

## THE IMPACT OF POLICY CHANGE ON OECD TAX-BENEFIT INDICATORS

### Introduction

1. The fallout from the global economic downturn of 2008-09 is a continuing source of stress on families and a constraint on government policies. This “Great Recession” has brought new urgency to the search for expenditure reductions and austerity has now become a significantly more prominent, pressing, and immediate concern of policymaking across OECD and EU countries. The increase in governments’ reform activity crisis following on from the crisis makes an assessment of the resulting impact, particularly on incomes of those at the families at the lower end of the income distribution, critical.

2. This paper examines changes in two of the standard indicators produced by the OECD tax and benefit models in order to identify the extent to which policy changes, particularly since the Great Recession, have protected the most vulnerable working-age households – those reliant on safety net benefits and the unemployed – or whether they have resulted in them falling further behind the rest of the population. This review is timely for two reasons. First, the previous review of policy reforms in the context of the tax-benefit model examined reforms undertaken between 2003 and 2005 (OECD, 2007). Second, and more importantly, at that time the story of reforms to the tax and benefit system in OECD countries had been dominated by two main objectives: to strive to increase incentives to work, and to increase family incomes, especially where children were present. Since the Great Recession other objectives have played a more prominent role (particularly, attempts to reduce the fiscal cost of the benefit system). In response to this change in the balance of policy priorities the focus of this analysis is the identification of changes in benefit generosity and the underlying changes in policy stance that have brought them about.<sup>1</sup>

3. The paper proceeds in two parts. Both sections analyse changes between the mid-2000s and 2011 in most OECD countries as well as some additional European Union countries. In Section 2, we describe changes in the generosity of safety net benefits (including social assistance and minimum guaranteed income schemes but also cash assistance with cost of housing and family benefits) in the context of the changes to the policy environment, and discuss whether these transfers have become more or less effective at reducing the financial hardship faced by jobless households headed by working-age individuals. In the second section, we focus on changes in the generosity of unemployment benefit systems in providing financial support to the unemployed when they first lose their jobs and over an extended period of unemployment. The results allow trends in policy impact “pre-crisis” (2005-2007) and changes since (2007-2010- 2011) to be identified.

### Changes in the Generosity of Safety Net Benefits

4. Almost all OECD and EU countries operate comprehensive minimum-income programmes for working-age individuals, either as last-resort safety nets alongside primary income replacement benefits, or as the principal instrument for delivering social protection. Such safety-net benefits aim primarily at providing an acceptable standard of living for families unable to earn sufficient incomes from other sources. Table 1 provides a stylised summary of some of the major

reforms to safety net benefits that have taken place since 2005. There have been increases in benefit generosity in Austria (Vienna), Estonia, Japan, Sweden (family benefits) and the United States (Michigan) and decreases through explicit policy changes in Hungary and Portugal but also in many other countries as the consequence of benefit erosion. In Hungary eligibility for social assistance has been tightened and in Japan, for child benefits, it has been extended. In addition, most countries have altered the nominal level of benefits available either on an ad hoc basis or because they are linked to a standard that has changed over time.

**Table 1: Reform initiatives since 2005 – Safety Net Benefits**

<i>Country</i>	<i>Reform</i>	
Austria	National harmonization of <i>minimum</i> income standard.	+
Belgium	Additional family benefits	+
Canada	Ontario Child Benefit	
Czech Republic	Social assistance and housing benefit reform Family benefit rates made age dependent Temporary increase in family benefit amounts	
Estonia	Increase in base for calculating guaranteed minimum income	+
Germany	Additional family benefits	
Hungary	Reforms to all safety net benefits <i>Restricted eligibility SA</i>	- -
Japan	Expansion of Child allowance	+
Latvia	Restructuring of Social Assistance	+
Portugal	Restructuring of Social Assistance	-
Sweden	Family Benefits	+
United States	American Recovery and Reinvestment Act (2009)	+

Source: Tax and Benefit Models (2012), [www.oecd.org/els/social/workincentives](http://www.oecd.org/els/social/workincentives). Information from national authorities

5. As poverty alleviation is the primary objective of safety net benefits the first part of this section examines adequacy of these safety net benefits from a perspective of income distribution and poverty alleviation. In so doing the focus is on changes in the extent to which safety net benefits alleviate or deepen poverty risks faced by those unable, either temporarily or permanently to provide for themselves or their families. Comparison of the generosity of these benefits, using common poverty concepts (that is, relative to low-income cut-off points commonly referred to as “poverty lines”) across countries, provides a comparative perspective of the operation and adequacy of benefit systems (the smaller the “poverty” gap between the family’s disposable income and the poverty threshold the greater the alleviation of poverty risk compared to the zero income situation). In a similar vein, changes in this measure reflect changes in adequacy of benefits.<sup>2</sup> This **relative** measure also sheds light on whether the economic cost of the downturn has been spread in a socially and politically acceptable way. A clearly pertinent question given the increases in inequality experienced in many of these countries (OECD, 2011).

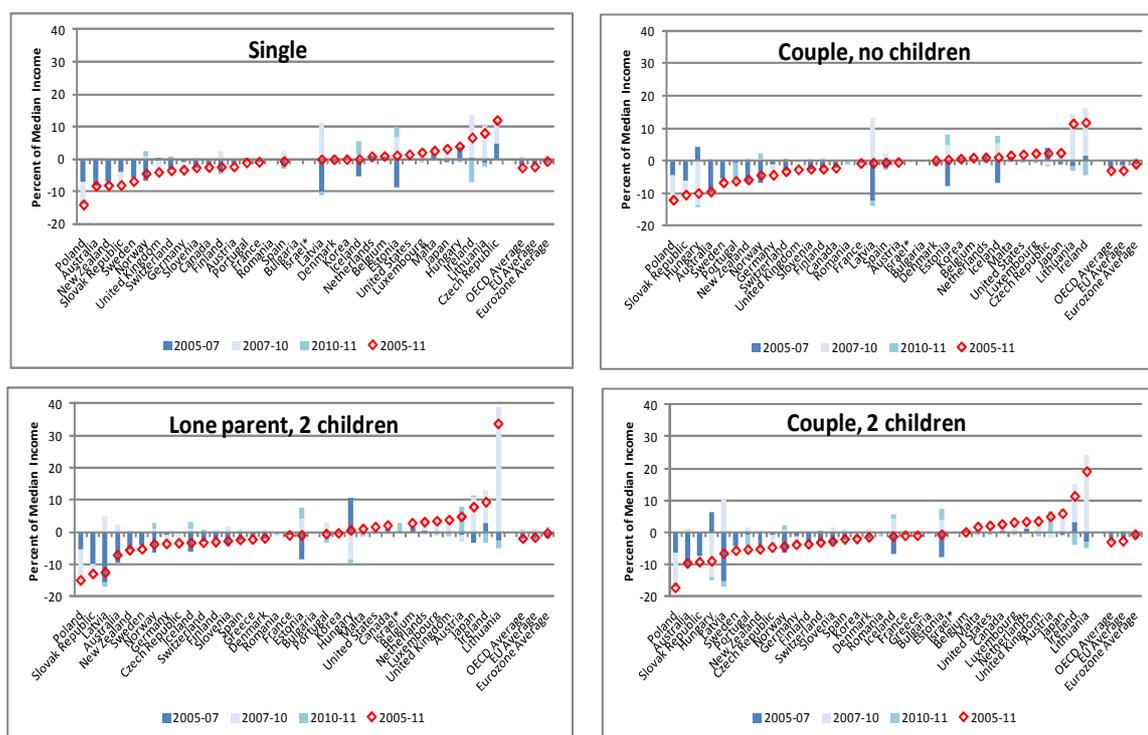
6. In order to identify the extent to which changes in the adequacy of safety net benefits have been brought about by direct policy action (or inaction, “benefit erosion” as the case may be) some of the changes identified are examined in greater detail. This analysis examines benefit generosity from

a” budget standard” perspective - asking whether safety net benefits are sufficient to provide the family with access to a minimum acceptable standard of living from the society’s perspective<sup>3</sup> In examining changes over time this corresponds to asking what has happened to the purchasing power of benefit recipients and whether the minimum bundle of goods has become more or less attainable. In adopting this approach - changes in generosity are synonymous with changes in beneficiaries’ real income as increases (decreases) in real disposable income correspond to increases (decreases) in the household’s purchasing power and therefore of the standard of living they are able to attain. While it is more difficult to make cross country comparisons of adequacy, per se, this measure clearly identifies changes in benefit generosity within countries and provides some evidence on the extent to which government fiscal pressures have been passed on to safety net beneficiaries.

### ***Comparison of Changes to Income Adequacy across Countries***

7. The capacity of safety net benefits to alleviate poverty risks diminished in many OECD and EU countries between 2005 and 2011. This is illustrated in Figure 1 where changes in the net incomes<sup>4</sup> of four different family types who do not have any earnings from employment and who are also not entitled to unemployment benefits are evaluated. The results show the changes in the level of resources guaranteed by benefits “of last resort” as percentages of the median equivalent disposable household income. (The diamond markers depict the total change in this net income measure between 2005 and 2011 while the blue bars show how these changes evolved both before and after the crisis.). For each family type shown, the poverty gap (the distance between the family’s disposable income and the commonly used relative poverty threshold of 50% of median income and illustrated by negative changes in the net income measure) increased in around two-thirds of the countries for which both 2005 and 2011 data is available.

**Figure 1: Changes in Safety Net Benefits 2005-2011 (percent of median household income)**



*Notes:* Income levels account for all cash benefit entitlements of a family with a working-age head, no other income sources and no entitlements to primary benefits such as unemployment insurance. They are net of any income taxes and social contributions. Where benefit rules are not determined on a national level but vary by region or municipality, results refer to a “typical” case (e.g. Michigan in the United States, the capital in some other countries). Calculations for families with children assume two children aged 4 and 6 and neither childcare benefits nor childcare costs are considered. US results also include the value of Food Stamps, a near-cash benefit. Median net household incomes are calculated from the value in the closest survey year, uprated to 2005, 2007, 2010 or 2011 as appropriate and are before housing costs (or other forms of “committed” expenditure). Results are shown on an equivalised basis (equivalence scale is the square root of the household size) and account for all relevant cash benefits (social assistance, family benefits and housing-related cash support). Real median income estimates for single person households are contained in Annex Table 2 and CPI data used in adjusting median incomes are in Annex Table 3. Average wages to which the OECD tax benefit models are benchmarked are contained in Annex Table 4.

*Sources:* OECD Tax and Benefit Models (2013), [www.oecd.org/els/social/workincentives](http://www.oecd.org/els/social/workincentives),

OECD Database on Income Distribution and Poverty, [www.oecd.org/els/social/inequality](http://www.oecd.org/els/social/inequality), Preliminary data.

8. While in most countries, and for most family types, the change in the poverty gap over this six year period was relatively small (though more often negative than positive) poverty gaps faced by families reliant on safety net benefits changed by relatively large amounts in several countries. In Poland, Australia, New Zealand and the Slovak Republic poverty gaps increased by over 5 percentage points for all four family types. Poverty gaps also increased by more than this amount in Hungary for all families except singles, in Sweden for families without children, in Latvia for families with children and in Portugal for couple families, whether or not they have children. In a smaller group of countries poverty gaps faced by families reliant on safety net benefits diminished. Poverty gaps were over five percentage points smaller in 2011 than they had been in 2005 in Lithuania and Ireland for all family types, for singles in the Czech Republic<sup>5</sup> and for families with children in Japan and Austria.

9. It is also clear from Figure 1 that where there were relatively large increases in poverty gaps (declines in benefit adequacy) the bulk occurred prior to the crisis (between 2005 and 2007). Only for Poland, Hungary and Portugal is there evidence of large increases in poverty gaps subsequent to 2007.

In Poland benefit adequacy diminished markedly both before and after the crisis with larger declines occurring between 2007 and 2010 for all families. In contrast, in Hungary relatively strong improvements in adequacy prior to the crisis were overshadowed for couple families by subsequent large reductions in benefit adequacy between 2007 and 2010. The magnitude of these changes in the case of lone parents, however, were such that they offset for lone parents. Portugal was the only country where the large increases in the poverty gap between 2010 and 2011 drove the observed change in benefit adequacy over the entire six year period.

10. In contrast, the relatively large decreases in poverty gaps predominantly occurred in the later periods. In both Lithuania and Ireland large gains in benefit adequacy between 2007 and 2010 were partly offset by subsequent reductions while, for singles in the Czech Republic moderate gains before the crisis were reinforced by stronger gains between 2007 and 2010. In Japan the strong gains in income adequacy occurred between 2007 and 2010 while in Austria they occurred between 2010 and 2011. There were also improvements in income adequacy in some other countries after 2007 which effectively counteracted relatively large reductions in benefit adequacy prior to the crisis (Iceland, Latvia (for families without children) and Estonia).

11. In many of the cases identified above changes in the economy wide distribution of disposable income rather than explicit policy reforms, per se, have played a significant part. Benefit levels being held nominally constant (as the maximum benefit income in Poland has been since 2007), adjusted on an ad hoc or infrequent basis or even automatically adjusted (as in Australia and New Zealand in line with CPI changes) failing to keep pace with income growth, particularly prior to the Great Recession, has contributed to widening poverty gaps. On the other hand, from 2007 narrowing of the poverty gap faced by benefit recipients is at least, in part, the consequence of slower, sometimes negative, real income growth in the economy in general. In order to unpack the contribution of changes to welfare policy to these observed changes in benefit adequacy it is useful to look at changes in the real level of benefits.

### *Evolution of real benefit incomes*

12. Before looking at changes in specific countries it is worth noting that real disposable incomes of, at least some, families reliant on safety net benefits increased in around two-thirds of the OECD and EU countries between 2005 and 2011 and fell, for at least one family type, in only ten countries (all OECD). While it is the case that real disposable income did fall in some of the countries, and for some of the family types, where poverty gaps increased the most (Poland, Hungary – particularly for couple families, couple families (with or without children) in Portugal and single person households in New Zealand) this highlights the fact that poverty gaps have increased despite increases in the real value of benefit income. This suggests that, despite the budgetary pressures of reduced fiscal space, many countries have managed to at least maintain the purchasing power of safety net benefits but that any increased generosity in the real level of benefits has not kept pace with income growth.

13. The story is somewhat different, however, if attention is focused on the change over the last year (between 2010 and 2011). The real value of benefits increased in very few countries and decreased, for at least one family type, in 20 of the 35 countries (50% of OECD countries and 60% of the EU countries). Hungary, Ireland, Luxembourg, Poland, Portugal, Spain, the United States, Bulgaria, Latvia, Lithuania and Romania saw declines for all family types. Benefits declined for some family types and remained constant for the others in Canada and Finland (singles constant), Germany and New Zealand (couples without children constant), in Greece, the United Kingdom and Malta (households with children fell). In Austria the real value of benefits paid to families without children

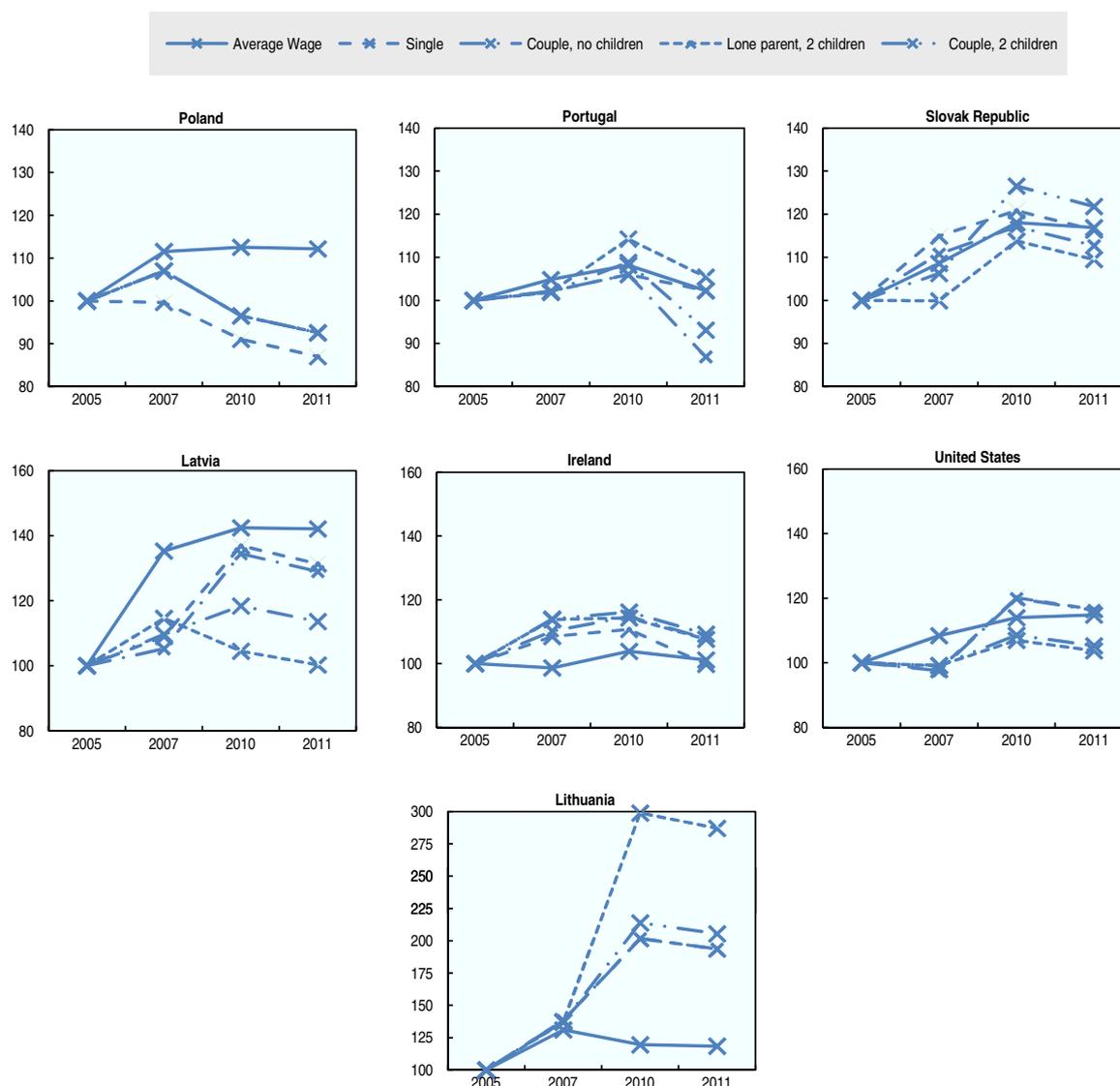
declined but increased for those with children while in Israel benefits fell for couple households but increased for lone parents.

### ***Impact of Policy Changes***

14. Figure 2 depicts, for a selection of countries, the change in real disposable incomes provided by safety net benefits to each of four family types and also the real average wage in each of the four years considered. Both disposable incomes and average wages in each year are expressed in 2005 national currency units and indexed to their respective 2005 values so that a value above 100 indicates real growth while a value less than 100 indicates real contraction. For example in the graph for Poland the real value of safety net benefits to a lone parent in 2007 is 107 indicating that value of safety net benefits increased by 7 percent in real terms between 2005 and 2007. By 2011, however the real value of these safety net benefits had fallen to 93 indicating a fall of 7 percent since 2005 (or of 13.5% since 2007). Increased values above 100 suggest increases in the generosity of the safety net benefit system, at least in terms of the purchasing power of the benefits, while (on the assumption that overall income growth is more closely related to wage growth than to inflation) the wage values provide a rough indication of the increase likely required to maintain the generosity of the system relative (or keep the recipients from falling further away from the median).

15. Of the large changes in benefit generosity identified above some, but not all, clearly reflect policy changes in those countries. The changes in Austria and Portugal between 2010 and 2011 clearly correspond to changes in the structure of social assistance in those countries. In Portugal the reduced benefit generosity for second adults (benefits were reduced from 100% to 70% of the welfare pension in 2011) is evident in the larger reductions in income adequacy for couple families compared to that for families with only a single adult. The impact of this policy change can also be clearly seen in the graph for Portugal in Figure 2 (top row, middle) – the decline in real income between 2010 and 2011 faced by couple families being much larger than that imposed on the single adult households and also sufficient to more than offset the gains made between 2005 and 2010. In Austria the change in adequacy identified is specific to Vienna (the region included in the tax-benefit model of Austria) where the 2011 shift from provincially determined social assistance to a uniform minimum across provinces resulted in large increase in child supplements in Vienna. Similarly the increase in generosity for families with children in Japan is the consequence of the almost tripling of family benefits for children aged between 3 and 12. While benefit levels increased for children of all ages (to 15 years) the impact for families with younger children would have been less and for those with children aged 12 to 15, who were not eligible for benefits until 2010, would have been stronger than the impact shown here. In Hungary increases in safety net benefit generosity between 2005 and 2007 were the consequence of the restructuring of social assistance in 2006 combined with increased family payments while the large decline in the following period for the couple families (with and without children) was the consequence of the availability support (the activity tested social assistance) being restricted to one adult per family in 2010.

**Figure 2: Evolution of disposable income - families reliant on safety net benefits, various countries** (Household disposable incomes in constant prices, 2005=100)



Notes: see notes to Figure 1. Real net incomes for all countries are available in Annex Tables 1 and 2.

Source: OECD Tax and Benefit Models (2013), [www.oecd.org/els/social/workincentives](http://www.oecd.org/els/social/workincentives)

16. In two of the countries where benefit adequacy declined the most, Poland and the Slovak Republic, however, there were no major benefit reforms though there were some adjustments to benefit levels. The graph for Poland clearly illustrates the impact that benefit erosion can have. The graph shows that the adjustment of the (nominal) income criteria (against which maximum social assistance benefits are pegged) in 2007 resulted in a small increase in real family incomes but this failed to keep pace with earnings growth and for single person households was of no benefit. The maximum benefit payable to singles is also subject to a (nominally fixed) cap which was not adjusted at the same time. The strong decline in the real value of benefit income for all family groups from 2007 are the consequence of benefit erosion. Between 2007 and 2011 there were no further adjustments in nominal benefit levels so the real value of safety net benefits deteriorated further for all

family types reducing the families' absolute standard of living in 2011 below that which could have been achieved in 2005.

17. The graph for the Slovak Republic (top row, right), showing strong growth in the real incomes of families reliant on safety net benefits through to 2010 which for all but single person households was at least as strong as wage growth, is perhaps counterintuitive given the observed falls in benefit adequacy. Reference to the income distribution data (in Annex Table 2), however, reveals that between 2005 and 2009 (the latest survey year) the median income increased by 65% much more than the largest increase in real benefit incomes (26% for lone parents between 2005 and 2010). This illustrates that even large increases in the apparent generosity of benefit payments (albeit from a relatively low level) will not necessarily improve the income position of benefit recipients relative to the rest of the economy.

18. In contrast, the graph for Lithuania (bottom) clearly helps explain the large increase in income adequacy that occurred in that country – despite strong income growth through to 2008 (with median income increasing by around 50%) as adjustment of social assistance benefit income levels (in 2008 and 2009) doubled the real value of safety net benefits. In addition lone parents received a further income kick with the introduction of Child Support Fund in 2008. While such changes may appear extraordinary it is also the case that, as in the Slovak Republic, these changes occurred from a very low base. In 2005 safety net benefits in Lithuania were amongst the lowest (in terms of percent of median income) of the 33 countries with data for 2005 available. By 2011 the increased generosity of safety net benefits for families with children had all but eliminated the poverty gap. Single individual households and, to a lesser extent, childless couples, however, still faced large poverty gaps and the adequacy of their safety net benefits remained well below the EU average.

19. In Latvia, it is clear from Figure 2 (middle, row left) that from 2007 the real value of safety net benefits increased much more strongly for the families without children than for those with. This reflects the larger increases in the maximum adult rate than in the lone parent rate (which was higher the latter increased but was reduced in 2010 to the same nominal amount as in 2007) combined with the reduction in family benefits (for families with more than one child) in 2008. In addition the nominal value of family benefits has not been adjusted since 2008. These also contributed to the more than 5 percentage point increase in the poverty gaps for families with children in Latvia seen earlier and explain why families without children didn't suffer the same reductions.

20. Comparison of the graphs for Ireland and the United States (middle row, middle and right respectively) highlight the different choices countries have made with respect to different types of families. In the United States, prior to the crisis real incomes of all families reliant on safety net benefits declined though more so for families without children. The American Recovery and Reinvestment Act (2009) increased the maximum allotment for SNAP which Michigan passed on to recipients in the form of maximum benefits. At the same time however, for families with children limited adjustments to TANF benefit amounts, partly offset this real increase – hence the much stronger growth in the income of childless families. In contrast, prior to the crisis real benefit incomes increased for all family types in Ireland but more so for families with children and it is singles that have taken the largest negative shock since, the real value of their benefit income falling below that of 2005. In Ireland, median incomes (and prices) fell between 2007 and 2010, while benefit incomes were relatively unchanged in nominal terms. Together this resulted in reductions in the poverty gap, with explicit benefit reductions in later years then moving them back towards previous levels.

## **Changes in the Generosity of Unemployment Benefits**

21. Since the onset of the downturn there has been much attention paid to the functioning of unemployment benefit systems. By focusing attention on the generosity of the income support available to the unemployed in OECD and EU member states and documenting the changes since the mid 2000s this analysis contributes to additional information to that debate. The indicators calculated with the OECD tax and benefit models are impacted by reforms to unemployment benefits that alter the net income of beneficiaries consequently we focus changes to actual benefit levels or the duration over which the benefit is paid will.<sup>6</sup> Table 2, which contains a summary of such reforms to unemployment benefits systems since 2005 shows that almost as many countries have altered the maximum duration over which unemployment insurance benefits can be received as have changed benefit levels or payment rates. Most of the changes in duration have been enacted since the crisis, however, whereas changes to benefit levels were common both before and after. In addition, in most countries where flat rate, means-tested unemployment assistance schemes exist, and even where there has been nominal adjustments to benefit levels the value of these benefits relative to average wages have diminished since 2005.

**Table 2: Reform initiatives since 2005 – Unemployment Benefits**

<b>Country</b>	<b>Reform</b>	
Belgium	Increased benefit rates	+
	Introduced new earnings ceilings	
Canada	Extended duration of UI	+
Czech Republic	Benefit rates increased	+
	Reduced duration of UI	-
Denmark	Reduced duration of UI	-
Estonia	UA rates increased	+
Finland	Increased allowance	+
France	Increased duration	+
Germany	Increased UBII child supplements	+
	Termination of transitional UBII	-
Greece	Switch to flat rate benefit	-
	Unemployment assistance	+
	Abolition of UA	-
Hungary	UB, SA and HB reformed	-/+
Iceland	Maximum duration reduced	-
	Earnings related benefit component (capped) introduced	+
	Benefit floor introduced	+
Ireland	Reduced duration	-
Israel	Extended duration	+
Italy	Increased rates	+
	Extended duration	+
Lithuania	Maximum benefit reduced	-
Netherlands	UI duration	+
	Initial benefit rate increased (5pp)	+
New Zealand	UA rates decreased	-
Norway	UA extension of UI abolished	-
Poland	UI duration	-
	Increased UI benefit	+
Portugal	UI duration reformed	
	UA duration increased	+
	Maximum UI benefit changed	+
Spain	Programme for Unemployment Protection and Insertion	-
	UA abolished	-
Slovenia	UA terminated	-
	UI Benefit rate increased	+
Sweden	UI reform – duration extended	+
	Job development guarantee	+
Turkey	Increase in minimum and maximum benefit	+
	Reduced benefit rate and changed earnings base	
United States	UI duration extended	+
	Minimum benefit increased	+

Source: Tax and Benefit Models (2012), [www.oecd.org/els/social/workincentives](http://www.oecd.org/els/social/workincentives). Information from national authorities

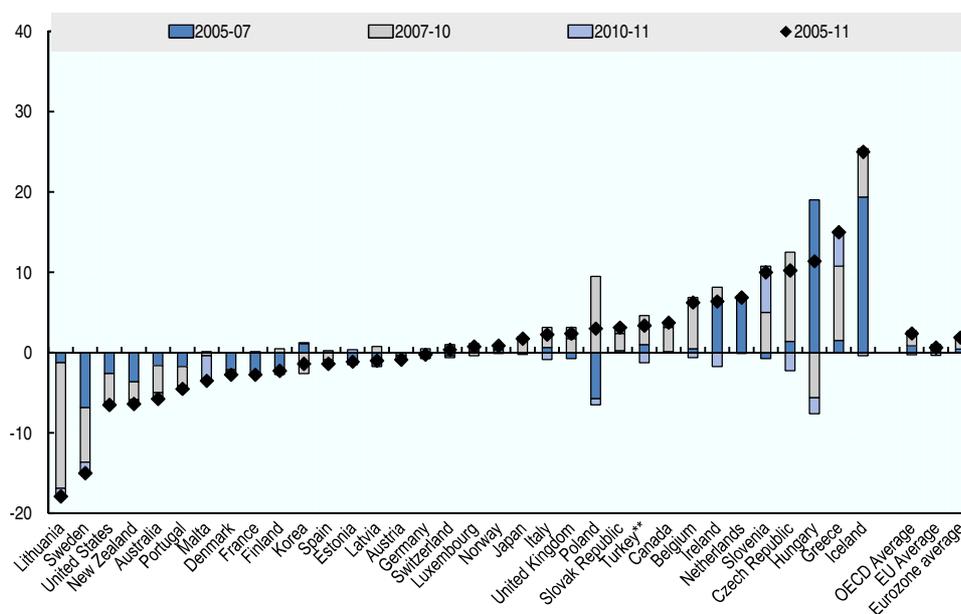
22. The generosity of unemployment benefits is often thought of in terms of how benefit income when unemployed compares to earned income. Net replacement rates (NRRs), calculated taking tax-benefit regimes into account and considering the family as a whole, show the proportion of in-work

income that is maintained when someone is unemployed. By examining changes in NRRs<sup>7</sup> over time in the context of the policy reforms undertaken we provide important insights into how reforms have impacted individuals and families. We first consider changes in the NRRs in the initial phase of unemployment (that is following any waiting period) to show how generosity in terms of benefit levels have changed, we then proceed to examine changes in NRRs over a 5 year spell of unemployment to identify the impact of changes in duration and/or benefit levels for longer term unemployed benefit and conclude with a decomposition of the over 5 year NRR for a specific individual (a single individual with previous earnings equivalent to 67% of the average wage) to highlight the contribution of unemployment benefit policy changes to the observed changes in the NRRs.

### Changes in initial NRRs

23. The extent to which unemployment benefits replaced in-work income diminished between 2005 and 2011 in around half of the OECD and EU countries. This is illustrated in Figure 3 which shows the changes in initial NRRs (averaged over four family types and 2 previous earnings levels).

**Figure 3: Average Net Replacement Rates: initial phase of unemployment, changes to 2011**  
(percentage point change)



Notes: Unweighted Averages, for two previous full-time earnings levels (67% and 100% of AW) and four family types. Any income taxes payable on unemployment benefits are determined in relation to annualised benefit values (i.e. monthly values multiplied by 12) even if the maximum benefit duration is shorter than 12 months. For married couples the percentage of AW relates to the previous earnings of the "unemployed" spouse only; the second spouse is assumed to be "inactive" with no earnings and no recent employment history. Children are aged four and six and neither childcare benefits nor childcare costs are considered.

Source: OECD Tax and Benefit Models (2013), [www.oecd.org/els/social/workincentives](http://www.oecd.org/els/social/workincentives)

24. The first thing that stands out from this figure is that increases in initial NRRs have been as common as decreases but that in many countries, and on average across both the OECD countries and across the EU countries, changes have been small, no more than a few percentage points. In the

OECD countries, the net replacement rate showed a slightly stronger growth (2.4 percentage points) than solely in the EU countries (0.6 percentage points) or across the Eurozone (1.9 percentage points).

25. The second is that there have been large changes in some countries. In Slovenia, the Czech Republic, Hungary and Greece the average net replacement rate increased by between 10 and 15 percentage points between 2005 and 2011. The strongest increase, however, is reported for Iceland (25 percentage points). In contrast, those countries that lowered the rate most are Sweden (minus 15 percentage points) and (reduced by 18 percentage points). Also evident in Figure 3 is that the pattern of change, comparing countries where the NRR fell to those where it increased (and the change has been large), has been quite different. In countries where the NRR decreased by more than 5 percentage points they did so both before and after the crisis while in most countries where the NRR was at least 5 percentage points higher in 2011 than it had been in 2005 there have been changes in both directions and in almost all the average NRR fell between 2010 and 2011 (exceptions being Greece and Slovenia).

26. In both Lithuania and Sweden the large negative changes were driven by caps on the maximum benefit payable. In Lithuania, most of the decline occurred between 2007 and 2010 and was a direct consequence of the additional cap applied from January 2010 (by the Law on the Recalculated and Paid Social Benefits). As a consequence the maximum benefit was reduced by almost a third and was paid to anyone with previous earnings of more than 40% of the average wage whereas benefit payments did not reach the cap until previous earnings were in excess of 100% of the average wage in 2007. The impact of this reduction of generosity was felt by all family types but was moderated, to an extent, for lone parents by the introduction of Child Support Fund in 2008. In contrast, the large reduction in initial NRRs in Sweden was more evenly spread across the entire time period. The reductions can be attributed to the reduction in the nominal value of the initial maximum daily benefit between 2005 and 2007 (of 7%) and no additional adjustments subsequently in the face of average wage growth of 20% (between 2005 and 2011). These reductions in the value of the maximum benefit relative to the average wage resulted in benefit levels being constrained by the cap at lower previous earnings levels (including 67% of the average wage) than they had been in 2005 (when they impacted the benefit paid to individuals with previous earnings of 100% of the average wage).

27. The two countries, showing the strongest increase in the average net replacement rate over 2005-11, are Greece (15 percentage points) and Iceland (25 percentage points). In Iceland most of the growth can be attributed to the first period as the NRR was incremented by 19.4 percentage points between 2005 and 2007. There was, however, also a substantial increase of 5.6 percentage points between 2007 and 2010. The change in the initial period was largely the consequence of reforms in 2006 which introduced an earnings related component to the benefit payment and an associated benefit cap which was almost double the level of the (previously) flat rate benefit. The increase in the NRR in the second period is the outcome of increases, relative to the average wage, in both the initial fixed part of the benefit and of the benefit cap (of 7 and 11 percentage points, respectively). Increases in the initial NRRs were lower for families with children, particularly lone parents, than for those without due to reductions in the generosity of family benefits over the same period – increasing 26 – 32.5 percentage points for singles and one-earner couples, but only 17 percentage points for lone parents and for 24.5 percentage points one-earner couples. In contrast, the changes in Greece occurred after the crisis and were the result of changes to both out-of-work and in-work incomes. The substantial increase in the initial NRR between 2007 and 2010 was the consequence of the nominal value of the fixed benefit increasing by almost 25 percent between 2007 and 2010 while average wages actually declined (by 5 percent in nominal terms). The increase between 2010 and 2011 was also the consequence of a (more moderate) increase in the nominal value of the fixed benefit combined with further declines in nominal wages.

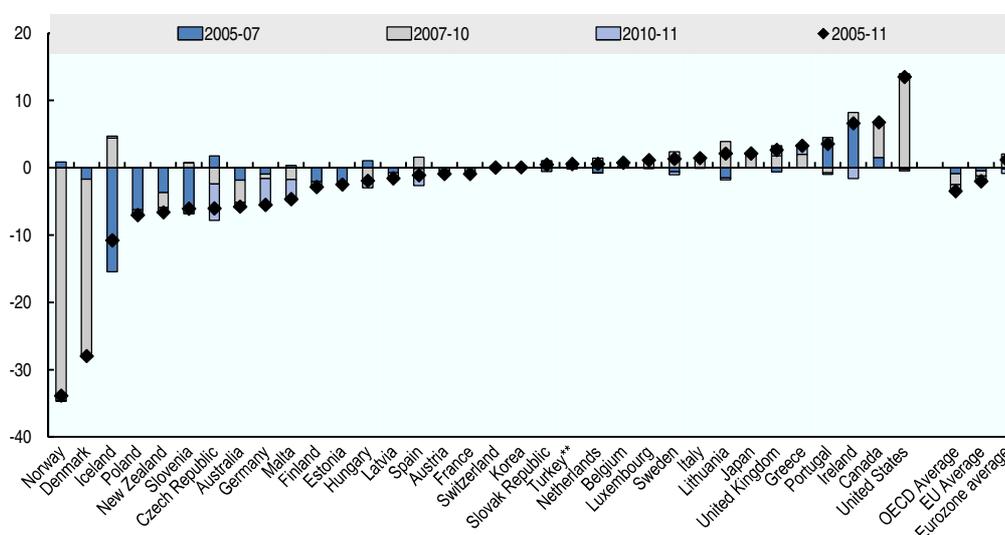
28. The changes observed in Hungary, the country which had the strongest increase in the average net replacement rate between 2005 and 2007 (by 19.4 percentage points), are counter intuitive given that reforms in 2006 reduced the benefit payment rate from 65 to 60 percent but are in fact the consequence of changes made to the benefit cap at the same time. In 2005 the maximum benefit was equivalent to 29% of the average wage and was paid if an individual's previous were around 50% of the average wage (or higher). In contrast, in 2007, the value of the maximum benefit, relative to the average wage, had reached 44 percent and was paid if previous earnings had been greater than 75 percent of the average wage. Following the crisis the value of the maximum benefit relative to the average wage declined contributing to the declines in average net replacement rates.

29. This analysis clearly demonstrates that changes in benefit levels paid at the commencement at the beginning of an unemployment spell are clearly reflected in NRRs, highlighting the fact that, at least over the period examined, changes to benefit ceilings have had more impact than have changes to benefit rates. Examination of changes in the average NRR over an extended unemployment spell enables identification of the impact of policy changes which alter benefit levels paid later in an unemployment spell (including changes in duration which effectively change the unemployment benefit level to or from zero).

#### ***Changes in NRRs over 5 years***

30. The picture of changes to average NRRs over an extended spell of unemployment is in stark contrast to that painted by examination of the initial NRRs. As illustrated in Figure 4 both the OECD and the EU averages have fallen and while decreases and increases remain relatively equally shared in around two-thirds of the countries the average extended NRRS have changed very little (by less than 5 percentage points over the entire period). Where there have been changes, however, the magnitude of the "large" decreases are larger while the magnitude of the "large" increases are much smaller. In addition, some countries where the generosity of unemployment benefits at the beginning of an unemployment spell had clearly fallen (increased) have, at the same time, increased (decreased) the generosity of their benefit system to individuals who remain unemployed over an extended period (the United States and Iceland provide examples).

**Figure 4: Average Net Replacement Rates over 5 years of unemployment, changes to 2011**  
(percentage point change)



*Notes:* Unweighted Averages, for two previous full-time earnings levels (67% and 100% of AW) and four family types. Any income taxes payable on unemployment benefits are determined in relation to annualised benefit values (i.e. monthly values multiplied by 12) even if the maximum benefit duration is shorter than 12 months. For married couples the percentage of AW relates to the previous earnings of the "unemployed" spouse only; the second spouse is assumed to be "inactive" with no earnings and no recent employment history. Children are aged four and six and neither childcare benefits nor childcare costs are considered..

*Source:* OECD Tax and Benefit Models (2013), [www.oecd.org/els/social/workincentives](http://www.oecd.org/els/social/workincentives)

31. As might be expected, the largest changes in generosity depicted in Figure 4 all correspond to changes in the maximum period over which unemployment benefits are available. The impact of the reduced maximum duration of benefit receipt is clearly evident in the large falls in the NRRs for Norway, Denmark and Iceland and the also the fall for Poland. In Norway the termination of the “Waiting Benefit” in 2008 reduced the maximum duration on unemployment benefits from five years to two and in 2010 Denmark reduced the maximum duration, over which unemployment insurance benefits were available from four years to two. Similarly, Iceland reduced the maximum duration of benefit receipt from five years to three in 2006. The reversal of results for Iceland – increased initial generosity but decreased generosity over an extended unemployment spell – is easily explained by considering the size of these changes, both of which were part of the 2006 reforms. The increase in benefit generosity, which extended for barely two months, is clearly overshadowed by the two year reduction of benefit duration.

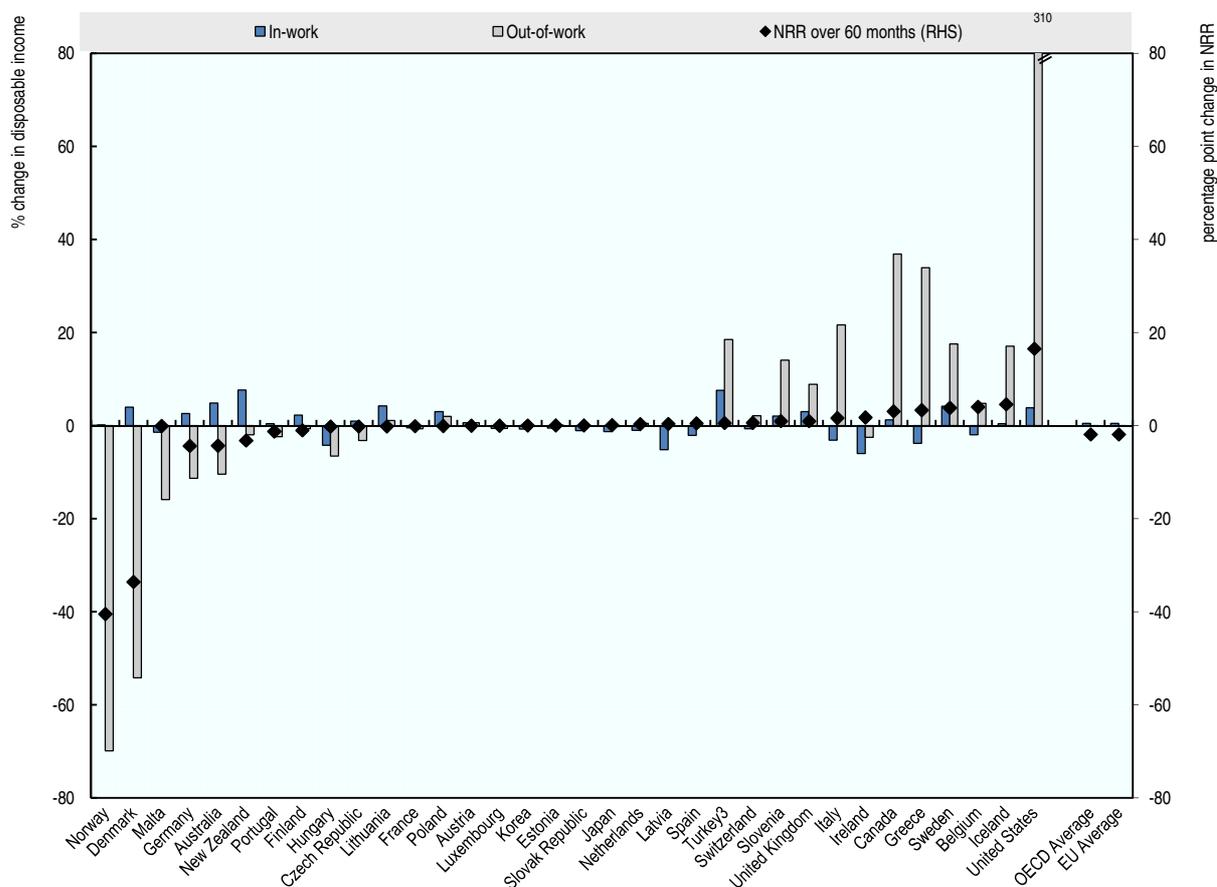
32. The opposite is the case in the United States (Michigan) where the impact of temporary extensions in payment eligibility, between 2007 and 2008 is clearly evident in the increase in the over 5 years NRR between 2007 and 2010. The impact of this change in duration from 6 months to 99 weeks clearly overshadows the moderate reduction in the initial generosity of benefits, caused by the erosion of the benefit ceiling relative to the average wage.

33. Changes in benefit levels, rather than duration, are the major driving force behind some of the smaller changes in the extended NRR, however. Ireland provides an example - the large increase in NRRs between 2005 and 2007 is the consequence of increases in the benefits relative to wages (the benefit for a single individual, relative to the average wage, increasing from 27 to 31 percent). The same occurred, but to a much lesser extent, between 2007 and 2010 but was almost exactly offset by

explicit benefit reductions between 2010 and 2011 which acted to reduce the NRR. This illustration does, however raise the question of to the extent to which changes to in-work incomes (the mark to which NRR calculations compare out-of-work incomes, or benefit incomes) are responsible for observed changes in NRRs.

34. Changes in out-of-work income reflect changes in generosity of the unemployment benefit system generated by changes in benefit rates or changes in the maximum duration for which the benefits are available. On the other hand changes in in-work income are generated by changes in the tax wedge resulting from explicit policy changes relating to taxes and social contributions but also the consequence of fiscal drag. Changes to either will impact the measure of the NRR. To explore this issue and to shed additional light on the observed changes in NRRs already discussed it is useful to decompose the NRR calculation. To identify the driving forces behind changes in the NRRs the change between 2007 and 2011 in the extended NRR (for a single individual with previous earnings of 67% of the AW) is depicted in Figure 5 along with changes in both in-work and out-of-work incomes.

**Figure 5: Decomposition Change in Average Net Replacement 2007-2011**



*Notes:* Unweighted Averages, over 60 months of unemployment for a single person with previous earnings equal to 67% of the average wage. The unemployed individual is assumed to be 40 years old - where benefits are conditional on work history, the calculations assumes a long and uninterrupted employment, and contribution, record of 22 years. Any income taxes payable on unemployment benefits are determined in relation to annualised benefit values (i.e. monthly values multiplied by 12) even if the maximum benefit duration is shorter than 12 months. Growth rates of both in-work and benefit income are shown as deviations from the growth in the average wage.

*Source:* OECD Tax and Benefit Models (2013), [www.oecd.org/els/social/workincentives](http://www.oecd.org/els/social/workincentives)

35. Figure 5 highlights the fact that in those countries where the change in the NRR was relatively large this was primarily driven by changes in benefit generosity (as reflected by the change in out-of-work disposable incomes and as discussed above). In some cases the impact of changes to the unemployment benefit scheme are clearly either reinforced or moderated by changes to in-work incomes. In the case of Norway and Denmark, the two countries with the largest relative declines in NRRs, the driving force was reductions in the maximum duration of unemployment benefits as already identified (either UI or UA) receipt. These changes were clearly reinforced by strong growth of in-work incomes over the same period. In Germany growth in in-work incomes makes a relatively larger contribution to the decline in NRRs than the decline in benefit generosity (the failure of the flat rate UBII part of the assistance to keep pace with wage growth and paid over years 4 and 5 from 2007 to 2010 and over all but the first year in 2011 with the termination of the transitional benefit in 2011). In contrast, the reduction in NRRs in Australia and New Zealand were the consequence of in-

work incomes growing at a faster rate (helped by reductions in the tax wedge) than did benefits indexed to the CPI.

36. In the case of increased NRRs it is clearly evident that changes in benefit generosity were the main drivers. In the case of the United States, where by far the largest increase in NRRs occurred (almost 300%), this was entirely the result of the (temporary) extensions of benefit receipt introduced progressively from 2008, and still in place in 2011. Higher NRRs observed in Canada, Italy and Sweden were also, at least in part, the consequence of increased maximum durations. In Italy this was reinforced by an increase in the benefit payment rate over part of the unemployment spell and a reduction in in-work income while in Canada it was reinforced by a reduction in the tax wedge on Unemployment Insurance beneficiaries. In Greece, as in Ireland, the flat rate benefit increased faster than the average wage (which actually fell) and was the main force behind their increased NRRs. In Sweden, Slovenia and notably Turkey increases in the generosity of the unemployment benefit system were substantially moderated by offsetting reductions in the tax wedge on in-work incomes.

## **Conclusion**

37. Across the OECD and EU the impact of the “great Recession” has varied enormously. Just as income support policies have developed differently in different countries no two countries are identical in the way they have responded since the crisis. While it is difficult to draw broad conclusions the analysis contained in this report is revealing at several levels.

38. First, that the real value of benefit income provided by safety net incomes decreased in more countries and for more family types in 2010 and 2011 indicates that budgetary concerns are impacting in many countries. Families reliant on safety net are bearing at least some of the cost of the economic downturn whether or not this is achieved through explicit policy action or via benefit erosion. Second, the standard of living achievable by families reliant on safety net benefits have slipped further away from that which can be achieved by a family with income at the median. These reductions in income adequacy occurred both before and after the crisis but large reductions were more common in the period before. In contrast gains in income adequacy, particularly large ones, have predominantly occurred in the period from 2007 to 2010 and there have been few gains since.

39. Third, the generosity of income support provided to newly unemployed people, as reflected by the average initial NRR, has increased in as many countries as it has diminished. In most countries where these NRRs fell by more than a few percentage points there is no indication of changes in policy direction as reductions in generosity occurred both before and after the crisis. In contrast, the policy stance changed in the later periods in many of the countries where NRRs increased over the entire period. Fourth, changes in unemployment benefit system have been less kind to those who remain unemployed for an extended period – across countries reductions in the average NRR over a 5 year unemployment spell were more common, the magnitude of reductions were larger (and of increases smaller) than those observed for the initial NRR. While there is also no evident pattern relating changes before the crisis to those changes to the maximum duration of benefit receipt, both before and after the crisis are clearly reflected in the extended NRR.

40. Finally, while changes to either unemployment benefit income or in-work benefit income will change measured NRRs the evidence presented here clearly indicates that large changes in NRRs are brought about by changes to unemployment benefits and that changes in in-work income have played a secondary role.

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- <sup>1</sup> The analyses draw on detailed country-by-country information on benefit systems which is available on the Internet at [www.oecd.org/els/social/workincentives](http://www.oecd.org/els/social/workincentives). This information has been supplied by the delegates to the OECD's Working Party on Social Policy and by the European Commission. The information on income taxes and social security contributions was supplied by the OECD's Centre for Tax Policy and Administration. In addition, the analysis does not focus explicitly on changes in taxes levied on labour nor social contributions as trends in Personal Income Tax settings and employee SSC rates and resulting changes in average and marginal tax rates/burdens were examined in detail in a special feature in Taxing Wages 2011 (OECD, 2012).
- <sup>2</sup> The OECD income adequacy indicator compares the level of safety net benefits to median household incomes enabling ready identification of adequacy relative to poverty thresholds (such as 50% median household income). This indicator is published on the OECD Benefits and Wages website ([www.oecd.org/els/social/workincentives](http://www.oecd.org/els/social/workincentives)). Increases (decreases) in this measure reflect decreases (increases) in the poverty gap faced by families and as such capture increases (decreases) in the relative adequacy of benefits.
- <sup>3</sup> In many of the countries examined here safety net benefits are in fact set with reference to specific standards.
- <sup>4</sup> The net income calculations take into account social assistance (where available) as well as other benefits (such as family benefits and housing-related cash assistance) and taxes that typically have an influence on the income situation of social assistance recipients. Net income values reported in percent of equivalised median incomes and in real terms, for each of the four years, are contained in Annex Table 1.
- <sup>5</sup> The changes from 2005 to 2007 reflect the changes in the structure of social assistance in 2007. The strong growth but only for singles between 2007 and 2010 is the consequence of the interaction between the prescribed housing amounts and the standard housing cost assumption implemented in the models (setting rent equal to 20% of the AW for all households). For singles the maximum housing benefit amount is determined by the prescribed housing cost while for the other family types it is determined by the "actual" rent expenses (as the prescribed housing cost is more than 20% of the average wage).
- <sup>6</sup> There have also been changes to other features of unemployment benefit systems that do not directly impact on the net income of beneficiaries but could, for instance, impact on whether an unemployed individual is eligible to be a beneficiary. For example, several countries have eased either contribution or employment eligibility criteria since the crisis.
- <sup>7</sup> In order to focus on changes in unemployment benefit systems (rather than in other changes to tax and benefit regimes, such as minimum income benefits for example) we restrict the analysis to net replacement rates calculated after tax and including unemployment benefits and family benefits but assuming that no social assistance "top-ups" or cash housing benefits are available in either the in-work or out-of-work situation.

## BIBLIOGRAPHY

Immervoll, H. (2010), “Minimum Income Benefits in OECD Countries: Policy Design, Effectiveness and Challenges”, *OECD Social, Employment and Migration Working Papers*, No. 100, OECD Publishing, Paris. (<http://dx.doi.org/10.1787/218402763872>)

OECD (2007), *Benefits and Wages. OECD Indicators*, OECD Publishing, Paris.

OECD (2011), *Divided We Stand – Why Inequality Keeps Rising*, OECD Publishing, Paris.

OECD (2012), *Taxing Wages 2011*, OECD Publishing, Paris. ([http://dx.doi.org/10.1787/tax\\_wages-2011-en](http://dx.doi.org/10.1787/tax_wages-2011-en))

Annex: Model Estimates and Reference Data

See attached Excel file.