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Can in-work benefits improve social inclusion in the Southern European countries?

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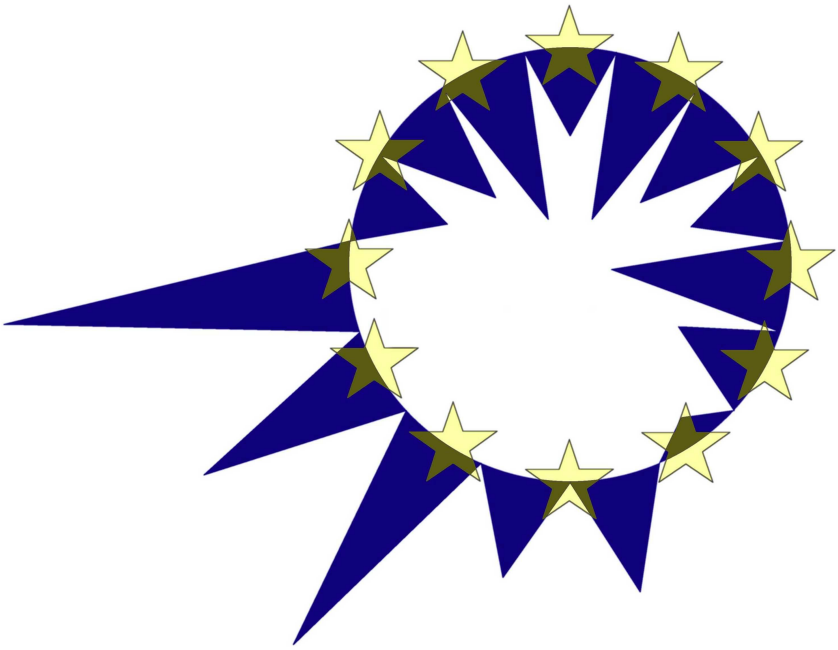

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CAN IN-WORK BENEFITS IMPROVE SOCIAL INCLUSION IN THE SOUTHERN EUROPEAN COUNTRIES?

Francesco Figari

April 2009

CAN IN-WORK BENEFITS IMPROVE SOCIAL INCLUSION IN THE SOUTHERN EUROPEAN COUNTRIES?[1]

Francesco Figari [2]

Abstract

This paper analyses the effects of implementing a family-based and an individually-based in-work benefit in the Southern European Countries using EUROMOD, the EU-wide tax-benefit microsimulation model. In-Work Benefits (IWBs) are means-tested cash transfers given to individuals, through the tax system, conditional on their employment status. They are intended to enhance the incentives to accept work and redistribute resources to low income groups. The research confirms the presence of a trade off between the redistributive and the incentive effects of the different policies. Family-based in-work benefits are better targeted on the poorest households, in particular in Italy and Portugal. Individually-based policies lead to greater incentives to work, in particular in Italy and in Greece. Individually-based IWBs seem to be more efficient if the enhancement of the labour market participation of women in couples is of fundamental concern.

JEL Classification: H53, I32, I38

Keywords: work benefits, fiscal microsimulation, poverty, female labour market participation

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[1] This paper uses EUROMOD version D5. EUROMOD is continually being improved and updated and the results presented here represent the best available at the time of writing. Any remaining errors, results produced, interpretations or views presented are the authors' responsibility. This paper uses data from the Household Budget Survey (HBS 2004) made available by National Statistical Service of Greece; the Survey of Household Income and Wealth (SHIW95) made available by the Bank of Italy; the European Community Household Panel (ECHP) User Data Base made available by Eurostat. Data providers do not bear any responsibility for the analysis or interpretation of the data reported here. An equivalent disclaimer applies for all other data sources and their respective providers cited in this acknowledgement.

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1. Introduction

In the last decade, interest in In-Work Benefits (IWBs) has grown in most European countries. IWBs provide cash transfers through the tax system to individuals with low earnings. They belong to the family of "make work pay" (OECD, 2003) policies since they are conditional on employment status of the recipient. IWBs aim at enhancing the incentives to accept work by increasing the financial value of the work and redistributing resources to low income groups through transfers to the working poor (Pearson and Scarpetta, 2000; Blundell, 2006). Saez (2002) shows that IWBs may configure as optimal income transfers when the individual choice is whether or not to enter the labour force rather than varying the number of hours worked. In this case, Saez shows that IWBs are more efficient than guaranteed income support schemes. Employment effects, as well as distributional effects, also make IWBs particularly favoured in the political agenda of countries traditionally not characterised by generous social assistance programmes.

IWBs can be family-based or individually-based. Family-based IWBs are well established in Anglo-Saxon countries. The Family Income Supplement was introduced in the UK in 1971 and it has been modified several times since then, with the introduction of the Working Family Tax Credit (1999) and most recently the Working Tax Credit (Brewer, 2003). The US, Ireland and New Zealand have also introduced family-based in-work benefit schemes. Other countries, such as Australia, Canada, Belgium and France, have implemented individually-based IWBs, targeting individual family members rather than the family as a whole (OECD, 2003). See section 3 for a detailed description of the structure of both types of IWBs.

The two different types of IWBs share common objectives in terms of enhancing labour market participation and financial resources of low income groups. However, individually-based IWBs tend to shift the aim from redistribution towards work-incentive aspects. From a purely employment based point of view OECD recommends the implementation of individually-based IWBs (OECD, 2003). Family-based policies may discourage the labour market participation of the second earner mainly due to income effect: in a couple the additional employment income would lead the family to lose the eligibility of receiving the benefit with only marginal financial advantage. This scenario has been confirmed by ex ante and ex post analyses of the labour market implication of the British in-work benefits (Blundell et al., 2000; Brewer et al., 2006; Francesconi and Van der Klaauw, 2007) and may

be crucial in those countries where non-employment is concentrated among wives. On the other hand, individually-based policies may be less well targeted on poor households, because individuals with low earnings would receive the benefit irrespective of partner's income and other non labour income. This type of support to relatively poor individuals belonging to well-off families might be particularly common in countries characterized by the presence of multigenerational families.

The increasing role played by the IWBs in the Anglo-Saxon welfare system and their extension to continental European countries, with positive evidence of redistributive effects and social inclusion of low skilled workers, should encourage other countries to study the feasibility of implementing such policies. In particular, these policies might be one of the pillars of redesigned welfare systems of the Southern European countries aimed at achieving specific targets in terms of social protection (Baldini et al., 2002; Boeri and Perotti, 2001; Owens, 2006). Greece, Italy, Portugal and Spain, as well as geographical location and cultural stereotypes, share limited social protection systems. This is why these Southern European Countries (SECs) are classified as having similar welfare systems (Esping-Andersen, 1990; Ferrera, 1996). A reduction in the poverty rates (the highest in Europe) and an increase in the women labour participation rate (much lower than in other countries) are two important policy issues currently under debate in the SECs (OECD, 2006). However, the potential role of IWBs as part of a redesigned welfare system has not been analysed.

This paper aims at filling this gap, analysing the effects of implementing two different types of IWBs in Greece, Italy, Portugal and Spain. The first IWB is a family-based policy using the British Working Tax Credit as an exemplar (Brewer, 2003). The second IWB is an individually-based scheme implemented as a low wage subsidy conditional on working at least 16 hours per week (Phelps, 1994). In order to compare the two in-work benefits, both policies are simulated to have the same budget cost within each country. Previous studies show that the effects of new IWBs in countries where they do not already exist depend heavily on the structure of the benefit and its interaction with the national framework (Bargain and Orsini, 2006; Bertola, 2000; Haan and Myck, 2007). Institutional and economic characteristics, in terms of tax-benefit systems, income and wages distribution and household composition in the SECs, make the comparison between a family-based IWB and an individually-based IWB particularly relevant.

This paper uses EUROMOD, the multi-country European-wide tax-benefit model (Sutherland, 2007), aiming to make two contributions. The first is to evaluate the trade off between the redistributive and the incentive effects of these policies in each country in case they allocate to the IWBs the same amount of resources, in terms of national GDP, as is done in the UK. The second contribution is to compare such results in a cross country perspective in order to identify the main differences and which factors drive the different impacts of the simulated reforms.

The analyses confirm the presence of a trade off between the redistributive and the incentive effects of the two different IWBs. They also suggest that individually-based in-work benefits seem to be more efficient if the enhancement of the labour market participation of women in couples is of fundamental concern.

The rest of the paper is organised as follows. Section 2 contains a short overview of the economic and institutional framework of the SECs. Section 3 provides a brief description of the model and a detailed explanation of the approach used in the simulation. Section 4 illustrates the distributional effects in terms of poverty rates, distribution of gainers and income variation as well as the incentive effects in terms of replacement rates. Section 5 concludes.

2. Economic and institutional framework

Comparing the Southern European Countries with countries in which IWBs are well established, the SECs show a number of common features that can make IWBs particularly well tailored as part of a reformed welfare system. Poverty and inequality rates are among the highest in the EU-15 (Eurostat, 2007): in 2003, the share of people at risk of poverty was around 19-21% against an EU-15 average of 17%. Income inequality was even more spread, with Gini indices ranging from 0.31 (Spain) to 0.38 (Portugal) against an EU-15 average of 0.30.

The level of public support through the tax-benefit system for low income people in the SECs is very limited. Greece, Italy and Spain are characterized by the absence of any generalised income support and individuals must rely almost exclusively on their own earnings that are not taxed up to the threshold corresponding to the personal allowance. Existing benefits conditional on employment status, in the form of Family Allowances in Italy and refundable

tax credit for working mothers in Spain, are limited and only targeted on specific categories of people. In Portugal, a guaranteed minimum income scheme applies to all citizens available for employment; it is means-tested at family level and its amount depends on the size of the household and it is indexed to the amount of the social age pension. The low level of general social protection is reflected by its share of GDP: in 2003, it ranged from 19.7% in Spain to 26.4% in Italy compared with an EU-15 average of 28.3%. Generalised low earnings and the absence of generous income support schemes mean that more than half of the people at risk of poverty have a job. In other words, the working poor are at the very bottom of the income distribution. See Table 1 for detailed figures, in which the UK is also included, given the relevance of the comparison with this country throughout the paper.

In 2003 the SECs were far from the European average in terms of female education attainment and far from the Lisbon targets (Council of the European Union, 2000) in terms of female labour market participation (i.e. 57% by 2005). The percentage of low-educated women ranged from 46% in Greece to 75% in Portugal against an average level in the EU-15, and in the UK fewer than 40%. Moreover, with the exception of Portugal, the employment rate of women was much lower than elsewhere: in Greece, Italy and Spain fewer than 40% of women with lower than secondary education level was in paid employment.

< TABLE 1 around here >

Such employment rates refer to both women in couples and lone mothers. However, in the SECs, lone mothers, whose number has increased over the last decade, are more likely to work than women in couples due to the absence of relevant social protection schemes (Bradshaw et al., 1996).

Given such an economic and institutional framework, the aim of this paper is to evaluate the potential role of IWBs in order to promote social inclusion and to support income of those at the bottom of the income distribution. In particular, the analyses will focus on the women labour market participation, traditionally more vulnerable than men due to their role in caring family responsibilities.

3. Simulation: model, data and approach

This paper uses EUROMOD, the multi-country European-wide tax-benefit model covering 19 European Union Member States. EUROMOD is a static microsimulation model which covers monetary incomes. It combines information on relevant policy rules with detailed and representative data on individual and household circumstances drawn from national household income surveys. EUROMOD simulates most direct taxes and cash benefits except those based on contributory history as this information is not available from input datasets. One of the main aims of EUROMOD is to maximise comparability while maintaining transparency about real differences across countries (Sutherland, 2007).

The baseline scenario refers to the 2003 tax-benefit system for Greece, Portugal and Spain and the 2001 system for Italy. The Greek data comes from the Household Budget Survey (2004) which contains information on 6,555 households and 17,386 individuals. The Portuguese and the Spanish data are from the European Community Household Panel (respectively 2001 and 2000 wave). The Portuguese data includes information on 4,588 households and 13,237 individuals. The Spanish sample contains information on 5,048 households and 14,787 individuals. The Italian data comes from the 1996 Bank of Italy Survey which contains information on 8,135 households and 23,924 individuals. Monetary values are updated to the reference year (i.e. 2003 but 2001 for Italy) while demographic and labour information are kept constant. Self-employed workers are excluded from simulations due to limitations of the data in recording hourly wage from self-employment.

Given the British experience in IWBs and the recent developments of these policies I simulate the family-based IWB using the UK Working Tax Credit (WTC) as an exemplar. In 2003 the Working Families Tax Credit was reformed and divided into the new Child Tax Credit (CTC) and the Working Tax Credit (WTC) in order to simplify support for families with children and to raise income of those on low incomes but without children (Brewer, 2003). The Working Tax Credit is the first in-work benefit for childless people in the UK. Employees receive the Working Tax Credit directly by employers. Following the split of the Working Families Tax Credit into the two components, I do not simulate the Child Tax Credit. Moreover, children are supported in many different ways in the SECs and it is difficult to integrate in a comparative view a new in-work benefit with the existing, although limited, universal and means-tested child benefits.

In order to evaluate the redistributive and the incentive effects of these policies in a cross country perspective, the structure of the simulated benefit in the SECs is the same as in the UK with the parameters (i.e. thresholds of eligibility and the maximum amount of the benefit) calibrated to obtain the same cost in terms of GDP in each country. In 2003, the Working Tax Credit cost £3.8 billion (HM Revenue and Customs, 2005) corresponding to 0.34% of contemporary GDP. This amount does not necessarily correspond to what it would be necessary to spend in order to achieve specific national goals in terms of redistribution of income and incentive effects, but it represents a common benchmark that makes cross country comparisons possible.

The main eligibility condition for the Working Tax Credit is that at least one person in the family works 16 or more hours a week (30 or more if there are no children). The amount of the tax credit depends on family gross income (all main sources of income with the exception of children's earnings and a disregarded amount for pensions, capital and property income) and it varies according to the composition of the family. Above the given thresholds the tax credit is tapered out at the rate of 37%.

Figure 1 and Table 2 show the structure of the family-based IWB (henceforth "IWB fam") with the relevant parameters for each country. Families with annual income below a minimum threshold (i.e. T1 in the figure) are entitled to the full amount if at least one member works 16 or more hours a week. The full amount of the tax credit varies if the beneficiary is a single person without children (i.e. A1 in the figure), a couple or a lone parent working part-time (i.e. A2) or full-time (i.e. A3). Incomes above the minimum threshold reduce the tax credit at the rate of 37%, and the entitlement is exhausted at different levels (i.e. T2, T3 and T4 in the figure) according to the family composition.

<FIGURE 1 around here>

Given the underlying income distributions, the demographic characteristics and the constraints in terms of total cost, values obtained for Italy are higher than those for other countries. The maximum amount (i.e. A3) for a lone parent or a couple working 30 or more hours a week is €4,405 per year in Italy, €3,475 in Greece, €2,600 in Spain and €2,369 in Portugal. The benefit is exhausted when the annual gross income (i.e. T4) is respectively around €18,021 in Italy, €14,216 in Greece, €10,636 in Spain and €9,692 in Portugal. The

values of the full amount of the tax credit and eligibility thresholds are lower for a lone parent or a couple working part-time (i.e. A2 and T3) and for a single individual working full-time (A1 and T2).

<TABLE 2 around here>

I simulate the individually-based IWB (henceforth "IWB ind") as a wage subsidy (Phelps, 1994) for all individuals working 16 or more hours a week. Such a work requirement implies that beneficiaries of this policy are individuals characterized by low hourly wages and not simply low earnings and this provides an incentive for working poor people to work at least part-time. Its structure is depicted in Figure 2 and the relevant parameters are shown in Table 3. Eligible individuals with gross earnings below the fifteenth percentile (α) of the earnings distribution are entitled to the full amount of the benefit, which is equal to an additional percentage β of their earnings. Earnings above α reduce the entitlement at the rate of 37%.

<FIGURE 2 around here>

The parameters of the individually-based IWBs are calibrated to imply the same cost as each country's family-based IWB. The individually-based subsidy corresponds to an additional 21.1% of individual earnings in Italy, 20.9% in Spain, 14.6% in Greece and 13% in Portugal. The maximum amount of the benefit for an individual in Italy with gross earnings around €8,962 per year is about €1,894. All individuals receiving earnings below the threshold of €14,081 per year are entitled to receive the benefit, with the possibility for other individuals of the same family receiving their own IWB. As for the family-based IWB, both the full amount of benefit and the eligibility thresholds are lower, respectively, for Greece, Spain and Portugal.

<TABLE 3 around here>

Three assumptions underlie the simulations. First, the new IWBs simulated for the SECs do not respect revenue neutrality, given that their cost is not covered by additional resources. The assumption is that each country would cover this cost through specific actions (i.e. reduction in other public expenditures, increase in capital or indirect taxation, etc.). Second, all the administrative burden and procedures involved in such schemes are ignored, although the British experience reveals the relevance of both the timing and the structure of the payment

system (Brewer, 2006). Third, the employee receives the full amount of the IWBs without any reduction in gross wage. On the one hand, this requires procedures to prevent firms decreasing the gross wage to a level lower than before the introduction of the IWBs. On the other hand, the introduction of a binding minimum wage in countries where it does not exist yet (e.g. Italy) and in-work benefits could be a joint step. This occurred in the UK where the minimum wage came into force in April 1999 before the introduction of the Working Families Tax Credit.

4. Is there a trade off between the redistributive and the incentive effects?

The gross cost of the simulated family-based IWBs, corresponding to the same proportion of GDP spent in the UK in 2003, varies across countries from around €533 million in Greece to €4.3 billion in Italy (see Table 4), that is 0.34% of GDP. However, integrating the new simulated IWBs with the existing social assistance programmes, the net cost of the new family-based IWBs is reduced by around 2% to 8%, due to reductions of the cost of other income-tested benefits. Finally, I calibrate the parameters of the individually-based IWBs to obtain the same final net cost as the family-based IWBs.

<TABLE 4 around here>

As expected, given the higher level of income at which the benefit is exhausted, and less stringent working hours requirements of the individually-based IWB than the family-based IWB, the number of household beneficiaries of the individually-based IWB is much higher than those recipients of the family-based IWB: 19% versus 11% in Greece and Italy, with percentages even higher in Spain (23% versus 14%) and Portugal (33% versus 17%). In some cases, more than one recipient of the individually-based IWB belongs to the same household and this increases the number of individuals potentially entitled to receive the individually-based IWB. However, looking at the value of the IWBs, it emerges that the family-based IWBs are double the individually-based IWBs both in terms of average and maximum value. Average (and maximum) family-based IWBs range from €71 (€197) per month in Portugal to €152 (€367) in Italy. Average individually-based IWBs range from €31 (€57) in Portugal to €80 (€ 158) in Italy. Portugal and Italy are also the two countries that report, respectively, the highest and the lowest percentage of beneficiaries, which partly justifies the differences in the amounts. In particular, because of the less dispersed earnings distribution and the larger

labour market participation in Portugal more families and individuals are entitled to receive the IWBs and, given the revenue constraints, the benefits are less generous.

This is the first lesson derived from a cross-country perspective: given the same structure of the IWBs, the labour market characteristics and the underlying income distributions of a country drive the final results in a massive way. In Portugal, where a larger share of households than in other countries fulfil both the working hours requirements (individuals working more than 16 hours per week) and the income threshold conditions (low wages and low family incomes), more resources would be necessary in order to give substantial amounts of benefits to those who are entitled to receive them. This confirms the risk that these policies might have too many beneficiaries when the wages are not dispersed enough (Boeri et al., 2000).

4.1 Redistributive effects

Table 5 shows that the reduction in poverty is much more evident when the poverty line is set as 40% of median equivalent income rather than as 60%, in particular after the family-based IWB. This is particularly true in the case of Italy (–25 %) and Portugal (–20 %). It contrasts with the situation experienced in other countries where individuals at the bottom of the income distribution rely on social assistance and income support schemes more than on their earnings (Bargain and Orsini, 2006). This implies that in the Southern European Countries a policy oriented to the working poor, as the IWBs, is also a means to support a significant proportion of the poorest individuals.

With the exception of Spain, the contribution of family-based IWBs to reduce the share of people at risk of poverty is larger than that of individually-based IWBs. This is due to the larger generosity of family-based IWBs and because they are means-tested at family level and hence they are better targeted on the poorest families. Recipients of individually-based IWBs might belong to non poor families, reducing the overall redistributive effects of the benefit.

<TABLE 5 around here>

However, in countries characterized by a large share of multigenerational households (10% of the total in Spain, 9% in Portugal, 6% in Greece and 4% in Italy) the redistributive effects of means-tested policies are not clear a priori. On the one hand, the presence of multi-family

households does not allow family-based IWBs to be targeted on the very poorest households. On the other hand, it is likely that a larger number of individuals belonging to the same household receive the individually-based IWB enhancing its redistributive effect. As a consequence, we observe households at the top of the income distribution receiving the IWBs and individually-based IWBs being more redistributive than family-based IWBs, as it happens in Spain.

Looking at the households whose income increases at least 5% (see Table 6), gainers are concentrated among the poorest fifth (Italy and partly Portugal) and the second (Greece and Spain) quintile groups. With the exception of Spain, family-based IWBs lead to larger share of gainers at the bottom of the income distribution than individually-based IWBs. However, in Greece and Italy, individually-based IWBs have a bigger impact on the household in the middle of the income distribution.

<TABLE 6 around here>

Additional evidence of the clear distributional impact of the IWBs is given by the distribution of the average percentage variation in equivalent household disposable income after their introduction (see Table 7). The redistributive effect after family-based IWBs is more evident in all countries but Spain: the largest increase in income takes place among the poorest fifth, in particular in Italy (8%) and Portugal (5%), and it is decreasing along the income distribution. After individually-based IWBs, the increase in income is more spread with more equal variations for the households in the first three quintile groups. This is particularly true in Spain where the individually-based IWB leads to an increase in income, in the middle of the distribution, larger than that after the family-based IWB.

< TABLE 7 around here>

4.2 Economic incentives

In order to evaluate the extent to which IWBs enhance the payoff to take a paid job, I consider how the incentives change when the choice is whether or not to enter the labour force. I look at the incentive to work faced by women aged 18-65 years, lone mothers and women in couples separately. Two labour choices are simulated before and after the introduction of the IWBs: part-time (20 hours a week) and full-time (40). As a measure of incentive I look at the

replacement rates at household level when the woman is simulated working part-time or full-time. They are measured as the ratio between household disposable income when the woman is out of work and household income when she is in work. The assumption when the woman is out of work is that she does not qualify for unemployment benefits – given the relative short duration of such benefits in the Southern European Countries – but she receives any other existing social assistance transfers. Women currently out of work have been assigned a potential wage (see Annex I for details).

Tables 8 and 9 show the replacement rates separately for lone mothers and women in couples, after their choice of working full-time and part-time. Being assessed at household level, such measures take into account any variation in the income of other household members.

For lone mothers both types of IWBs lead to lower replacement rates and hence higher incentive to work compared to the baseline scenario, especially in Greece and Italy when they work full-time (Table 8) and in all countries when they work part-time (Table 9). The reduction in replacement rates affects lone mothers both after individually-based IWBs and after family-based IWBs because lone mothers are likely to be entitled to both of them.

<TABLE 8 around here>

<TABLE 9 around here>

For women in couples the results are different because family-based IWBs lead in all countries to a potential disincentive effect to work (replacement rates slightly higher than in the baseline scenario), both if women work part-time or full-time. After the introduction of family-based IWBs, the proportion of women in couples whose replacement rates rises is higher than the proportion of women whose replacement rates falls. This is because women's participation in the labour market implies a reduction in the benefit received by their working partners. However, replacement rates after individually-based IWBs are always lower than in the baseline scenario, showing a potential positive incentive effect to work. Between 43% (in Portugal and Spain) and 84% (in Greece) of the women working full-time face reduced replacement rates, as do almost all women working part-time. These results confirm also for the Southern European countries what has been assessed in the UK about the employment effects of family-based in-work benefit policies (Blundell et al., 2000). Moreover, such

disincentives for secondary earners in a couple are considered one of the main obstacles in importing the British model of in-work benefit in other countries also characterized by relatively high female labour market participation, such as Germany (Haan and Myck, 2007).

5. Conclusions

The increasing role played by the in-work benefits in the Anglo-Saxon welfare systems, with positive evidence of redistributive effects and social inclusion of low skilled workers, should encourage other countries to evaluate the feasibility of implementing such policies. Taking into account the institutional framework conditions and making use of microsimulation techniques in a cross-country comparative view, in this paper I consider the implementation of two forms of in-work benefits in the SECs. The first is a family-based IWB, which borrows the structure of the British Working Tax Credit and implies the same resources in terms of national GDP in each country as in the UK. The second is an individually-based IWB in the form of a low wage subsidy, simulated at the same cost as the family-based IWB in each country. Socio-economic conditions and labour market characteristics of the Southern European countries make the comparison between the two types of IWBs particularly relevant.

In a cross country perspective, it has emerged that given the same structure of the IWBs, the labour market characteristics and the underlying income distributions of a country drive the final results in a massive way. In countries characterized by relatively high employment rates and low wages concentrated in the bottom of the wage distribution, such as Portugal and Spain, IWBs might have too many beneficiaries and cannot be narrowly targeted.

The analysis confirms the presence of a trade off between the redistributive and the incentive effects of the two different IWBs, which needs to be carefully evaluated given the aims of their potential implementation.

Although the redistributive effects are modest and the IWBs cannot be considered as a primary tool in poverty reduction, they are a means to support a significant proportion of the poorest. In the SECs, given the absence of relevant income support schemes, the working poor are at the bottom of the income distribution. This contrasts with the situation experienced in other countries where individuals at the bottom of the income distribution rely on social assistance and income support schemes more than on their earnings. In general,

family-based IWBs seem to be better targeted on the poorest families but the presence of multi-family households does not allow such policies to be targeted on the very poorest households. We also observe households at the top of the income distribution receiving the IWBs.

Individually-based policies lead to better incentives to work than family-based IWBs. In particular women in couples, whose labour market participation is far below the European average, face higher incentives to work part-time or full-time after the introduction of individually-based policies while they face lower incentives to work after the introduction of family-based IWBs.

The analyses confirm that IWBs might be one of the pillars of a redefined welfare system in the SECs in order to enhance the economic position of working poor and to increase female occupation. In particular, despite the influence of the Anglo-Saxon models on policy makers, individually-based IWBs seem to be more efficient if the enhancement of the labour market participation of women in couples is of fundamental concern. However, cash transfers must be complemented by an extension of childcare provisions in order to allow women to find jobs not only more financially attractive, but also reconcilable with other caring responsibilities.

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Tables

Table 1. Social Indicators - 2003

	At risk of poverty[a] %	At risk of poverty while at work[a] %	GINI index[a]	Social protection expenditures[a] % GDP	Female Low education rate[b] %	Female Employment rate[b] %
Greece	20	13	0.33	26.3	45.7	38.8
Italy	19	10	0.33	26.4	57.3	31.5
Portugal	21	13	0.38	24.3	75.4	63
Spain	20	11	0.31	19.7	54.2	36.4
UK	18	7	0.34	26.7	36.4	61.2
EU - 15	17	8	0.30	28.3	38.7	44.3

Notes: At risk of poverty defined as proportion of individuals with equivalent income below the 60% of median equivalent income. Low education: % of the female population aged 25 – 64 years having completed at most lower secondary education. Source: [a] Eurostat (2007); [b] Author's calculations from Labour Force Surveys (2003).

Table 2. Parameters of family-based IWB

	A1	A2	A3	T1	T2	T3	T4
Greece	2,045	2,884	3,475	4,824	10,351	12,618	14,216
Italy	2,592	3,656	4,405	6,115	13,121	15,995	18,021
Portugal	1,394	1,966	2,369	3,289	7,057	8,603	9,692
Spain	1,530	2,158	2,600	3,609	7,745	9,441	10,636

Values in € per year. Source: Author's calculations based on EUROMOD.

Table 3. Parameters of Individually-based IWB

	α € / year	β %	A € / year	T € / year
Greece	7,508	14.6	1,096	10,471
Italy	8,962	21.1	1,894	14,081
Portugal	5,236	13.0	680	7,073
Spain	7,189	20.9	1,502	11,249

Source: Author's calculations based on EUROMOD.

Table 4. Aggregate results

		Gross cost million € / year	Net cost million € / year	Recipients (% of HH)	Recipients (Number of HH)	Average amount € / month	Maximum amount € / month
Greece	IWB fam	533	533	11.31	451,462	90	290
	IWB ind	533	533	18.31	731,100	49	91
Italy	IWB fam	4,279	4,157	11.02	2,184,012	152	367
	IWB ind	4,244	4,157	19.13	3,790,881	80	158
Spain	IWB fam	2,683	2,591	13.58	1,642,554	128	217
	IWB ind	2,683	2,591	22.71	2,746,137	66	125
Portugal	IWB fam	475	464	16.91	518,701	71	197
	IWB ind	505	464	32.74	1,003,928	31	57

Source: Author's calculations based on EUROMOD.

Table 5. Redistributive effects: impact on poverty

		Poverty line: 40%			Poverty line: 60%		
		Proportion poor	*Std.Err.*	Δ	Proportion poor	*Std.Err.*	Δ
Greece	Baseline	0.0819	*0.0042*	- - -	0.1929	*0.0060*	- - -
	IWB fam	0.0756	*0.0041*	–7.68	0.1793	*0.0058*	–7.02
	IWB ind	0.0785	*0.0041*	–4.16	0.1867	*0.0059*	–3.22
Italy	Baseline	0.0719	*0.0053*	- - -	0.2018	*0.0073*	- - -
	IWB fam	0.0541	*0.0043*	24.78	0.1816	*0.0069*	10.00
	IWB ind	0.0664	*0.0052*	–7.68	0.1948	*0.0072*	–3.47
Spain	Baseline	0.0592	*0.0054*	- - -	0.1917	*0.0087*	- - -
	IWB fam	0.0564	*0.0053*	–4.73	0.1889	*0.0086*	–1.45
	IWB ind	0.0559	*0.0053*	–5.59	0.1828	*0.0085*	–4.64
Portugal	Baseline	0.0490	*0.0067*	- - -	0.2089	*0.0145*	- - -
	IWB fam	0.0394	*0.0059*	-19.64	0.1971	*0.0144*	-5.66
	IWB ind	0.0453	*0.0066*	-7.55	0.2017	*0.0144*	-3.46

Poverty line is kept constant as in the baseline scenario in order to take into account possible changes in median income. Δ: percentage difference against the baseline. Source: Author's calculations based on EUROMOD.

Table 6. Distribution of gainers by quintile group (%)

		Income quintile group				
		1	2	3	4	5
Greece	IWB fam	2.43	2.73	1.76	1.07	0.11
	IWB ind	1.76	2.39	2.09	0.98	0.08
Italy	IWB fam	5.04	3.10	0.78	0.41	0.13
	IWB ind	4.79	2.84	2.50	0.73	0.09
Spain	IWB fam	1.50	1.89	1.55	1.34	0.89
	IWB ind	2.63	2.93	1.52	1.27	0.10
Portugal	IWB fam	6.75	2.79	2.78	0.14	0.10
	IWB ind	2.51	3.29	1.78	0.37	0.00

Gainers are households whose equivalent disposable income has increased by at least 5%. Source: Author's calculations based on EUROMOD.

Table 7. Percentage variation in equivalent disposable income by quintile

		Income quintile group				
		1	2	3	4	5
Greece	IWB fam	3.15	2.03	1.21	0.61	0.12
	IWB ind	1.17	1.39	1.33	1.00	0.25
Italy	IWB fam	8.32	2.36	0.51	0.20	0.09
	IWB ind	3.17	1.54	1.36	0.68	0.28
Spain	IWB fam	2.06	0.94	0.86	0.99	0.77
	IWB ind	1.75	1.81	1.19	1.01	0.29
Portugal	IWB fam	4.98	2.36	1.92	0.40	0.17
	IWB ind	1.75	2.28	1.74	1.01	0.25

Source: Author's calculations based on EUROMOD.

Table 8. Replacement rates if the woman works full-time

	Greece			Italy			Portugal			Spain		
	Baseline %	IWB fam Δ	IWB ind Δ	Baseline %	IWB fam Δ	IWB ind Δ	Baseline %	IWB fam Δ	IWB ind Δ	Baseline %	IWB fam Δ	IWB ind Δ
Lone mothers												
mean	48.5	-2.5	-1.8	55.0	-1.2	-2.1	54.2	-1.9	-0.7	44.9	-0.2	-0.5
median	49.0	-2.9	-1.6	54.4	-0.9	-1.9	52.7	-1.7	-0.8	46.2	-0.2	-1.0
25th percentile	29.7	-3.1	-1.7	33.4	-1.8	-2.6	40.7	-1.8	-0.9	26.4	-0.9	-0.9
75th percentile	67.7	-2.7	-2.1	76.6	-0.9	-1.6	65.3	-2.6	-1.1	62.9	-0.5	-0.8
% whose rate rises		11.2	5.9		5.4	5.0		13.2	11.5		12.2	10.3
% whose rate falls		83.8	89.1		47.8	70.7		50.6	56.2		30.9	49.4
Women in couples												
mean	61.6	0.2	-1.5	65.4	0.8	-1.5	62.4	1.3	-0.5	61.7	0.2	-0.6
median	63.1	0.5	-1.5	66.5	1.1	-1.2	62.5	1.9	-0.9	63.4	0.2	-0.7
25th percentile	51.6	0.4	-1.6	56.5	1.0	-1.4	52.9	2.2	-0.3	53.8	0.4	-0.5
75th percentile	72.9	0.3	-1.7	76.3	0.7	-2.1	71.4	1.0	-0.7	71.8	0.1	-0.8
% whose rate rises		46.5	15.4		14.3	5.3		31.9	12.1		12.6	9.2
% whose rate falls		52.6	83.7		9.8	64.1		10.6	43.2		8.1	43.3

Source: Author's calculations. Women aged 18 – 65 years old. Δ: change in replacement rate in percentage points.

Table 9. Replacement rates if the woman works part-time

	Greece			Italy			Portugal			Spain		
	Baseline %	IWB fam Δ	IWB ind Δ	Baseline %	IWB fam Δ	IWB ind Δ	Baseline %	IWB fam Δ	IWB ind Δ	Baseline %	IWB fam Δ	IWB ind Δ
Lone mothers												
mean	68.2	-4.2	-4.1	78.3	-2.9	-7.9	78.2	-6.8	-3.9	62.0	-1.4	-4.8
median	67.1	-4.2	-2.8	78.1	-1.8	-6.8	76.8	-9.2	-4.7	64.6	-0.4	-4.7
25th percentile	47.8	-8.6	-4.5	51.5	-4.7	-5.2	63.7	-6.6	-4.3	42.3	-0.9	-5.0
75th percentile	85.6	-2.0	-2.6	101.9	-1.0	-7.6	91.4	-11.6	-6.6	83.7	-0.3	-5.7
% whose rate rises		25.7	0.8		4.3	0.4		10.3	0.3		6.3	1.9
% whose rate falls		69.3	94.1		29.5	96.9		47.9	97.4		43.8	96.9
Women in couples												
mean	75.9	0.3	-2.5	79.0	0.7	-3.8	77.7	1.1	-2.6	75.0	0.3	-3.5
median	77.4	0.8	-2.5	79.8	1.0	-3.8	77.4	1.6	-2.5	77.3	0.3	-3.6
25th percentile	67.7	0.5	-2.7	71.8	1.1	-4.1	69.9	1.4	-2.6	69.0	0.3	-4.0
75th percentile	84.7	0.5	-1.9	87.0	0.9	-2.9	84.6	0.7	-2.3	83.9	0.2	-3.2
% whose rate rises		56.1	0.6		14.3	0.4		31.6	0.9		13.1	0.6
% whose rate falls		42.9	98.5		4.1	96.9		7.1	92.3		2.1	98.2

Source: Author's calculations. Women aged 18 – 65 years old. Δ: change in replacement rate in percentage points.

Figures

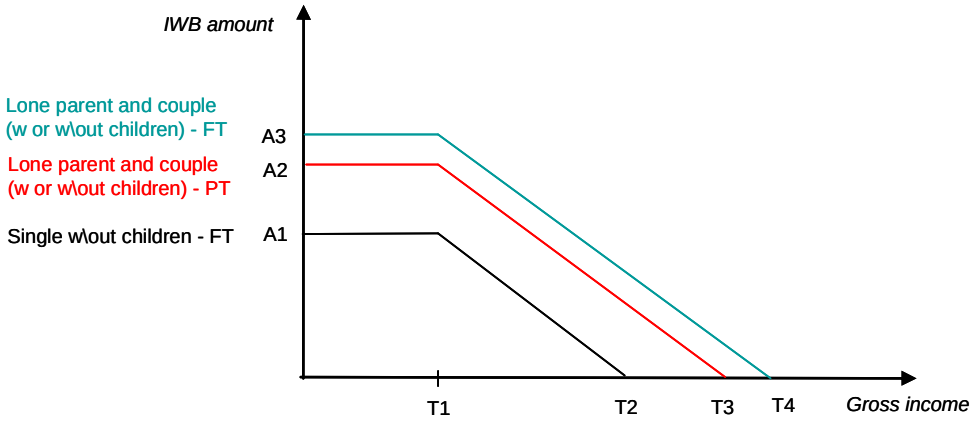

Figure 1. Structure of family-based IWB

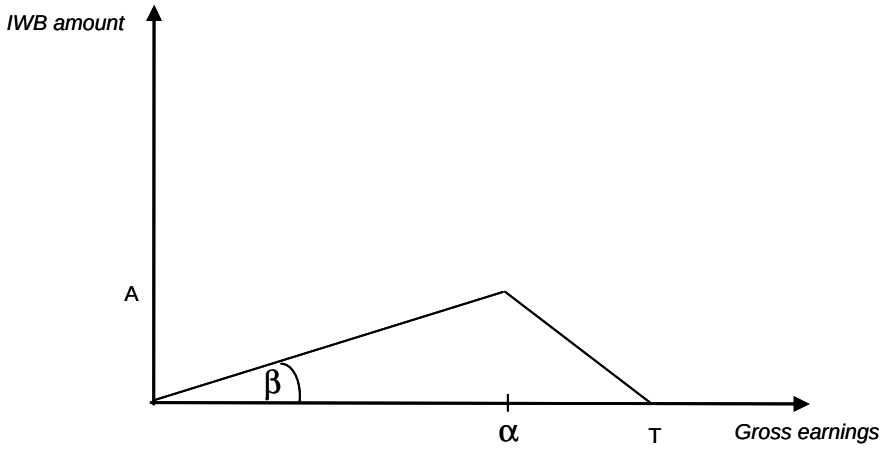

Figure 2. Structure of individually-based IWB

Annex I: Selection-corrected wage regressions

The wage for currently inactive women has been predicted using Heckman selection-corrected wage regressions, on the basis of the current hourly wage received by those in employment. Table A1 shows the coefficients of the outcome equation and the participation equation, all with the expected signs. The likelihood ratio test of independent equations (i.e. rho = 0) indicates that the selection bias is statistically significant in Greece and Italy, justifying the Heckman procedure.

Table A1. Selection-corrected wage regressions for women

	Greece		Italy		Spain		Portugal	
	Coefficient	Std. Err.	Coefficient	Std. Err.	Coefficient	Std. Err.	Coefficient	Std. Err.
Hourly wage (ln)								
Secondary education	0.3069	0.0686	0.3432	0.0499				
Tertiary education	0.5284	0.0605	0.7274	0.0532	0.2586	0.0451	0.4957	0.0361
More than tertiary education	0.9923	0.0701	1.0311	0.0636	0.5823	0.0470	1.1828	0.0501
Age	0.1049	0.0133	0.0919	0.0110	0.0814	0.0117	0.0562	0.0100
Age^2	-0.0010	0.0002	-0.0008	0.0001	-0.0008	0.0002	-0.0005	0.0001
Constant	-1.3340	0.2973	-0.3884	0.2509	-0.6391	0.2496	4.9496	0.2051
Selection equation								
Secondary education	0.3625	0.0682	0.5675	0.0479				
Tertiary education	0.5384	0.0572	0.9911	0.0484	0.2071	0.0537	0.2876	0.0585
More than tertiary education	1.1154	0.0608	1.3213	0.0689	0.7939	0.0512	1.2964	0.0936
Age	0.2312	0.0136	0.2565	0.0112	0.1722	0.0130	0.1514	0.0123
Age^2	-0.0030	0.0002	-0.0032	0.0001	-0.0023	0.0002	-0.0021	0.0001
Married	-0.3013	0.0567	-0.2912	0.0477	-0.1145	0.0527	-0.0075	0.0524
Youngest child: 3 > years	-0.2289	0.0851	-0.1342	0.0730	-0.2053	0.0816	0.1226	0.0869
Youngest child: 6 > years >= 3	-0.2433	0.0887	-0.1190	0.0746	-0.3135	0.0935	0.1075	0.0905
Youngest child: 14 > years >= 6	-0.2274	0.0682	-0.1230	0.0611	-0.3244	0.0734	0.0025	0.0754
Youngest child: years >= 14	-0.0856	0.0583	-0.0810	0.0539	-0.1089	0.0674	0.0423	0.0623
Other hh income	-0.0001	0.0000	0.0000	0.0000	-0.0002	0.0000	-0.0002	0.0000
Constant	-4.6200	0.2539	-5.4192	0.2065	-2.9111	0.2371	-2.2588	0.2222
Rho	.1965	0.0845	.1595	0.0662	.0106	0.0948	0.0715	0.0936
No. of obs (censored obs)	5525 (3758)		8137 (5590)		4821 (2946)		4292 (2134)	
Wald chi2(5). Prob > chi2 in brackets.	482.44 (0)		738.33 (0)		409.92 (0)		894.96 (0)	
LR test of indep. Eqns (rho = 0): chi2(1). Prob > chi2 in brackets.	4.2 (0.040)		3.14 (0.0763)		-14.24 (1)		0.49 (0.4835)	

Source: Author's calculations. Women aged 18 – 65 years old.