instance, a number of countries introduced or increased excise duties on electricity, coal, tobacco and/or alcohol (Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Spain, Finland, Greece, Hungary, Ireland, Latvia, Romania, Slovenia, United Kingdom), or introduced/increased environmental or health related taxes (Germany, Denmark, Greece, Italy, the Netherlands, Poland). Among these, a couple also introduced tax incentives to promote a "greener" economy and society: for instance, Germany introduced incentives for low emission vehicles and the Netherlands approved environmental subsidies.

5. Tax policy responses: an assessment

There is widespread consensus that the financial and, later, economic crises were not triggered by tax-related factors. Notwithstanding this, tax distortions may have exacerbated the spam and magnitude of the crisis (Hemmelgarn and Nicodème, 2010; Keen et al., 2010). For instance, some features of tax systems may have increased indebtedness by households and companies, and this contributed to the worsening of the fall of demand when the liquidity of the economic system became constrained. First, in many EU Member States, the non-neutrality of corporate income taxation and the preferential treatment for debt over equity may have increased the leverage by companies. Second, by the same token, the preferential tax treatment for house-related mortgage interests may have contributed to the increased leverage of households. Finally, the development of complex financial instruments designed to take profit of tax differentials across countries may have increased risk-taking by financial institutions (IMF, 2009a).

Conversely, among the measures to contrast the economic downturn, tax policy reforms had a significant role in fiscal stimulus packages, and were designed as a tool to support demand and to foster supply. Despite some common trends, tax reforms were highly differentiated across countries. These differences are partly explained by the different initial conditions of each country as regards both the economy and the status of its public finances. Given these differences, since 2009 some countries have performed better, while in others the economy is still compromised. The implementation of discretionary fiscal packages is too recent to allow a rigorous statistical assessment of the effectiveness of tax measures undertaken by Member States to alleviate the negative employment and social implication of the crisis, and to investigate how much the different economic performances by different countries can be explained by the different policies implemented, rather than by other non-tax factors, above all the different initial conditions. Comprehensive statistical data needed for such an evaluation are not yet available, and there are no empirical studies offering a deep and comprehensive analysis of these policies effectiveness. It is however possible to assess the discretionary tax reforms implemented with regard to:

a) the consistency of discretionary tax reforms with the theoretical prescriptions on optimal taxation and with empirical evidence on the effects of fiscal policy on growth and employment that can be found in the literature;
b) the similarities and differences between current discretionary tax reforms and the main tax reforms triggered by past financial crises (as described in part 1).

a) Theoretical prescriptions on optimal tax reforms

The basis for assessing the consistency of discretionary tax reforms with theoretical prescriptions and with the pursuit of employment and growth recovery is the recognition that the immediate economic recovery requires tax changes that produce an increase in demand, while improving long-term growth requires tax changes that increase supply. As short-term tax concessions can be hard to reverse, there is a danger of short-run policy damaging the chances of sensible long-term policy. Hence policy responses to the downturn should allow a reconciliation of short-run and long run objectives.

While actual tax reforms that are most likely to enhance growth may differ across countries, depending on countries' specific tax and economic structures, some theoretical works suggests a "tax and growth ranking", as summarized by Johannson et al. (2009). However the magnitude of the effect of taxes on growth depends on a wide array of factors and is not clearly illustrated. Conversely, this literature suggests that recurrent taxes on immovable property are the least distortive in terms of their effect on long-run per capita GDP. They are followed by consumption taxes, which may reduce work incentives but do not affect incentives to save, and then by personal income taxes, which reduce employment and human capital investment, and can weaken labour productivity. “In-work benefits” may partly mitigate these effects for low income earners. Finally, corporate income taxes are deemed the most harmful to growth. Therefore a revenue-neutral growth-oriented tax reform would encompass the shifting of part of tax revenues from income taxes to the less distortive consumption and property taxes.

As reported in table 6 and discussed in paragraph 3.4, reductions of personal income tax rates and base are among the measures most frequently included in the fiscal stimulus packages recently approved by EU Member States. They are followed by reductions of corporate income tax rate. Based on the theoretical results summarized above, these reforms should have some growth enhancing effects, as they reduce the tax liability of personal and corporate income taxes – deemed to be harmful to growth. First, the reduction of personal income tax liabilities increases households purchasing power and therefore increases aggregate demand in the short run, which should in turn favour a swift economic stimulus. In addition, personal income tax reforms reducing marginal and average effective tax rates on labour income may increase labour supply and rates of participation in the labour market. In some countries, tax reforms encompassed also a reduction of social security contributions by employers and employees. Cuts to social security contributions also decrease the tax wedge on labour, and they should thus contribute to boost aggregate demand, by increasing current employees’ purchasing power. They may also increase employment by stimulating labour supply.

However the magnitude of this last effect is quite controversial in the economic literature, as it crucially depends on the value of the elasticity of labour supply to wages, which may vary greatly over countries, sectors and time. If labour supply elasticity is low, the reduction of the tax wedge has low incentive effects on employment (except for workers experiencing very large tax cuts). This position is supported by Slemrod (1992), providing evidence that “real” decisions (i.e. those concerning labour supply, savings and investments) are the least responsive to tax reforms. In addition, the literature suggests that the elasticity of labour supply mostly depends on non-income variables, especially gender. Therefore reforms that reduce the tax wedge on labour may be partially ineffective in boosting employment. Furthermore, the cost-effectiveness of cuts to social security contributions depends on the kind of reductions introduced, and generalised cuts, affecting all workers and sectors, are deemed less cost-effective than targeted reductions, as for instance those directed to new hires, young or old workers, specific sectors or employers, such as SMEs (OECD, 2010c). In addition, generalised cuts may be preferable during recessions and early stages of recovery, when the policy goals aim at maintaining overall employment. During recovery phases, targeted measures may better help reintegrating the unemployed into the workforce and encouraging hiring by firms (OECD, 2010c).

The overall effect of fiscal measures on employment is the result of the mix of tax measures implemented: if cuts to personal income taxation and social security contributions produce a positive effect on employment, this effect may be offset by other factors, for instance the increase in consumption taxes and the decrease of capital income taxation and increased allowances to families (Blomquist et al., 1997). As for personal income tax rate cuts, if cuts to social security contributions are not targeted only at lower income brackets, they may reduce the redistributive properties of progressive personal income taxation and thus lower the inequality reducing effects of the tax system.

Turning to medium-term growth prospects, these crucially depend on investments, which may be stimulated by increasing net returns to investments via a reduction of marginal and average capital income tax rates. Recent reductions of corporate income tax rates are consistent with a trend already detectable in the EU before the crisis and aimed at improving the attractiveness and competitiveness of European economies in a global context characterized by high factor mobility. While corporate income tax cuts may be of limited relief for companies incurring losses during the crisis, when the economy will recover these measures should foster supply and therefore sustain medium-term growth. However, cuts to capital income tax rates may increase income inequality, since capital is usually more unequally distributed than income.

The financial feasibility of revenue-reducing tax reforms is limited by the fiscal position of single countries and any fiscal reform involving tax cuts should include provisions on how to finance the reduced revenues, either through expenditures cuts or through increased revenues from other sources, while increased debt is not a medium-term sustainable option. This is of particular significance during economic recessions, when public finances are already exposed to deterioration due to the effect of automatic stabilizers, and clearly the implementation of discretionary expansionary fiscal policies reinforces these effects. It has been estimated that financial crises shift the economic growth path on a lower level and increase public debt (Reinhart and Rogoff, 2009). Therefore a financially viable fiscal reform should match immediate tax cuts with simultaneous or subsequent measures to increase revenues, and the sustainability of revenue cuts is severely limited by countries fiscal position. If tax cuts are financed by increased debt, they may help a swift recovery, while in the medium term they impose a heavy burden on the economy and can become harmful to growth. As for discretionary fiscal packages implemented during the current economic downturn, they often included measures to increase revenues, primarily increases in consumption taxes (VAT and excise duties) and enlargement of corporate income tax base. These measures should help fiscal consolidation, reduce the risk of excessive growth of public debt and help sustain medium term growth. Despite tax cuts have been coupled with measures to increase tax revenues, on average EU Member States are now facing increased debt and the problem of fiscal consolidation will be a key issue in the in the coming years.

Finally, as reported above, tax distortions may have exacerbated the spam and magnitude of the crisis and tax reforms pursuing sustained long term growth should also aim to remove these tax distortions and non-neutralities. For instance tax provisions that foster households and corporate leverage, such as the preferential treatment for debt over equity in corporate income taxation and for house-related mortgage interests in personal income taxation should be revised. However, in this case, the time inconsistency problem, typical of many tax reforms, may be particularly severe. Removing these provisions during the economic downturn may further depress demand at a time when demand is already low due to the crisis. A crucial issue for policy makers is therefore how to correct these asymmetries, while taking into account possible time-inconsistencies.

b) Current and past tax reforms

The current economic crisis stands out from major past crises described in part 1 for its global and transversal spam and for its huge negative effects on economic activity, demand and employment. As for tax reforms implemented, some of the main features of current reforms recall measures introduced after past financial crises, in particular, with reference to the results of part 1:

- the reduction of personal income tax rates was introduced also in Sweden, Norway, Japan and Finland (on labour income); reforms included also increased tax allowances for specific personal and family conditions such as: children allowances, work-related and commuting costs allowances, earned-income allowances. In these countries, personal income tax reforms marked a departure from the idea of tax systems as primarily based on a strongly progressive income tax. However, in the Nordic countries allowances favouring households with low income and/or many

children were introduced to compensate for the adverse distributional effects of a less progressive income taxation;
- corporate tax rates were reduced and tax based broadened in Sweden, Finland and Norway. In addition, in Sweden and Norway the reform of capital income taxation introduced a flat rate equal to the lowest of the personal income tax (dual income tax);
- the VAT rate was increased significantly in the Swedish reform, the tax base largely broadened. In Norway and Japan, the reform encompassed the introduction of a VAT.

The measures introduced during the current crisis recall past measures for the emphasis given to the reduction of personal and corporate income taxation to boost demand and employment. They are also similar for the upward revision of indirect taxation, in particular the VAT, as a source of increased revenues.

Conversely, a remarkable difference with respect to previous crises relies not on the individual measures introduced, but on the proactive role explicitly taken by governments to contrast the economic downturn, on the design of targeted discretionary fiscal measure, specifically conceived for recovery purposes, and on the steering and coordinating role played by EU institutions.

In late 2008-early 2009, faced with collapsing demand and rising unemployment, the governments of many EU Member States quickly responded by devising first financial sector rescue measures and then fiscal stimulus packages. Differently from what happened in previous financial crises, the reaction was swift and targeted, the interventionist stance often openly declared: fiscal policy was to some extent "rediscovered" or at least explicitly exploited. In addition, tax reforms were often specifically designed to respond to the crisis, while in past financial crises the causal nexus between economic downturn and tax reforms was not so neat and straightforward. As an extreme example, in 2008-2009 some countries delayed or withdrew the implementation of previously approved tax reforms (e.g. VAT). Finally, at the onset of the crisis, EU institutions played a key role in promoting an interventionist stance by Member States, for instance through the EERP. EU institutions acted as a "fiscal policy board" (Solow, 2005) and, primarily through the EERP, provided guidelines and steered Member States to take swift action, in particular to support aggregate demand, employment and/or household income in the short-run, while at the same time to ensure the long term policy objectives of raising growth and jobs potential in the longer run, in line with the Lisbon strategy and with the objectives of smooth functioning of the single market and of facilitating a conversion of the economy towards "greener" approaches.

6. Concluding remarks

Since early 2009 most EU Member States introduced fiscal stimulus packages to contrast the effects of the economic crisis on consumption, employment and production. In some cases these packages were of significant financial dimension, but countries with less healthy public finances were more constrained in the design of discretionary fiscal packages and generally could not sustain a strong fiscal effort for too a long time. Some countries with highly compromised public finances could not devise any significant fiscal support measure.

Fiscal packages were broadly consistent with the guidelines detailed in the European Economic Recovery Plan (EERP) and included both revenue and expenditure measures.

As for labour market and employment support, expenditure side measures made up most of the measures implemented, together with measures pursuing a revision of labour market institutions. Employment support came also from cuts to social security contributions. In addition, personal income tax cuts had a major role in sustaining household purchasing power.

Tax policy was highly diversified across countries, reflecting the complexity of tasks faced by governments, the differing macroeconomic and public finance conditions, the different pre-crisis composition of the public budget and its trends. For each type of tax, both cuts and increases can be found across Member States. However, expansionary reforms have some common features.

Expansionary tax reforms involved primarily the reduction of direct tax liabilities, through cuts to personal income tax rates and base and, in a limited number of cases, the reduction of employers' and employees' social security contributions. As for the supply side of the economy, significant cuts were introduced to company income tax base and rate.

Indirect taxes were primarily affected by increases (in particular, VAT and excise duties), mostly to finance expansionary policies, and reflecting a trend already detectable before the crisis.

Overall, the tax measures introduced seem consistent the "tax and growth ranking" described by Johannson et al. (2009). Among the measures most frequently included in the fiscal stimulus packages recently approved by EU Member States there are cuts to personal income tax rates and base. They are followed by reductions of corporate income tax rate. These two taxes are deemed the most harmful to growth: personal income taxes reduce employment and human capital investment, and can weaken labour productivity; corporate income taxes are the most harmful to growth. The reduction of personal income tax liabilities increases household purchasing power and therefore increases aggregate demand in the short run. In addition, by reducing marginal and average effective tax rates on labour income, it may increase labour supply and rates of participation in the labour market. In some countries, tax reforms encompassed also a reduction of social security contributions by employers and employees, which reinforce the boosting effect on aggregate demand and employment.

Turning to medium-term growth prospects, these crucially depend on investments, which may be stimulated by increased net returns to investments via a reduction of marginal and average capital income tax rates. Recent reductions of corporate income tax rates are consistent with a trend already detectable in the EU before the crisis and aimed at improving the attractiveness and competitiveness of European economies in a global context characterized by high factor mobility.

Discretionary fiscal packages implemented during the current economic downturn often included also measures to increase revenues, primarily increases in consumption taxes (VAT and excise duties) and enlargement of corporate income tax base. These measures should help fiscal consolidation, reduce the risk of excessive growth of public debt and help sustain medium term growth, and according to the theory are the less harmful to growth.

Two years after the burst of the crisis, all countries are left with increased public deficit and debt. In particular, most EU countries are left with the legacy of the largely accommodative monetary and fiscal policies they implemented: they are running significant budget deficits and public debt has soared. Unhealthy public finances may affect long-term income levels. Thus emergency measures should be now scaled back and "exit strategies" should be devised, for instance by reinforcing adequate medium-term budgetary frameworks. Therefore, as the economy starts recovering, countries face two difficult challenges: fiscal consolidation, to revert the trend of increasing public debt, and continued support to economic growth, to mitigate the potential output losses and ensure growth returns close to its pre-crisis path. Some of the tax reforms introduced during the crisis may be consistent also with long term fiscal consolidation objectives, such as the reduction of the tax wedge on labour, which should favour employment (although with caveats, see OECD 2010c), the reduction of the tax rates on capital (together with company income tax base widening measures), to increase competitiveness and attractiveness to mobile factors, and incentives for energy saving and low emission technologies, which should favour the conversion of the economy to more sustainable configurations. However, the economy has not fully recovered yet: macroeconomic conditions are still troubled, unemployment is high and demand has not returned to previous levels. In addition leverage remains high both in the financial and non-financial sector, and governments may be compelled to new bailouts, which they can face only if they are not too indebted. In this framework, the task for EU governments pursuing full economic recovery and sustained growth is still highly challenging.

Finally, among the measures introduced, the reduction of social security contributions was not significantly included by EU member States in their fiscal recovery packages. Only few countries introduced generalised or targeted cuts. Social security contributions remain high in many EU countries and make up a significant part of the total tax wedge on labour, which is again very high in the EU, and may negatively affect employment recovery and the competitiveness of EU economies. In addition, the reduction of the tax wedge on labour income may favour an increase of aggregate demand, though increased purchasing power and spending by workers.

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Annex 1. Abbreviations

AT	Austria
BE	Belgium
BG	Bulgaria
CY	Cyprus
CZ	Czech Republic
DE	Germany
DK	Denmark
EE	Estonia
ES	Spain
FI	Finland
FR	France
GR	Greece
HU	Hungary
IE	Ireland
IT	Italy
LT	Lithuania
LU	Luxembourg
LV	Latvia
MT	Malta
NL	Netherlands
PL	Poland
PT	Portugal
RO	Romania
SE	Sweden
SL	Slovenia
SK	Slovakia
UK	United Kingdom
EU	European Union (27 countries)