

Research note

Making work pay – assistance to low-paid workers in Europe

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ABSTRACT

Make Work Pay (MWP) policies, in the form of working tax credits or in-work benefits, are one of the main redistributive schemes in the US and the UK. They have also been progressively introduced in some continental European countries in response to the disincentive effect of generous social transfers for workless households.

Most of the literature, and in particular cross-country studies, has focused on the labour supply effects of these policies. In this note, we compare the redistributive nature of several schemes in force in four countries, Belgium, France, the Netherlands and the UK, using a European micro-simulation model,

Previous studies typically consider the consequences of policy reforms, e.g., the extension of the family tax credit in the UK in 1999. In contrast, we construct counterfactual scenarios by assuming the full withdrawal of the MWP instruments from the systems in place so as to isolate their total effect on income distribution and poverty risk. Drawing from the literature, we also discuss the potential employment effects in relation to their redistributive implications.

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I. Introduction

Transfers to low-wage workers or low-income working families have been in operation for a long time in the US and the UK and have received a lot of attention in many OECD countries over the recent past (Pearson and Scarpetta, 2000; Blundell, 2000; Bourguignon, 1997). Aimed primarily at increasing financial incentives to work, these in-work transfers are often referred to as 'Make Work Pay' (MWP) policies.¹ They either take the form of tax credits (in most countries), reductions in social security contribution for low-wage workers (as the recent Belgian 'employment bonus') or in-work benefits (as the Irish family income supplement).

The UK has been a pioneer in Europe with the Family Credit, substantially reformed into a Working Family Tax Credit in 1999 and further reformed in 2003. In recent years, the idea of in-work transfers has been spreading in continental Europe. Measures have been progressively implemented, in particular, in France and Belgium in 2001, with the introduction of earned income tax credits (quickly replaced in Belgium by a reduction of social insurance contributions), and in the Netherlands, with the replacement of tax allowances by a tax credit system. To understand how these recent developments may have affected income distribution and the risk of poverty, there is a need to isolate them from other possible influences.

While there is a growing literature on the subject,² cross-country comparisons are limited due to a lack of means of carrying them out satisfactorily. Moreover, the literature tends to focus on the employment effects of the reforms and less on their distributional impact. The approach adopted here is to use a tax-benefit micro-simulation model (EUROMOD) to compare the distributional effects of these policy measures in Belgium, France, the Netherlands and the UK. Whereas studies usually focus on the effect of extending the policy (e.g. the successive extensions of the British tax credit) or changing its form (e.g. the replacement of tax allowances by tax credits in the Netherlands), the concern here is to simulate the complete withdrawal of MWP measures in order to capture their full impact. To do so, a counterfactual scenario is simulated for each of the countries in which the MWP measures in place are simply removed and the results compared with the actual system. The distributional effects are compared across countries taking account of differences in budgetary costs and in institutional arrangements. The existing literature on the potential employment effect of MWP policies is also reviewed and the way this might affect the distributional analysis considered.

There is, first, a brief overview of MWP policies in Europe focusing on the four systems selected for study. Secondly, a number of general points concerning the structure of MWP policies are considered and an indication given of the limitations of the analysis. Thirdly, the simulation results on income distribution and financial incentives to work are presented.

¹ The MWP expression also encompasses policies that act on the demand-side by reducing the cost of hiring low-skilled workers. Cuts in taxes or social contributions paid by employers were introduced in several countries in the 1980s and 1990s (Austria, Belgium, France, the Netherlands and to some extent in the UK through a progressive contribution scheme). Other countries have targeted employment subsidies on employers of young people, the long-term unemployed and welfare recipients. For an in depth discussion, see Martin and Grubb (2001).

² See surveys of: Martin and Grubb (2001), Duncan, Pearson and Scholtz (2003), Duncan (2002), Pearson (2000), Pearson and Scarpetta (2002), Bertola (2000), Blundell (2006), Orsini (2007), Leppik (2006).

II. Four European examples of ‘make work pay’ policies

Overview

In-work policies have been in place for a long time in the US, in the form of the Earned Income Tax Credit (EITC), and in the UK, in the form of the Family Credit and its successors. There is also relatively long experience of such schemes in Canada, New Zealand and Ireland. The official objective stated by policy makers is twofold: to expand employment by increasing work incentives, and to increase the income of disadvantaged groups (see Pearson, 2002). Such measures are often seen as being more politically acceptable than an expansion of in social assistance and more desirable given the fear of increasing disincentives to work. They are also tend to be regarded as more efficient than an increase in the minimum wage, which might adversely affect employment.

Beyond these common motives, there are also country-specific objectives, reflecting different economic and institutional circumstances. In some European countries characterised by high levels of social transfers, which are suspected of discouraging employment, in-work benefits have been suggested primarily to ensure that there is a financial difference between welfare and paid work, i.e. to ‘make work pay’.³ This is notably the case in Nordic countries, France, Belgium and Germany.

In the UK, a large share of social transfers is conditional on a minimum level of labour market participation. This reflects a different poverty-alleviation strategy, possibly due to differences in social preferences and in the efficiency constraint (see Brewer et al., 2007). In addition, in the UK MWP policies are also being used to combat child poverty. For this reason, the different versions of the in-work tax credit in force before 2003 were targeted at households with children only.

³ The ‘make work pay’ expression encompasses both demand and supply side policies. The former attempt to reduce the cost of hiring low-skilled workers while the latter are designed to create incentives to take up low paid work. The present study focuses solely on the second type of policy measure by addressing incentive issues in a pure supply-side framework.

Table 1: In-work schemes in four EU Member States

	Reform	Description and distributive analysis	Start	recent extensions	Unit	Max. monthly amount \$	Refundable	Basis for means-test	phase-in \$\$	phase-out \$\$	Minimum hour condition
Belgium	Earned income tax credit (CIBRAP) followed by Bonus a l'Emploi (BE)	Cantillon et al. (2003); Orsini (2006)	2001 (CIBRAP)	2004: tax credit maintained for self-employed but replaced by SSC deductions (BE) for employees	individual	due SSC, up to €95 (2004)	yes	individual equivalent full time earnings	0 to €1,210	€1,210 to €2,000, at 17.8% taper rate	CIBRAP: 13 hours
France	Earned Income Tax Credit (Prime pour l'Emploi, PPE)	Legendre et al. (2002); Bargain and Terraz (2003)	2001	2002: rate is doubled; 2003: 50% premium for part-time	individual / some household elements	4.4% of the minimum wage (2003), i.e., around 50 euro	yes	individual equivalent full time earnings @	€272 to €907	€272 to €1,270 @@	no
Netherlands	Employment Tax Credit (Arbeidskorting)*	van Soest and Das (2001)	2001	max. amount increased by 20% between 2001 and 2003	individual	€92 (2003)	no	individual yearly income from employment	0 to €1 260	no	no
UK	Working Tax Credit (WTC)**	Blundell et al. (2000)	1971	1999, 2003	households with children (before 2003) or without children (since 2003)	£127 (2003)	yes	net household income	no	from £421 to £905 (37% taper rate)	one person working at least 16 hours (+ bonus at 30h)

Notes: rules and rates of in-work policies are given for the most recent version that can be simulated with Euromod.

* Replacing previous earned income tax allowance.

** Initially known as the Family Income Supplement, replaced by a 1988 and significantly extended in 1999 (Working Family Tax Credit, WFTC) and changed in 2003 (split into a Child Tax Credit and a pure Working Tax Credit, WTC).

\$ We report only basic maximum amounts for a childless single individual (without specific increments); for the UK, we report the 2003 WTC figures for comparability purposes (since tax credits before 2003 were not available to single individuals)

\$\$ Amounts are expressed monthly even if eligibility is sometimes assessed on annual income

@ Plus means-test of total taxable income at household level

@@ Higher threshold considered for entitlement to premium (due to presence of children or being lone parent)

In Southern Europe, the absence of minimum income programmes leaves room for either the introduction of transfers to the poor (such as the experiments of introducing social assistance in Italy) or the design of in-work transfers to the working poor. Because of low participation rates, for women especially, benefits that are conditional on employment status are likely to receive more political support (see Figari, 2007).

Differences in underlying policy objectives mean that the efficiency of different policies across European countries cannot be judged on the basis of their distributional effects alone. The relative success or failure of past examples of in-work transfers needs to be assessed in relation to the specific policy objectives assigned to them. Yet, the results suggested in the present study provide an interesting benchmark against which to consider about the redistributive potential of such schemes.

Description of the reforms

The most relevant reforms as regards the four countries selected for study are summarised below (see Table 1 for details; the amounts reported are those for the years simulated here - 2003 for France and the Netherlands and 2004 for Belgium, while for the UK, the figures reported are those for the individual version of the WTC in order to be comparable with the other countries, but the scheme simulated below is the 2001 WFTC, as explained).

BELGIUM - CIBRAP AND BONUS À L'EMPLOI

In August 2001, the Belgian Parliament introduced a refundable earned income tax credit – *Crédit d'impôt sur les bas revenus de l'activité professionnelle* (CIBRAP). Its explicit aim was to encourage employment, especially of young people and women, and to reduce the risk of poverty among low skilled workers (Ministère des Finances, 2002). The tax credit was based on employment income, was refundable and fully individualised.⁴ It was phased in over net earned income of between EUR 312 and EUR 416 per month (rate of 40.5%), reached a maximum (EUR 42 monthly) and was then phased out at a rate of 13.5% from EUR 1,044 up to EUR 1,356. Eligibility was conditional on working at least 13 hours a week. In 2004, the CIBRAP was replaced by the Employment Bonus (*Bonus à l'Emploi*, BE), a rebate on social security contributions for low skilled employees,⁵ On the grounds that it would be more effective in promoting the employment of the low-skilled.⁶ The base reduction was EUR 95 in 2004, phased in for full-time equivalent income of up to EUR 1,210 a month, then phased out with a taper of 17.8% up to EUR 2,000. In a similar way to the French measure (see below), the bonus is linked to full-time equivalent earnings, gross earnings being first converted into these terms. The maximum reduction to which a worker is entitled is then scaled to the amount of hours worked. In this way, employees working full time are entitled to the full reduction, while part-time employees receive only half of the maximum reduction. The scheme therefore distinguishes between low productivity and low effort, as discussed below.

⁴ In particular, the CIBRAP is not scaled according to family conditions, so that the number of dependants is not taken into account. Such a feature may cause the benefit to be ineffective in tackling inactivity traps, as means-tested social assistance (MINIMEX in Belgium) is scaled to household size. The net replacement rate will therefore be higher for single women on social assistance than for single mothers.

⁵ The CIBRAP did not disappear completely: it is still in place for the self-employed, since that the latter do not benefit from the reductions in social security contributions.

⁶ Reductions on social contributions paid by low wage employees already existed from 1999. Before the introduction of the CIBRAP in 2001, it consisted of a reduction of EUR 81.8 a month, for full time equivalent gross employment incomes between EUR 877 and EUR 1,147 (the minimum wage level) and then phased out with a taper rate of 36.5% up to EUR 1,367.

FRANCE - PRIME POUR L'EMPLOI (PPE)

The French Employment Bonus (Prime pour l'Emploi, PPE) was launched in 2001. It is a refundable tax credit targeted at full-time workers paid the minimum wage. The main aim is to encourage economic activity among low-paid workers and increase the differential between transfers out of work – and notably generous social transfers (social assistance and housing benefits) – and earnings. The PPE is a hybrid measure as it is means-tested at both personal and household levels. Consequently, a low-paid worker living in a wealthy household would not be eligible. So far as household taxable income is concerned, the eligibility ceiling is EUR 1,050 a month in 2005 for a single person (double for a married couple and plus 27.6% of the single amount for each child). Initially, the transfer was phased in for full-time (and full-year) equivalent incomes between 0.3 and 1 time the minimum wage, at which the maximum amount was reached, then phased out linearly up to 1.4 times the minimum wage. Because of working time reduction in the early 2000s, the reference to the minimum wage was abandoned (Carrez, 2002). The maximum amount corresponded to 2.2% of the annual minimum wage in 2001; this rate was doubled in 2002 and a 45% premium for part-time activity was introduced in 2003. Recently, the tax credit has been substantially increased for the 9 million recipients, the maximum amount reaching EUR 78 a month in 2007 as compared with EUR 24 in 2002.

THE NETHERLANDS – ARBEIDSKORTING

In 2001, the earned income tax allowance was replaced by an individualised employment tax credit (*Arbeidskorting*) for salary workers and the self-employed. Means-testing applies to total employment income and no account is taken of work duration. The maximum amount of tax credit (EUR 92 per month in 2003) is reached at the annual minimum wage, after a progressive phase-in. The Dutch tax credit is not phased out, so avoiding the high effective marginal tax rates of the WFTC in the UK. As a result, it does not especially target low earnings. The tax credit programme includes additional incentives to encourage employment of older workers, with a premium for workers aged 57-64. The credit is purely individual; individualisation implies that both members of a couple are potentially eligible and, more importantly, that the income of one partner has no effect on the eligibility of the other. The main drawback of the previous tax allowance on earnings in the Netherlands (and of family-based in-work transfers like the WFTC) is therefore avoided. The set of credits available in the Netherlands, including the employment tax credit, are set against income tax and insurance contributions, reducing the liability to both. An important limitation is that total credit is not refundable: the maximum size of all credits applicable to a taxpayer in the Netherlands cannot exceed the total income levy, which is the total amount of taxes and national insurance contributions owed by the person.

UK - WORKING TAX CREDIT

In 1988, the former Family Income Support was replaced by a Family Credit (FC), a top-up cash payment for low-earning couples with children. The Working Family Tax Credit (WFTC) introduced in the UK in October 1999 is a more generous variant of the previous FC. The average monthly amount of credit increases by around 20%. The WFTC is paid to 1.3 million households at a total cost of £5 billion (0.6 per cent of GDP). The credit is a transfer to households with children where at least one of the adults is in paid work (as an employee or self-employed) for at least 16 hours per week. A 20% premium is given if one of the working adults works more than 30 hours a week; maximum entitlement also increases by 49% per dependent child. Eligibility is based on the jointly assessed incomes of household members. Once income reaches a threshold level, the maximum amount is tapered away at a rate of 55% on net income (against 70% with the former FC). The credit is refundable. In 2003, a new reform split the WFTC into two with different objectives, the first, a refundable Child Tax Credit (CTC) to families with children, with the objective of reducing child poverty, the second, the Working Tax Credit (WTC), extending the WFTC to childless households. Those employed can claim tax credit if they: a) are responsible for at least one child or qualifying young person b) have a disability which puts them at a disadvantage in getting a job or c) are aged 50 or over and are in the first year of work, having returned to work after a period of

at least six months receiving out-of-work benefits. Other adults qualify if they are aged 25 or over and work at least 30 hours a week. The WTC is made up of different elements depending on particular circumstances of the claimant and his/her family (basic amount plus an element for the presence of a second adult, a lone parent element, a disability element and other elements depending on working hours). The taper rate has been reduced to 37% compared to the WFTC. The WTC scheme also includes a specific element designed to subsidise childcare costs.

III. General issues on the structure of in-work policies

While according to some authors, there is a general consensus on the need for 'making work pay' policies in Europe (see Duncan et al., 2003), the policy descriptions above indicate that MWP policies differ across countries. This naturally reflects differences in policy objectives as mentioned above.⁷ It also reflects the fact that the optimal design of such schemes necessarily depends on the particular circumstances and conditions which exist (see Bertola, 2000), such as the shape of the wage/income distribution, the rate of participation, the demographic structure, the existing tax-benefit system and labour market institutions (whether or not, for example, there is a minimum wage). These initial conditions play a critical role in the design of effective reforms (see Bargain and Orsini, 2006, for an extensive discussion). While MWP schemes vary across countries, the essential features are: (1) targeting on workers with low productivity or low wages, (2) varying with individual income or the joint income of the family, (3) phased in and out or not. Some of these aspects are discussed below in relation to the schemes described above.

VARYING WITH HOURS OR INCOME

The different in-work schemes reviewed above are in some cases conditional on employment income (e.g. the Dutch and British policies). This means that in the phase-in income range, the amount of transfer increases due to either an increase in working time or an increase in the wage rate. In other words, there is no distinction between low productivity and low effort. The only requirement is the 16-hour (eligibility) and 30-hour (premium) conditions in the case of the British system. By contrast, a feature of the Belgian employment bonus or the French tax credit is that they are conditional on "full-time equivalent" earnings. While these reforms target full-time activity and potentially generate significant participation effects, they also avoid high effective marginal tax rates on increased effort in the phase out range. As a result, they do not entail an incentive to shorten working hours for those already in employment. Overall, a move toward in-work schemes conditional on wage rates rather than earnings seems desirable in terms of both employment effects and social justice.

ADMINISTRATIVE ASPECTS

The ability of governments to tax individuals positively (or negatively via tax credit) on the basis of their productivity (wage rate), known as 'first-best taxation' in the theoretical literature, is usually viewed as too demanding in terms of available information, or too costly to administer, since it is difficult for the tax authorities to obtain reliable information on both incomes and working time. In the case of the French tax credit (PPE), for instance, the computation of "full-time equivalent" income relies on self-reported declarations on tax forms. In this situation, the reliability of the income base and the sustainability of the system based on it are questionable.

⁷ For instance, a transfer varying with individual wage rates may create less of a disincentive to work but be less efficient in terms of poverty reduction than an alternative scheme based on joint family income (see explanation below); the choice of the most appropriate scheme will then depend on social preferences and the relative weights attached by the government to the efficiency objective (increasing work incentives and labour market participation), the equity objective (reducing inequality and poverty) or other specific objectives (reducing child poverty).

Other issues concerning administrative/institutional arrangements are worth mentioning. First, the payment of the transfers and its frequency may affect the effectiveness of the policy (as noted by Duncan et al., 2003 and Dilnot and McCrae, 1999). Secondly, the form chosen is not innocuous. Several forms of employment-conditional transfers are used by governments: reductions in social contributions, wage subsidies, in-work benefits, refundable tax credits, etc. An individual tax credit, for example, requires an individualised income tax scheme (the Belgian income tax system was individualised in 2001 partly for this reason). Also, the choice of a refundable tax credit instead of an in-work benefit was motivated by the fact that in-work benefits conditional on claims have posed serious take-up problems in the UK. In recent years, policy makers have opted for tax credits administered by fiscal authorities and paid directly through the wage packet in Pay As You Earn systems. Finally, there is also a risk that employers offset the net gain of the benefit by lowering hourly wages. To limit this risk, minimum wage legislation has recently been introduced in the UK.

INDIVIDUAL VERSUS FAMILY-BASED SCHEMES

The treatment of the family dimension and the choice of the unit of assessment may strongly affect the distributional and employment effects of MWP policies. On the one hand, some countries have introduced family-based measures, i.e. in-work transfers which depend on household size and which are means-tested on family income. This type of reform, in the style of the US earned income tax credit (EITC) and the British WFTC, is known to be well-targeted at low-income working families. However, while the reform unequivocally encourages the participation of single individuals, it is often the case that it discourages second earners in couples, giving rise to gender bias against the participation of women (see Eissa and Hoynes, 2004, and Blundell et al., 2000, among others). On the other hand, some countries like Belgium (and France to some extent) have introduced individualised measures, related to individual earnings only. Given a similar budgetary cost, this type of measure would imply smaller benefits to a larger number of recipients – low-paid individuals in well-off families may well receive some transfers – and hence smaller redistributive effects. It may, however, have greater incentive effects than the family-based alternative as it has no discouraging effects on second earners in couples, and less generous amounts imply smaller increases in effective marginal tax rates in the phase-out region.

OPTIMAL DESIGN

Targeting low-income families rather than low-wage workers is, therefore, likely to achieve more redistribution but also risks having negative effects on labour supply, which in turn tends to reduce the overall amount available for redistribution. The choice of a family-based or an individual-based policy will therefore depend on the efficiency constraint and on the relative importance accorded to work incentives as opposed to redistribution. The issue of the optimal design of tax-benefit policy has been the subject of recent studies (see for instance Brewer et al., 2007, and Bourguignon and Spadaro, 2007).

Nevertheless, the British experience of WFTC clearly illustrates the difficulty of attaining multiple objectives through a single instrument. The 2003 reform, splitting the WFTC into a refundable Child Tax Credit (CTC) and a Working Tax Credit extended to childless households, is revealing. As Brewer (2005) shows, the CTC is more effective in reducing poverty than the WTC, while the WTC has stronger work incentives. He concludes that no single measure can affordably cut poverty without reducing work incentives, thereby underlining the trade-off inherent in the double aim of tax credit programmes.

IV. Distributional and employment effects

Simulation hypotheses

The simulations reported here are based on the European tax-benefit microsimulation model EUROMOD (C6 version).⁸ The data used are the Panel Survey on Belgium Households (1997), the French Household Budget Survey (2000), the Dutch Socio-Economic Panel (2000), and the British Family Expenditure Survey (2001). These surveys contain information on 2,834 representative households for Belgium, 10,305 for France, 4,329 for the Netherlands and 6,634 for the UK.

Other studies have compared the situation before and after the introduction of a particular scheme (such as Blundell et al., 2000). This gives rise to the problem, however, that when another form of MWP scheme was already in place before the measure being examined was introduced, this does not isolate the effect of the scheme as such but rather of the shift from the old to the new form (as, for example, in the case of a shift from the Family Credit to the WFTC in the UK in 1999). To assess the full potential effect of MWP policies, the approach here is to compare the situation when a scheme is removed completely.

For each country, the whole distribution of disposable income is simulated for both the actual tax-benefit system of a chosen policy year and the alternative (counterfactual) scenario where the MWP policy is removed. For each country, the focus is on the most recent policy year available within the EUROMOD package, with some modifications. For France, this means the 2003 version of the PPE as previously described; for Belgium, the 2004 system that combines the Employment Bonus for employees and the CIBRAP for self-employed workers; for the Netherlands, the 2003 system with newly implemented tax credits; for the UK, the 2001 system, which is the Working Family Tax Credit. For the latter, as explained above, part of the redistributive effect of the WFTC was transferred to a Child Tax Credit in 2003, but the preference here is to focus on the early WFTC which was aimed at (but did not necessarily manage to) reconciling both incentive and redistributive effects. Statistics of inequality (Gini coefficient, percentile ratios and FGT poverty indices), and their 95% bootstrapped standard error, are calculated for the income distributions simulated. Disposable income is equivalised using the modified OECD scale, and the poverty line is fixed at 60% of the national median.

Distributional effects and cost

Table 2 reports the results of the simulations. The distributional effects for France and Belgium are relatively similar, which is not too surprising since the PPE and BE policies are also similar. The budget allocated to MWP policies is fairly small in both cases (less than 0.3% of GDP) and, in addition, both measures are individualised, so that small amounts are distributed to a relatively number of people, so that the redistributive effect is small. The BE is slightly more generous, which translates into a larger reduction in the Gini coefficient (-0.4 compared to -0.2 for the French PPE). The Belgian reform seems to improve the relative position of workers around median income, as reflected in a decline in the percentile ratio p90/p50. The situation of the poorest, however, is not improved as the headcount ratio and the p50/p10 ratio are not significantly affected by the policy. Nevertheless, in both countries, the effect of the policies is to reduce the intensity of poverty slightly.

The cost of the reforms is much larger in the Netherlands and in the UK, yet the distributional effect of the Dutch reform is mixed. As explained above, the Dutch tax credits are not targeted especially at low-wage workers as they are neither phased-out nor refundable. The second point is particularly important, since as a result, the working poor do not benefit from the credits while

⁸ The model is presented in Sutherland (2001) while Mantovani and Sutherland (2003) investigate the robustness of the model through an extensive comparison to external sources.

the income of workers around the median is increased relative to that of the poorest, as reflected by an increase in the p50/p10 ratio. Because it raises the median income, therefore, the reform leads to a significant increase in both the proportion of people at risk of poverty and the intensity of poverty.

In contrast, the 2001 WFTC significantly reduced income inequality in the UK (the Gini falls by - 0.55 points) by compressing the lower part of the distribution (the p50/p10 ratio is reduced significantly). The effect on relative poverty, in terms of both headcount and intensity, is also strong (the headcount ratio is reduced from 19.4% to 17.4% when the WFTC is added to the system). Beyond the fact that the UK measure is more generous and more targeted on families in need (as the scheme is related to family income rather than individual wages), some of the alleviation of poverty may also be due to the fact that the proportion of working poor (relatively to 'idle' poor) is larger than in other parts of Europe. More generally, it is likely that MWP schemes cannot be expected to have a large effect in reducing poverty, since a substantial important proportion of those with income below the poverty threshold are unemployed or economically inactive, whereas MWP transfers are, by definition, targeted on those in employment.

Overall, the results are line with early estimates based on various national microsimulation models – for France (see Legendre et al., 2002, using the model MYRIAD; Bargain and Terraz, 2003, using the model SYSIFF; and Stanca et al., 2004, for a survey), Belgium (see Valenduc, 2002, using the model SIRE on a restricted sample of taxpayers; Orsini, 2006, using the model Modété, and Cantillon et al., 2003, using the model MISIM), the Netherlands (see van Soest and Das, 2000, who simulate a version of the Dutch reform which is partly different from that finally adopted; Nellissen et al., 2005; van Oers et al., 2000) and the UK (Blundell et al., 2001, and Brewer et al., 2006, among others, all using the model TAXBEN).⁹

⁹ Note also that these papers describe the in-work policies in more detail than is done in section II. Note also that reported budget costs of the reforms are close to our the estimates reported here. For France, the cost of the PPE is 0.14% of GDP according to Legendre et al. (2002). In Belgium, according to Orsini (2006), the CIBRAP is also very small (0.17% of GDP) while the BE is slightly larger (0.23%). In the UK, the cost of the WFTC is close to 0.6% of GDP.

Table 2: Impact of MWP Policies on Income Distribution

	Belgium			France			Netherlands			UK		
	MWP off	MWP on	Effect	MWP off	MWP on	Effect	MWP off	MWP on	Effect	MWP off	MWP on	Effect
Gini	25.7 (0.6)	25.3 (0.59)	-0.43 ** (0.05)	30.0 (0.41)	29.8 (0.41)	-0.20 ** (0)	24.7 (0.36)	24.7 (0.35)	-0.06 ** (0.02)	31.7 (0.36)	31.1 (0.49)	-0.55 ** (0.25)
P90/P10	3.2 (0.08)	3.1 (0.07)	-0.07 ** (0.03)	3.6 (0.04)	3.5 (0.04)	-0.03 ** (0.01)	3.1 (0.04)	3.1 (0.04)	0.07 ** (0.01)	4.1 (0.06)	3.9 (0.06)	-0.11 ** (0.02)
P90/P50	1.7 (0.02)	1.7 (0.02)	-0.02 ** (0.01)	2.0 (0.02)	2.0 (0.02)	-0.01 ** (0)	1.8 (0.02)	1.8 (0.02)	-0.014 ** (0.007)	2.1 (0.03)	2.1 (0.03)	0.00 (0)
P50/P10	1.9 (0.04)	1.9 (0.04)	-0.01 (0.02)	1.7 (0.01)	1.7 (0.01)	-0.01 ** (0)	1.7 (0.02)	1.8 (0.02)	0.05 ** (0.01)	1.9 (0.02)	1.9 (0.02)	-0.05 ** (0.01)
FGT0(%)	14.0 (0.79)	13.7 (0.78)	-0.22 (0.37)	12.5 (0.45)	12.4 (0.45)	-0.11 (0.09)	11.1 (0.66)	11.9 (0.65)	0.74 ** (0.4)	19.4 (0.58)	17.1 (0.6)	-2.28 ** (0.25)
FGT1(%)	4.8 (0.36)	4.6 (0.36)	-0.15 ** (0.05)	2.2 (0.11)	2.1 (0.1)	-0.05 ** (0.01)	2.1 (0.18)	2.3 (0.18)	0.17 ** (0.02)	4.2 (0.21)	3.3 (0.17)	-0.82 ** (0.08)
FGT2(%)	2.7 (0.26)	2.7 (0.26)	-0.07 ** (0.03)	0.7 (0.04)	0.6 (0.04)	-0.01 ** (0.003)	0.9 (0.13)	1.0 (0.13)	0.05 ** (0.01)	1.6 (0.14)	1.2 (0.12)	-0.39 ** (0.06)
Annual Cost:												
in billion euros				1.3			4.3			7.0		
in % of GDP	0.3%			0.1%			1.1%			0.6%		

*Standard errors are reported in brackets. Differences are significantly different from zero at the 5% and 10% levels when denoted ** and * respectively.*

Change in effective marginal tax rates

The next stage is to consider the effects of MWP policies on work incentives. These effects can be represented by effective marginal tax rates (EMTR), i.e. the implicit taxation of an additional euro of market income. The rates are *effective* in the sense that they account for changes in both taxes and contributions paid and benefit received (in particular the withdrawal of social benefits as market income increases). Changes in EMTRS give an insight into the potential behavioural responses to the reform at the margin (i.e. on work hours). The focus is on population of working age and the distribution of EMTRs is computed by simulating the change in disposable income for each household after a marginal increase in income from employment of the head of household.

The distribution of average EMTRs in each decile of equivalised disposable income is indicated in Figure 1. Considering, first, the situation where MWP schemes are removed (the dashed line)¹⁰, the EMTR follows a well-known U-shaped, reflecting the very high withdrawal rates of social assistance at lower deciles and the progressive nature of income taxation in the top deciles (see Bourguignon, 1997, and Immervoll et al., 2006). These features seem to be common to all the I countries under study, except to some extent for the UK. For the first decile, EMTRs are above 40% in all countries except the UK; for the following deciles, EMTRs fall to varying extents, depending on how closely receipt of social benefits is related to income (very closely in France, less so in Belgium).

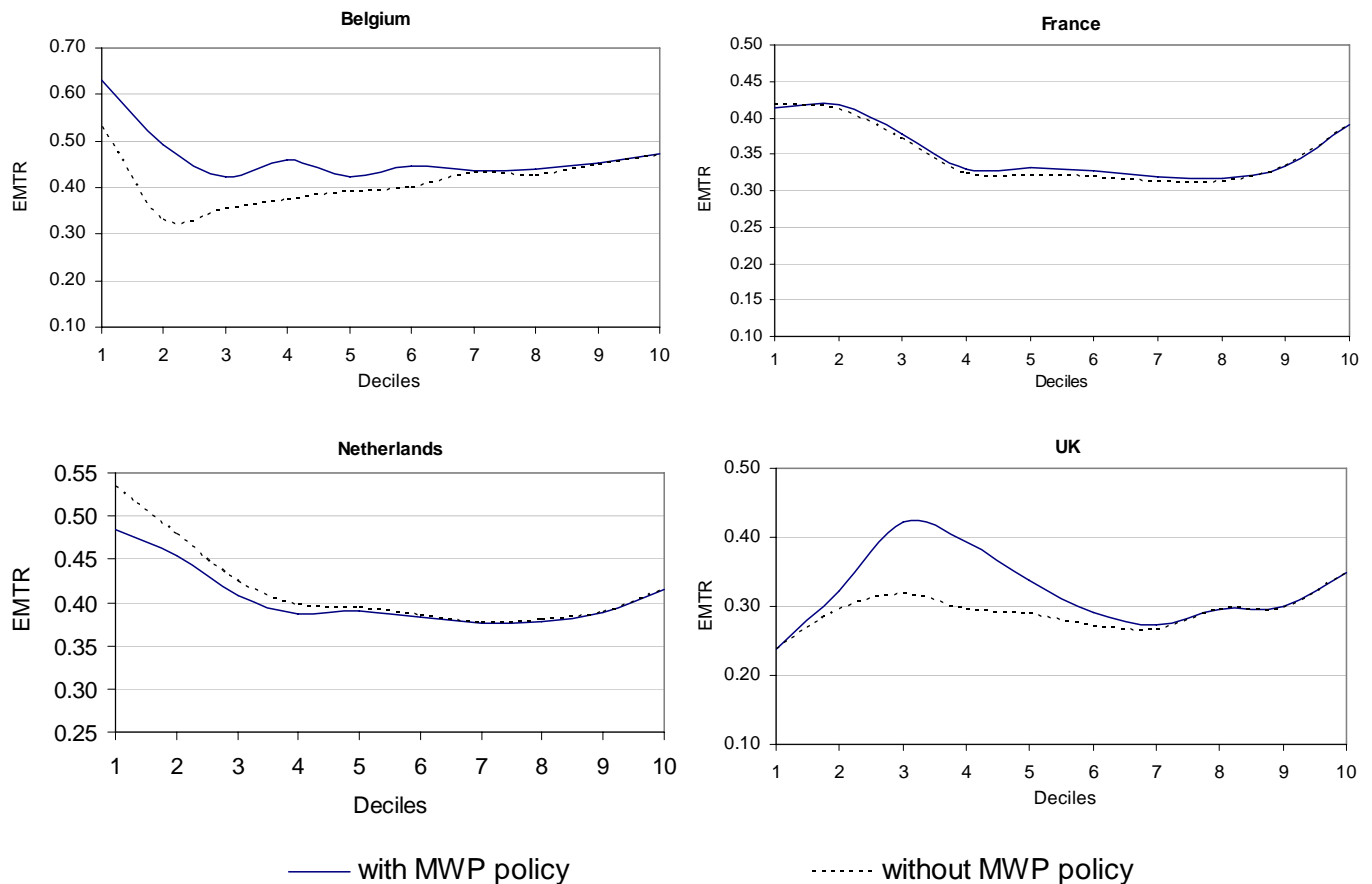
Secondly, considering the impact of MWP schemes on EMTRs (solid line), these clearly increase the implicit taxation of the working poor because of means-testing, in the same way as means-

¹⁰ For continental Europe, this corresponds more or less to the situation before 2001 and the introduction of earned income tax credits.

tested social assistance generates very high implicit taxation on the (idle) poor. More precisely, EMTRs are increased for workers located in the phase-out range of the in-work transfers, the more so as withdrawal rates are high. The Dutch reform is an exception since there is no phase-out – and EMTR in fact decline with the shift from tax allowances to tax credits.

In France and Belgium, the negative effect is smaller than in the UK and spread over a larger range of income. In addition to the fact that these two countries have devoted smaller budgets to these policies, this is mainly due to the individualised nature of the PPE and BE reforms, as explained above. In contrast, the generosity of the British reform implies a high taper rate in the phase-out portion of the measure and hence large increases in EMTRs in the bottom half of the distribution of British working age households. The family-based WFTC is also more targeted so that disincentive effects are more concentrated (mainly on deciles 3, 4 and 5).

Figure 1: change in the distribution of EMTRs



Potential employment effects

While there may be potential negative effects on hours worked for those already employed, as reflected in the impact on EMTRs examined above, MWP schemes may also have positive effects on participation to the labour market. A simple way to illustrate the potential participation effect is to compute the financial gains to work before and after withdrawal of MWP policies. While this indicates the possible direction of participation effects (cf. for instance Bargain and Terraz, 2003), it does not quantify them. To do this, a full econometric model of participation (or labour supply) would be required. Here we simply review the existing evidence for the four countries concerned. Potential labour supply effects are summarised in Table 3. Note, however, that these studies do not always focus on the MWP schemes in isolation but consider instead the set of reforms occurring in years when the schemes were introduced. Moreover, as noted above, the studies often focus on the incremental effect of the new policies (ex: WFTC compared to FC) and do not isolate the full effect of these policies on employment rates.

BELGIUM

In Belgium, most studies do not focus purely on MWP policies but examine the different elements of the 2001 tax reform.¹¹ Valenduc (2002) analysed the 2001 reform in purely static terms and focuses on the change in marginal and effective tax rates as well as changes in replacement rates, concluding that the reform is likely to have a positive impact on labour supply (although the

¹¹ Those include the increased deduction for work expenses, the broadening of the central tax brackets, the abolition of the highest marginal tax rate, and the alignment of the tax exempt income quotas for couples to the level of that for singles

increase in replacement rates is not concentrated where poverty traps are most significant). Saintrain (2002) used the macro model of the Federal Planning Bureau (HERMES) and finds that potentially employment could be increased by around 20,000.

Orsini (2006) studied the behavioural impact of the reform using microsimulation and a structural labour supply model on a sample representing the whole population. He decomposed the effects of the different components of the reform and found that the tax credit CIBRAP increased those participating in the labour force among couples by around 4,000 in full-time equivalent terms. In fact, the positive employment effect (+8,000) is partly offset by the negative effect on hours worked for the population already in employment; moreover, several women living in couple households might reduce their labour supply to become eligible for benefit.¹² The BE, on the other hand, creates incentives to participate in full-time employment and does not encourage reductions in hours worked (since the size of the subsidy is tied to equivalent full time earnings, as in the French PPE). The participation effect in full-time equivalent terms then coincides with the effect on working time (increasing employment by 7,000). Note that the effect of the reform is assessed by comparing it with the initial system (i.e. before 2001). As noted above, there were reductions in social contributions in this early system and, therefore, these assessments capture the incremental effect of the BE rather than its full effect.

FRANCE

The PPE was justified as an in-work transfer aimed at increasing financial incentives to work. Distributed amounts, however, are too small to have a significant effect on employment. This conclusion is drawn from several evaluations conducted in the first years after implementation of the scheme. In particular, Bargain and Terraz (2003) computed the change in effective marginal tax rates and financial gains to work and showed that the PPE does not alter the strong disincentive effect of social transfers for those on welfare, especially for certain demographic groups (e.g. single mothers). Bargain (2004) and Laroque and Salanie (2002) used structural econometric models for *ex ante* evaluation of the reforms and found very small effects on female labour supply.¹³ These two studies examined the version of the PPE as initially planned for 2003 (6.6% rate), which differed slightly from the actual measure for that year (4.4% rate plus part-time premium).

Stancanelli (2006) suggested an *ex post* evaluation, exploiting the rotating panel structure of the French Labour Force Survey and using a difference-in-difference technique. She found that the scheme had an insignificant (negative) effect on the participation of married women, but a significant (positive) effect for single women. As often in this type of analysis, however, the validity of the control group is questionable.

Given its a very small effect on work incentives, the PPE can then be regarded as a redistributive measure, which allows the net wage rate to be raised without increasing labour costs. Yet, the redistributive effect is limited due to the fact that the PPE is broadly targeted at low-wage individuals rather than at low-income households. The wage requirement targets workers with wages around the minimum wage. The scaling of the benefit according to working time increases the transfer for employees working full time. The 2003 reform partially goes in the opposite

¹² Orsini (2006) shows that the tax credit creates a premium for part-time work for women on medium-level earnings and encourages both the participation of inactive females in part-time work and a reduction in labour supply from full- to part-time. The BE, in contrast, is perfectly targeted at the low paid.

¹³ Means-testing on joint incomes necessarily reduces incentives to work for secondary earners women with a working partner entitled to the tax credit. Bargain (2004) showed that the means-test level on couples is sufficiently high (and transfers sufficiently small) not to discourage labour supply among married women significantly. The reform also increased effective marginal tax rates for those recipients with earnings in the phase out range of the reform, that is, between 1 and 1.4 of the minimum wage. The effect is small enough not to reduce significantly the number of hours worked for those in this range.

direction by introducing a part-time premium that was intentionally avoided in the first reform. The , the size of the premium, however, is not large enough to encourage a reduction in working hours.

NETHERLANDS

A study by Nellissen et al (2005) shows that the tax credit is estimated to have increased participation by 12,000 in 2000 and raised hours worked at the same time, full-time equivalent employment rising by 14,000. Van Soest and Das (2001) simulated an early version of the 2001 reform, but they did not decompose the effect of the reform in its different components.¹⁴ As a result, the effects reported in Table 3 (increase in the participation rate of men by 0.44 percentage points and of women by 1.48 percentage points) cannot be attributed to in-work policies alone. While the introduction of the *Arbeidskorting* clearly represents an incentive to take up work, other elements of the reform were responsible for the strong effect on participation, in particular the increased incentives to work full-time for secondary earners.¹⁵

UK

The estimates of the employment effects of the UK tax credits are based mostly on *ex-ante* evaluations using microsimulation software and structural models of labour supply. In particular, Blundell et al. (2000) found that the transition from the FC to the WFTC reduced inequalities, while they estimated an increase in the participation of lone parents – a particularly vulnerable population subgroup in the UK in comparison to continental Europe – by 2.2 percentage points). This was partially offset, however, by a reduction in hours worked (0.2% of the sample was estimated to move from full-time to part-time employment), as a result of the sharp increase in EMTRs reported above, and by a significant reduction in participation among women secondary earners. Indeed, means-testing at the household level implies that secondary earners might be encouraged not to participate in the labour force so that the main earner received the maximum amount of WFTC. Combining the various changes, the WFTC is estimated to lead to a small net increase in overall participation by just above 27,000. Consequently, there has been appeal to the distributional impact of the reform, rather than its effects on incentives, to justify the large cost of the reform.¹⁶

A few *ex post* evaluations have been carried. Blundell et al. (2000) suggested a difference-in-difference analysis as a first check of the *ex ante* evaluation. More recently, Francesconi and Van der Klauuw (2007) studied the effect of the 1999 WFTC on single women using panel data. They found larger responses and a more diverse picture between individuals than in *ex ante* evaluations.

An interesting exercise – close to that suggested here but concerning employment effects rather than distribution – was proposed by Brewer et al. (2006), who used a structural model to simulate the effect of removing the WFTC from the British system completely (in 2002). They found that without any form of in-work benefit in the UK, the labour force participation of lone mothers would decline by 11 percentage points, that of men in couples would decline by 1.1 percentage points, and that of women in couples by 0.73 of a percentage point. The scale of these employment changes is about 140% of the impact of those attributable to the incremental reform between 1999 and 2002.

¹⁴ The replacement of tax allowances by tax credits covered more than merely the employment tax credits (also other credits for children, older persons, etc.); in addition, , the reform included simultaneous changes in the tax system, especially adjustments of tax rate/thresholds and the treatment of second earners.

¹⁵ A substantial increase in working hours comes from women in employment working in marginal part time positions. Indeed prior to the reform, secondary earners could transfer part of the tax credit to primary earners, so that a number of household found it convenient for second earners to increase hours up to the point where a further increase would reduce the transferable part of the tax credit.

¹⁶ See also Duncan and Giles (1998), Dilnot and McCrae (1999) or Gregg et al. (1999).

COST EFFICIENCY

The cost efficiency of MWP policies can be compared across countries by using the budgetary cost per job created (or rather per job taken up). In-work transfers achieve their objective of 'making work pay' sometimes at very high cost – of around EUR 200,000 per 'full-time equivalent' job for the WFTC (Institute of Fiscal Studies estimate), , EUR 120,000 for the French PPE, between EUR 100,000 and EUR150,000 for Belgium (Orsini, 2006) depending on the reform under consideration, and EUR 64,000 for the Netherlands (Nellissen et al., 2005). Those figures may seem high but they are in line with the cost per job creation reported for the US and for previous tax credit schemes in the UK (see Pearson, 2000).¹⁷

An interesting aspect is that employment effects may increase the distributional impact of the reforms. In particular, households in which people are encouraged to take up a job may see their income rise above the poverty line (or simply see their financial situation improved) as income from employment, boosted by the in-work transfer, is necessarily raised above the level of social transfers (income support). For the Belgium tax credit, Orsini (2006) found that the proportion of people at risk of poverty declined by 4.3% due to the reform and by another 0.4% from the effect on labour participation. Simulations of the implementation of a WFTC in France, Germany and Finland by Bargain and Orsini (2006) showed that these latter effects can be more substantial: The reduction in poverty among single mothers of a WFTC-type measure, for example, would be doubled in Germany by the labour supply effects that it would generate. Further research is needed in this regard to obtain a more complete assessment of the redistributive effect of actual or hypothetical MWP reform.

¹⁷ In addition, Bargain and Orsini (2006) simulated the introduction of a low wage subsidy similar to the French PPE (but without any household related supplements) for France, Germany and Finland. The estimated cost per job taken up varied from EUR 65,000 (in France) to EUR 166,000 (in Finland). These figures would be even higher if the cost were to be expressed in FTE terms.

Table 3: Potential Labour Supply Effects

	Reform	Study	Approach	Effect on participation rate	Effect on hours
Belgium	CIBRAP 2001	Orsini (2006)	<i>ex ante</i> evaluation / structural model	net effect on couples of + 4,000 in FTE (3/4 of women); include a participation effect of +8000 but also reduction in hours for those already in work	
	BE 2004		<i>ex ante</i> evaluation / structural model	net effect of + 7000 in FTE almost entirely due to participation (no effects on single women : +0.33%	
France	PPE 2001 (rate: 2.2%)	Fugazza et al. (2002)	<i>ex ante</i> evaluation / structural model	employment of women in couples: +0.4%	
	PPE 2003 as initially planned (rate: 6.6%)	Bargain (2004)	<i>ex ante</i> evaluation / structural model	married women: net effect of +22,000 (+0.40%), including a small negative impact (-4000)	married women: +0.55%
	PPE 2003 as initially planned (rate: 6.6%)	Laroque and Salanie (2001)	<i>ex ante</i> evaluation / structural model	overall: +9000	
	PPE	Stancanelli (2005)	<i>ex post</i> evaluation / D-in-D over 1999-2005	small positive effect on single mother, small negative effect on married women	
Nether-lands	Arbeidskorting 2001 and other changes	van Soest and Das (2001)	<i>ex ante</i> evaluation / structural model	men: +0.44 ppt; women: +1.48 ppt	men: +0.35%; women: +4%
	Arbeidskorting alone ?	Nellissen et al (2005)	<i>ex ante</i> evaluation / structural model	+12,000 (+14,000 in FTE)	
UK	FC -> WFTC	Blundell et al. (2000)	<i>ex ante</i> evaluation / structural model	married women (active parnter): -0.57% (-20,000); married women (inactive partner): +1.3%; single women: +2.2% (+34,000)	married women (active parnter): -0.18%; married women (inactive partner): +0.46% ; single women: +0.75%
	FC -> WFTC	Francesconi and Van der Klauuw (2007)	<i>ex post</i> evaluation / D-in-D	more diverse picture and larger effect on single mother (+7 ppt) than in <i>ex ante</i> analyses	
	WFTC (counterfactual)	Brewer et al. (2006)	<i>ex ante</i> evaluation / structural model	participation effect of abolishing the WFTC: lone mothers: -11 ppt; fathers in couples: -1 ppt; mothers in couples: +0.7 ppt	

Note: FTE = full-time equivalent; ppt = percentage point change

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