



ISSN 2443-8030 (online)

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ECONOMIC BRIEF 028 | JULY 2017

EUROPEAN ECONOMY

*Economic and
Financial Affairs*



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Luxembourg: Publications Office of the European Union, 2017

KC-BE-17-028-EN-N (online)
ISBN 978-92-79-64850-2 (online)
doi:10.2765/26658 (online)

KC-BE-17-028-EN-C (print)
ISBN 978-92-79-64849-6 (print)
doi:10.2765/424238 (print)

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Personal income tax in Ireland: the future of the Universal Social Charge

By Peter McQuade, Sara Riscado and Stefano Santacroce

Summary

Government plans to gradually but completely phase-out the Universal Social Charge, one pillar of the current personal income tax system, face an evident trilemma: how to continue to generate revenue and maintain progressivity without imposing distortionary high marginal tax rates? The brief first provides a detailed analysis of the main features of the Irish income tax system. Then, using the EUROMOD microsimulation model, it looks at the impact of alternative tax reforms, including on the distribution of disposable income. The brief does not advocate or prescribe any specific tax reform. Instead, the brief demonstrates the difficulty of designing a reform of the Irish income tax system that simultaneously reduces high marginal rates and is revenue neutral, without being regressive. Potential reforms might include a broadening of the tax base and the introduction of a third income tax band. However, the ultimate resolution to the tax trilemma could lie beyond the income tax system. More comprehensive, structural reforms could instead entail a shift toward other tax heads.

Acknowledgements: We are grateful to the useful comments by Christian Weise and Stefan Kuhnert. A special thanks to Dominique Paturot (OECD) for the valuable guidance through the OECD taxation database and to Fidel Picos and Alberto Tumino for their help with the EUROMOD simulations.

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Introduction

After years of fiscal consolidation, Ireland has successfully brought its public finances back to a sustainable path. Now, boosted by a stronger-than-expected economic rebound, Irish governments have started to reverse some of the revenue generating structural reforms implemented during the EU-IMF economic assistance programme. In particular, the focus has been on lowering the burden of the *Universal Social Charge* (USC). This is a low-rate broad-based personal income tax introduced in 2011 which has provided very substantial and stable revenues. Despite this, plans to gradually but completely phase-out the USC appear to be central in the coalition government's programme. In advancing this plan, and given the need to ensure the sustainability of public finances, the government is facing an apparent trilemma: how to continue to generate revenue and maintain progressivity without imposing very high and distortionary marginal rates?

In this economic brief, we provide detailed analysis of the main features of the Irish income tax system, comparing relevant indicators – such as tax burden or marginal tax rate – across other EU/OECD countries. In addition, we use the EUROMOD¹ microsimulation model to look at the impact of alternative tax reforms, including an investigation of their impact on the distribution of disposable income. The brief does not intend to prescribe any specific tax reform. It outlines alternative ways to reduce the marginal personal income tax rate without narrowing the tax base – namely, introducing a third income tax band.²

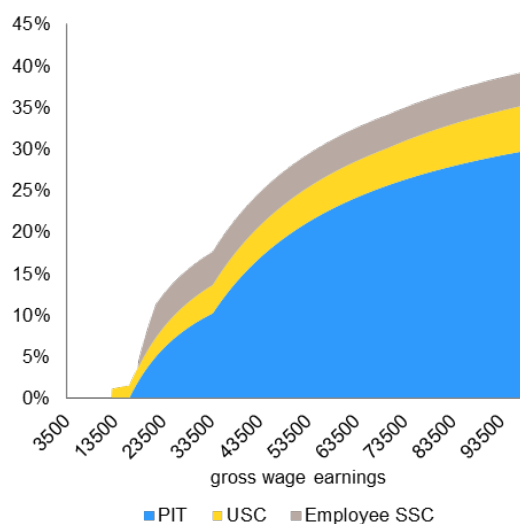
The USC: a purposeful, but unloved tax

Ireland's personal income tax system has two pillars: a standard income tax (hereafter, PIT) which is generally applicable to all sources of personal income, and the *Universal Social Charge* (USC), an individualised tax charged on gross income (see Box 1). The USC was introduced on 2011 and replaced both the income levy and the health levy, which were increased in 2009 following the bursting of the housing bubble to fill the hole in public revenues left by vanishing stamp duties. The USC aimed to simplify the tax system while strengthening fiscal consolidation, including by broadening the income tax-base.³ It should not be confused with employee social security contributions, or pay-related social insurance (PRSI), which are paid separately.

The USC is a valuable source of revenue. The USC generated nearly EUR 4 billion in 2016 – which

represents approximately 22 % of income tax revenues or 10 % of total tax revenues – and it is projected to reach around EUR 5.6 billion by 2021 under no-policy-change assumption.⁴

Graph 1: Effective income tax and employees' social security contribution rates (2016)



Note: for single earner (no children)
Source: European Commission

The USC has a number of advantages in terms of revenue generation compared to the standard income tax system. Earnings become liable to USC at a lower level compared to the PIT and it is the entry-point (37 % of the average wage) to personal taxation for most taxpayers.⁵ Moreover, it has few exemptions that reduce the tax liability compared to other income taxes. Thus the USC has a relatively broad base.

Yet, the new programme for a Partnership Government⁶ (May 2016) includes a clear will to further reduce personal income tax through the complete phasing-out of the USC. This follows two consecutive budgets (2015 and 2016) of income tax cuts.⁷ Given the need for fiscal prudence, the government may seek alternative sources of revenue to compensate for the loss of the USC. Recent developments indicate that a reform of USC could be part of a wider personal income tax reform.

According to the government Ireland's current rates of personal taxation could hinder economic growth and erode international competitiveness. In particular, personal taxation is considered by the government as an increasingly important factor in the international "war for talent" targeting high-skilled, high-earning individuals; a key element of Ireland's overarching priority of attracting mobile foreign direct investment.⁸ Finally, pressure to reverse austerity measures introduced during the crisis, also play a role in the desire to scrap the USC.

Box 1: Features of the Irish personal income tax and social contribution system

In Ireland, individual incomes are taxed twice. Since 2011, in addition to the two-rate standard personal income tax (PIT), the *Universal Social Charge* (USC) is paid on gross income, before tax deductions arising from a range of available tax credits and reliefs are applied. Employees (and the self-employed) also contribute to the social security system via a *Pay-Related-Social-Insurance* (PRSI) charge.

PIT

The standard income tax is operated under a two rate structure with different thresholds depending on family type. A standard rate of 20 % applies on all income up to the band threshold, whereupon income is taxed up to a higher rate of 40 %. This band threshold is currently at EUR 33 800 (97 % of the average wage of 34 847 in 2015) for a tax payer who is assessed on an individual basis (single), EUR 42 800 for a jointly assessed one-income couple and EUR 67 600 for a two-income couple. A one-parent family has a threshold of EUR 37 800. The Irish tax system is not fully *individualised*: the second earner in a married two-earner couple has a non-transferable standard rate band of EUR 24 800 and the remaining EUR 9 000 of her/his standard rate band may be transferred to her/his spouse; a feature which further complicates the income tax structure. The income tax is progressive, primarily due to the availability of tax credits.

USC

The USC is operated on the basis of low rates with a broad base. The first EUR 12 012 is liable at 1 %. A 3 % rate applies between income from EUR 12 012 to EUR 18 668, a 5.5 % rate between EUR 18 668 to EUR 70 044 and a 8 % rate for earnings above EUR 70 044. An additional rate of 11 % applies to the self-employed with earnings above EUR 100 000. The ceiling of the second rate-band ensures that a full-time employee on the minimum wage is not liable to the third rate of USC and thus pays the minimum USC rate of 3 %. Medical card holders and persons aged over 70 whose income does not exceed EUR 60 000 are liable to a maximum of 3 %. Individuals become liable to USC at an income of EUR 13 000. As a result of the multiple rate-band structure, the USC increases the progressivity of the tax system. While, the entry-threshold has been raised during the years, from EUR 4 004 when initially introduced in 2011 to EUR 13 000 in 2016, the USC still represents the entry-point to personal income taxation for most taxpayers. Budget 2017 reduced the three lowest USC rates by 0.5 percentage points.

PRSI

Social security contributions are a smaller component of labour taxation in Ireland. The pay-related social insurance (PRSI) is a social insurance charge payable on employment, self-employment and most investment income. Most employees in Ireland are insurable under Class A and pay PRSI at a rate of 4 %. Employees have no liability to PRSI if income is below EUR 352 per week (annual equivalent EUR 18 304). As in the case of the USC, social welfare income is exempt from PRSI.

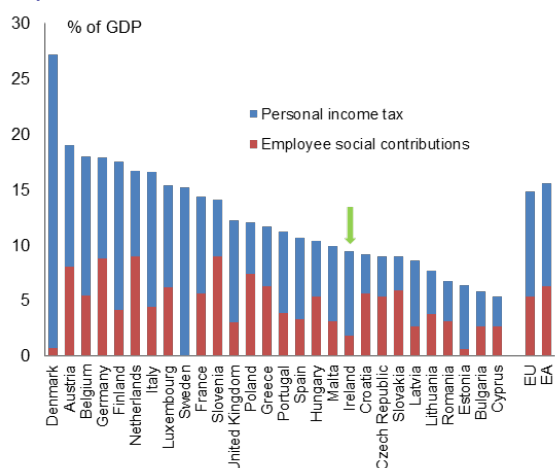
Tax credits and reliefs

The liability calculated on the taxable income is reduced by several tax credits available to taxpayers. The most common of these include: i) *the basic personal tax credit*, which is currently EUR 1 650 per year for a single person and EUR 3 300 per year for a married couple; ii) *the employee tax credit*, which is also EUR 1 650, is awarded to employees and others who pay tax under the *Pay-As-You-Earn* scheme; iii) *the earned income credit* of EUR 550 for self-employed people who do not qualify for the *employee tax credit*. Other tax credits relate to specific circumstances, such as: *the single person child carer credit* (EUR 1 650), for people who are caring for children on their own; or *the home carer credit* (EUR 1 000) which can be claimed by one spouse or civil partner (the 'home carer') caring for one or more dependent persons. Other two non-standard tax reliefs which are granted at source are the mortgage interest relief and the medical insurance relief. Tax credits or tax relief (except for certain capital allowances) cannot be used to reduce the amount of USC an individual must pay.

How does Ireland's Personal Income Tax System compare to other countries?

The overall personal income tax burden⁹ in Ireland, as a percentage of GDP, is generally considered relatively low compared to other EU countries, in part due to low contributions to the social security system (Graph 2). A recent OECD report¹⁰ shows that the *effective average tax rate*¹¹ for a single earner at the average wage is the second lowest rate among those EU members who are members of the OECD (EU21-OECD) and well below the OECD average. While it rises sharply with income, particularly in the case of childless single earners, it remains below the EU21-OECD average across all income levels and different family types (Annex I).

Graph 2: Personal income tax burden (2015)



Source: European Commission

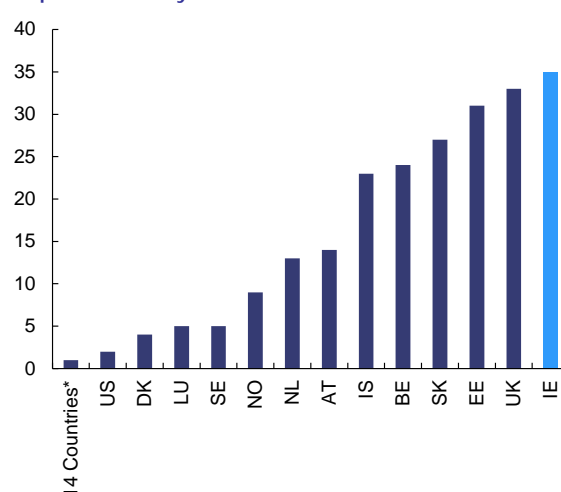
A different picture emerges, however, when the *effective marginal tax rate* is considered.¹² The OECD report indicates that single earners in Ireland face among the highest marginal tax rates in the EU. At an income of EUR 33 800 (97 % of the average wage), the marginal tax rate is already at 49.5 % (51 % before the last tax cuts introduced in 2016 Budget). This reflects the combination of USC, PIT and PRSI. In other words, a very high marginal tax rate in Ireland is reached at a relatively low point in the income distribution. While marginal tax rates for couples at the average wage (with or without children) remain below the EU21-OECD average, they sharply increase with income.

By the same token, estimates from the OECD report indicate that Ireland has the most progressive income tax system in the EU and well above the OECD average (see Annex I). In particular, the

difference in the effective average tax rate is remarkable when comparing individuals at the average wage with those earning 167 % of the average level. The tax system is also comparatively progressive for couples with two children when their income is jointly assessed.

Those features have led some observers¹³ to argue that the high marginal tax rate in Ireland, especially, but not only, for single earners, is the combined product of the desire to achieve strong progressivity while exempting a relatively large proportion of earnings from tax liability. Despite the numbers of measures in recent years aimed at broadening the income tax base, such as the winding down of most property reliefs and the restrictions to use tax relief over certain earnings, the income tax base remains relatively narrow.

Graph 3: Tax entry threshold



Note: The tax entry threshold refers to the percentage of average wage at which average tax rate for a single earner without children exceeds 0%. The 14 countries are Switzerland, the Czech Republic, Germany, Greece, Spain, Finland, France, Hungary, Italy, Japan, Poland, Portugal, Slovenia, Turkey.

Source: OECD, European Commission

While there is no standard measure of the breadth of a tax base, as a proxy, we compare the tax entry threshold indicator across OECD members. The tax entry threshold refers to the percentage of the average wage at which the average tax rate, for a single earner without children, becomes positive. From this it is evident that individuals in Ireland can have relatively high earnings before being subject to income tax (see Graph 3). Indeed, there are 14 OECD countries where the incomes of a single person with no children are subject to positive average income tax rates from the first euro earned. In contrast, a similar individual in Ireland is not subject to positive average income tax rates

(including social security contributions) until they earn approximately 35 % of the average wage.

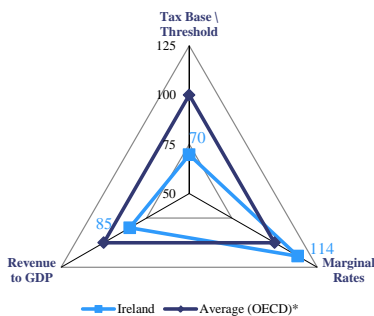
This demonstrates the relative narrowness of the tax base in Ireland, and broadly applies even when an alternative threshold average tax rate of 25 % is used. Moreover, this indicator would be even higher in Ireland were it not for the existence of the USC. Similarly, the Irish authorities report that, while 36 % of earners are currently exempt from income tax, only 29 % are exempt from the USC.¹⁴ It follows that eliminating the USC would raise the tax entry threshold and further narrow the tax base.

Overall and as it stands, the Irish personal income tax system including the USC delivers lower than average revenue, is relatively progressive but narrow, and at the cost of relatively high marginal rates.

The Tax Trilemma

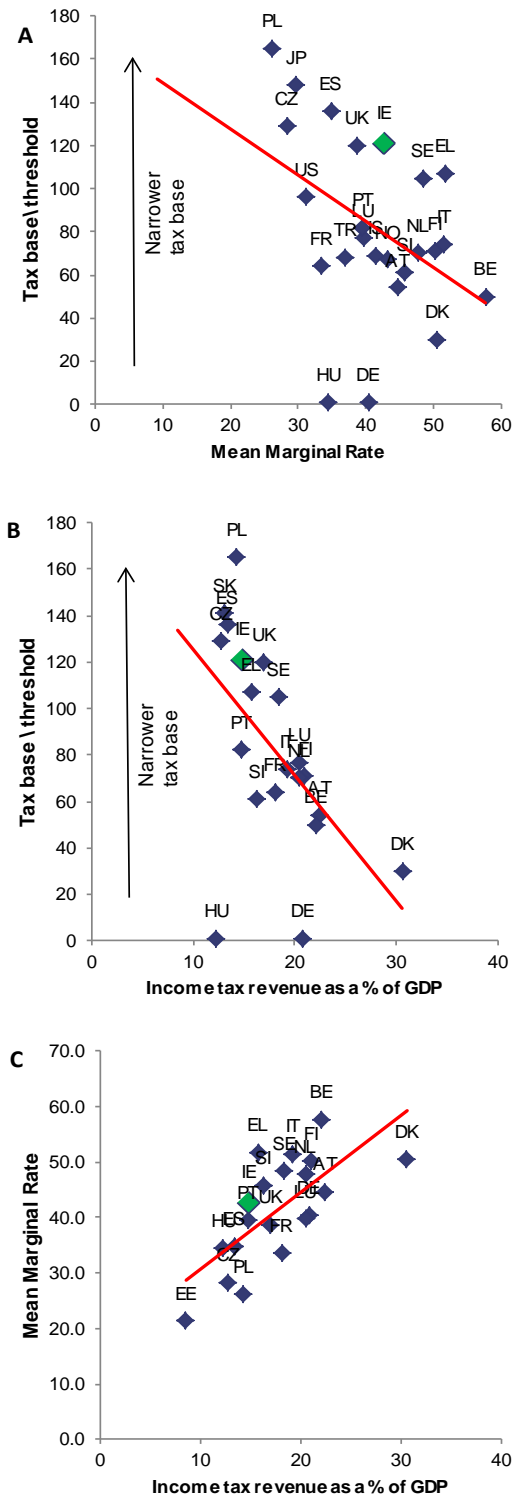
In pursuing their objectives of reducing the tax burden and disincentives to work, while keeping a sufficient stream of revenue, the Irish government is confronted with a policy trilemma. For any tax, the amount of revenue generated is a function of the base to which it is applied, and the rate(s). Policy makers in all countries face a trade-off along these three dimensions as illustrated in Graph 4. Compared to the OECD average, Ireland generates relatively little income tax revenue as a share of GDP, applying high marginal rates to a relatively narrow base.

Graph 4: The tax trilemma



Note: Data are expressed as an index where the average of the available observations equals 100. The tax threshold refers to the percentage of the average wage at which the tax rate exceeds 25 %. The index for the tax entry threshold on the vertical is the inverse, such that lower values suggest a narrower tax base. The mean marginal tax rate is the mean of the marginal tax rate applied to income between 50 % and 250 % of the average wage. Income tax revenue as a percentage of GDP is calculated using taxes on income and wealth (ESA 10 D.5) and compulsory non-pension contributions (ESA 10 D.613CE).
* Average of OECD countries for which data was available.
Source: OECD, Eurostat

Graph 5: The tax trilemma in OECD countries



Note: The tax entry threshold refers to the percentage of average wage at which tax rate exceeds 25 %. The mean marginal tax rate is the mean of the marginal tax rate applied to income between 50 % and 250 % of the average wage. Income tax revenue as a % of GDP is calculated using taxes on income and wealth (Eurostat D5) and compulsory non-pension contributions (D613CE).
Source: European Commission

Moreover, Graph 5 Panel A shows that among OECD countries there is a tendency to combine high marginal rates with broader tax base (i.e. lower tax

thresholds). As both of these policies contribute to greater revenue generation, this might indicate that governments are optimising tax policies in order to achieve target levels of revenue or, more generally, fund a given size of government.

Panels B and C clearly illustrate the trade-off between the amount of revenue and tax policies. Countries that have higher income tax revenue as a percentage of GDP generally attempt to expand the tax base by having a lower threshold at which income is taxed and apply higher marginal rates.

Overall, each country must find an acceptable combination of these tax policies. While Ireland is not an outlier along any dimension when compared to other OECD members, it is possible that another mix could represent a better trade-off by delivering similar revenue along with a broader base and lower marginal rates.

Changing the status quo is undoubtedly a challenge as it would have substantial economic and distributional consequences. Yet the alternatives that have been proposed to date, such as raising the existing tax bands or reducing tax credits, appear to be costly and fail to replicate a number of valuable features of the USC. These proposed alternatives to the USC tend to generate less revenue and/or further narrow the tax base while keeping marginal rates for individuals on average or high incomes as they are.

Is there room for a broader reform?

The government's determination to gradually phase-out the USC deserves a careful analysis of its fiscal and distributional implications. The following section aims to explore potential alternative, long-run, tax reforms within the constraints of the trilemma.

Using the EUROMOD microsimulation model, we compare the current two-pillar personal income tax system as described in box 1 (the baseline scenario) with alternative scenarios where the USC is fully replaced by a PIT-only tax system (see Annex II for more details and other simulated scenarios).

The first scenario entails the complete abolition of the USC (Table 1, Column 1) while the standard and the second PIT rates are maintained at 20 % and 40 % respectively. This corresponds to the announced medium-term government policy. The simulation shows that this scenario would come at very high price for public finances as it would entail a reduction of around 20 % in total personal income tax receipts. Under this scenario, the entry-point to

the tax system for an average taxpayer will increase from EUR 13 000 (in the baseline scenario) to EUR 16 500. Furthermore, this would have a regressive impact on the income distribution resulting in a significant increase of the GINI¹⁵ coefficient.

Table 1: Alternative tax reforms

scenarios		(1)	(2)	(3)	(4)
	baseline	No USC	No USC + PIT rates 20%-45%	No USC + PIT rates 20%-45% + tax credits 1650=>1350	No USC + PIT rates 20%-35%-45% + tax credits 1650=>1350
revenue losses compared to the baseline	-	100%	66%	30%	20%
marginal tax rate (single, 100% AW)	49,5%	44%	49%	49%	39%
tax entry threshold*	124%	148%	138%	131%	128%
change in the GINI coefficient	0%	4,2%	2,1%	1,7%	1,4%

* The tax entry threshold refers to the percentage of the average wage at which the effective tax rate exceeds 25%.

Source: European Commission, Joint Research Centre, based on the EUROMOD model

In the second scenario (Table 1, Column 2), the standard rate is maintained at 20 % while the second tax-band rate is increased from 40 % to 45 %. According to the simulation, this would only recover around a third of the lost revenues compared to the baseline scenario. The majority of the benefit from the reform would still accrue to the highest income deciles.

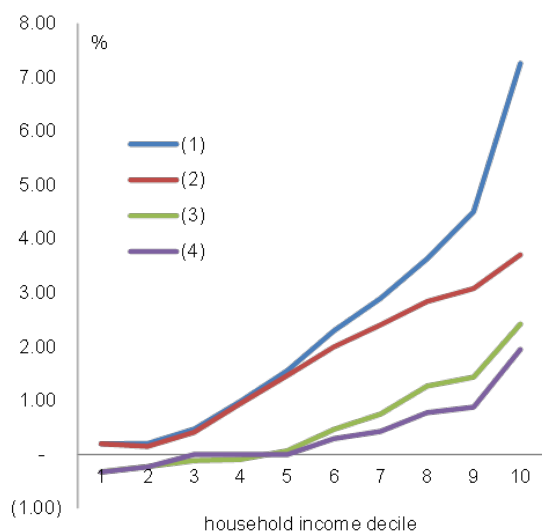
In the third scenario (Table 1, Column 3), in addition to reforms outlined in the second scenario, we also reduce the main tax credits (from EUR 1 650 to EUR 1 350) in order to compensate for the narrowing of the tax-base that would result from the abolition of the USC. In so doing, the entry-point to the tax system would fall to EUR 13 500 instead of EUR 16 500 in the second scenario. Under this scenario almost 70 % of the lost revenues would be recouped. However, a single earner at the average wage would still face the highest marginal tax rate among OECD countries (49 %).

Building on the previous scenarios, in the fourth scenario, we also introduce a third, intermediate, tax band at a rate of 35 %, targeting incomes between EUR 29 800 and EUR 37 800 (Table 1, Column 4).¹⁶ The PIT income tax system would therefore be based on three income tax-bands and rates (20 %, 35 %, and 45 % respectively). This scenario would recover 80 % of the revenues forgone as a result of the abolition of the USC. Moreover, the marginal tax rate for the average single employee would drop to

the EU average thanks to the smoothing of the overall tax profile. Compared to scenario 3, such a reform would further reduce the effect of the abolition of the USC on income distribution, as the GINI coefficient would stay slightly closer to current values.

The distributional effects of the simulated reforms are shown in Graph 6 which displays the change in the mean equivalised disposable income¹⁷ for each decile compared to the baseline scenario. The chart illustrates the regressive distributional impact of the government plan to gradually eliminate the USC (scenario 1). In contrast, scenarios 3 and 4 could mitigate the regressive impact of the full removal of the USC on the income distribution.

Graph 6: Change to the mean equivalised disposable income of households



Note: The deciles are fixed to the baseline regime

Source: European Commission, Joint Research Centre, based on the EUROMOD model

Nevertheless, according to the simulation, in scenarios 3 and 4 the upper deciles would still benefit most while the first two deciles of households would be slightly worse-off compared to the baseline.¹⁸ However, the gains in disposable income of the richer decile are now much lower compared with all the other reforms including the government's plan (see also Annex II). A tapered withdrawal of tax credits for income above EUR 70 000 would help to further reduce the impact on income distribution and to improve the burden-sharing.¹⁹ It would increase the share of tax paid by higher deciles and return the GINI coefficient to the level of the baseline.

Conclusion

Overall, the analysis indicates the difficulty of designing a reform of the existing Irish income tax system that simultaneously reduces high marginal rates and is revenue neutral without being regressive. There is an ineluctable trade-off between these three objectives if policymakers restrict themselves to taxing income, even though a parametric reform of the income tax system with less negative distributional effects does appear feasible.

The analysis showed that it would only be possible to recover a substantial part of revenue losses by lowering the entry-point to the tax system via a reduction of the tax credits. At the same time, the introduction of a third, intermediate, tax band would help to reduce the marginal tax rates in such constrained set of policy choices. They could also be elements of a more ambitious and comprehensive *structural tax reform*.

Overall, the solution to the tax trilemma might lie in looking beyond changes to the income tax system including to other direct and indirect tax heads.

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Annex I. Average and marginal effective tax rates: international comparisons.

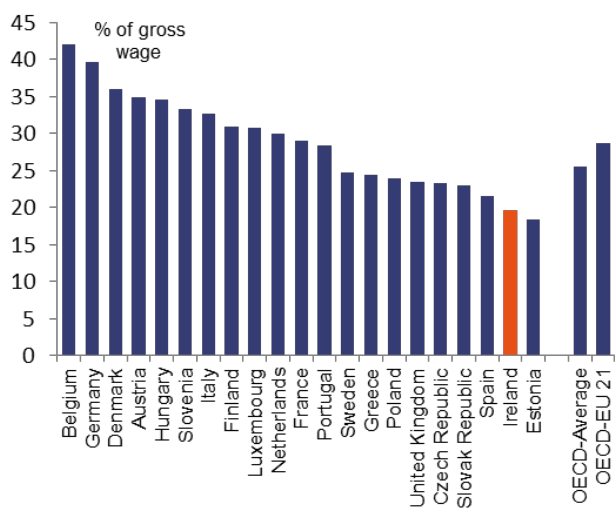
The OECD "Taxing Wages 2016" report provides an interesting point of departure to analyse the full impact of taxes and benefits on an employee's take-home pay and provides a comparative illustration of the average and marginal tax rate across OECD economies including the 21 EU Members State who are members of the OECD (EU21-OECD). The Report shows, among other indicators, the amounts of taxes, social security contributions, payroll taxes and cash benefits for eight family-types, which differ by income level and household composition. It also presents the resulting average and marginal tax rates.

The effective average tax rate

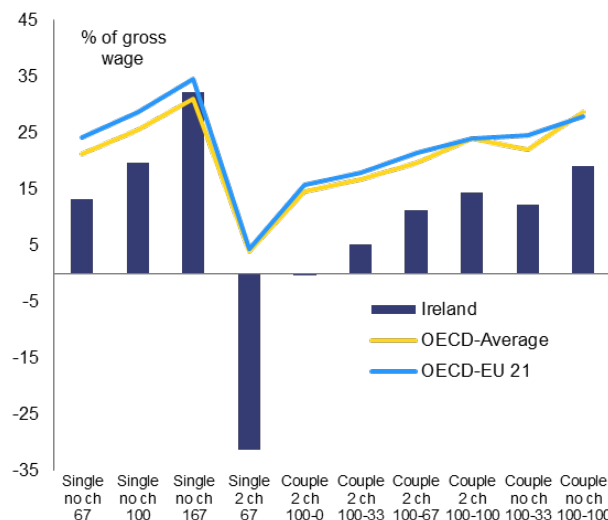
In Ireland, a single full-time employee, at the average wage^{xx}, pays nearly 20 % of his/her gross wage in personal income taxes and social security contributions, net of cash benefits. This is the second lowest rate, after Estonia, among the EU21-OECD countries and well below both the OECD and EU21-OECD average^{xxi} (Graph a).

The effective average tax rate rises sharply with the increase in income, particularly in the case of childless single earners, pointing to a highly progressive tax system. At 167 % of average wage, the 32.2 % effective average tax rate borne by a single employee in Ireland is above the OECD average (31 %), but still lower than the EU21-OECD average (34.6 %). However, the effective average tax rate in Ireland remains below the OECD and the EU21-OECD average across the other different family types (Graph b). Compared to the OECD and the EU21-OECD average, the Irish tax system appears to be particularly generous with married couples, or civil partners, with or without children, thanks to the effect of the marital status relief, child benefits, home carers allowance and the family income supplement.

Graph a: Income tax plus employee contributions less cash benefits (single, 100 % AW), 2015



Graph b: Effective average tax rates by family-types and wage levels, 2015

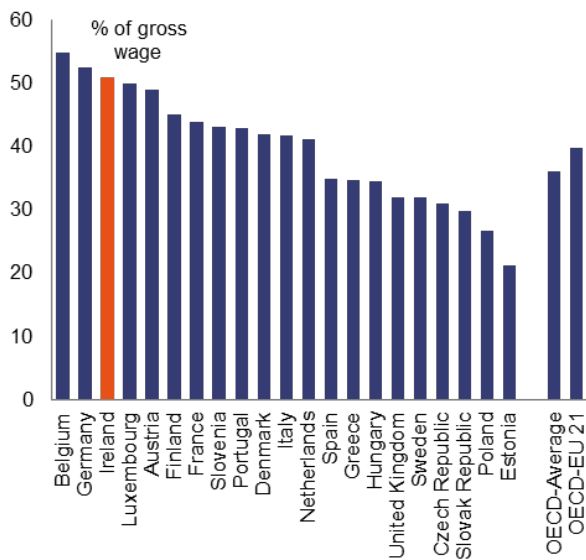


Source: OECD

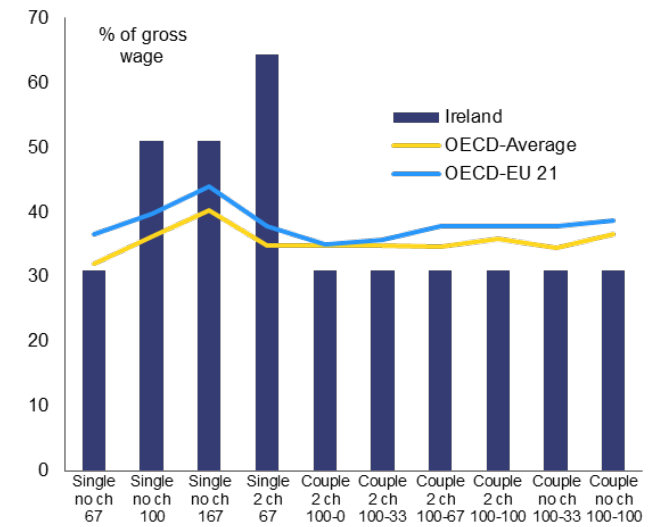
The effective marginal tax rate

The effective marginal tax rate shows the incremental change to personal income tax and employee social security contributions less cash benefits when gross wage earnings rise marginally. The OECD's report indicates that a childless single earner on the average wage in Ireland faces among the highest marginal tax rates in the EU (the third highest before Germany and Belgium) and above the OECD average (Graph c). Looking at different family compositions and earnings, the marginal rate of income tax (plus employee contributions less cash benefits) remains well above the OECD and the EU21-OECD average for single employees. The higher marginal rate for single employees with children is explained by the reduction of the family income supplement (means tested) when earnings increase (the equation does not take into account however the one parent family payment). For couples or civil partnerships, the marginal tax rate on average wage is not particularly high. However, marginal tax rates pick up again when earnings rise above the average wage.

Graph c: marginal income tax rate plus employee contributions less cash benefits, (single, 100 %AW) 2015



Graph d: marginal income tax rates by family-types and wage levels, 2015

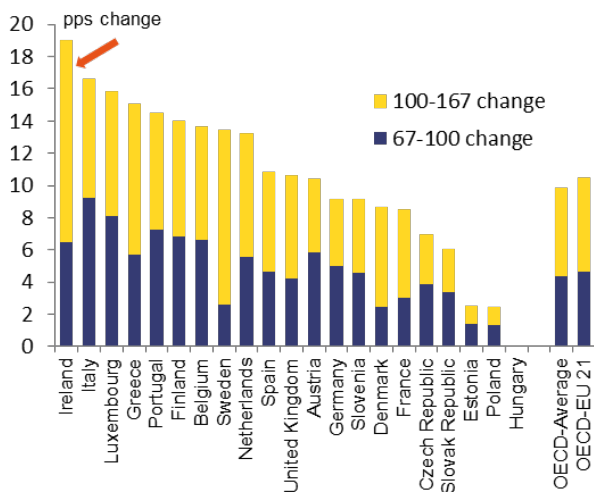


Source: OECD

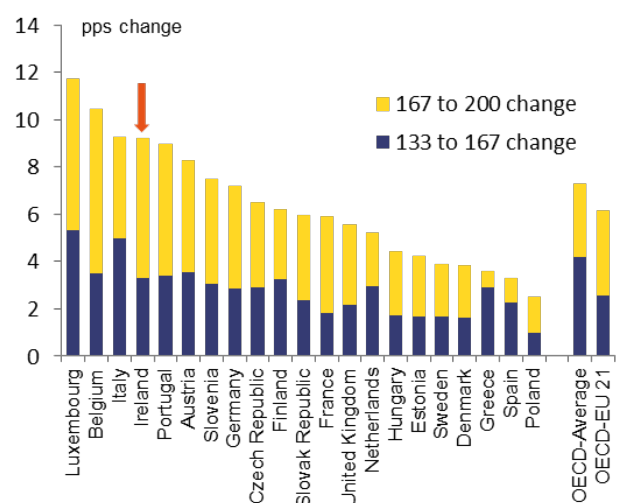
The degree of tax progressivity

An important consideration in the design of an income tax is the level of progressivity, that is, the rate at which the income tax burden increases with income. The degree of progressivity of the personal income tax system can be generally assessed by comparing the burden faced by single persons earning 67 % or 100 % of the average wage with that faced by their counterparts earning 167 % of the average wage. Estimates from the OECD's report indicate that Ireland has the most progressive income tax system in the EU and well above the OECD average, at least for single earners. In particular, the difference in the effective average tax rate is remarkable when comparing individuals at the average wage with those earning 167 % of the average level (Graph e). The tax system remains comparatively higher also for couples with two children when their income is jointly assessed. Comparing the effective tax rate faced by a family with the first earner at the gross average wage and the second increasing her/his earning from 33 % to 100 % of the average gross wage, Ireland is the fourth highest among EU and still above OECD average (Graph f).

Graph e: average tax rate moving from 67 % to 167 % of the average gross wage (single, no children) 2015



Graph f: average tax rate moving from 133 % to 200 % of the average gross wage (couple, 2 children) 2015



Source: OECD, European Commission

Annex II. The simulated impact of the policy reforms and EUROMOD modelling approach.

EUROMOD is a microsimulation model that replicates the tax and benefit systems of all EU Member States, allowing the quantification of the most relevant income taxes, social contributions and benefits, and their effects on household disposable income. More specifically, EUROMOD applies a set of policy rules to representative micro-data of households and individuals, and it calculates income taxes, social contributions, family and housing benefits, social assistance and other income-related benefits on the basis of individual and household characteristics.^{xxii} It delivers the results of the tax-benefit calculations as well as disposable income at the individual and household level. Furthermore, EUROMOD encodes the policies and the corresponding parameters of the tax-benefit systems currently in force, and also those of recent years. Importantly, EUROMOD captures the interaction of the tax-benefit systems, in the sense that changes in one policy may affect eligibility for others. This is especially relevant for the analysis of the fiscal and equity impact of tax reforms. However, EUROMOD only delivers the first-round effects of the simulations, and does not take into account the behavioural response of individuals to a given policy change. Long-term policy effects are also not addressed with this mode.

The simulation of *ad hoc* tax reforms for Ireland has required substantial adaptations to the EUROMOD microsimulation model. First of all, the 2015 tax system (last available tax system in our present version of EUROMOD) has been updated to the changes introduced in the 2016 Budget.^{xxiii} The creation of a third income tax band in the standard personal income tax system has required the creation of a new tax schedule in the baseline system in order to consider three different tax units. In particular, the EUR 9 000 of allowable income transfer within a couple has been maintained.^{xxiv}

Thresholds of the third middle-income tax band

Personal income tax		
Taxpayer	First tax band	Second tax band
Single	EUR 29 800	EUR 37 800
Single parent	EUR 33 800	EUR 41 800
Married – one earner	EUR 38 800	EUR 46 800
Married – two earners	EUR 59 600	EUR 75 600

Several types of tax reforms have been simulated. The first entailed changes in the two-rate standard PIT system, including a reduction of the basic personal, the employee and the Single Person Child Carer tax credits. More specifically, the simulations performed on the two-rate PIT system were:

- 1) Elimination of the USC (**scenario n. 1 in the main text**);
- 2) Elimination of the USC, combined with an increase in the standard PIT rate to 25 %;
- 3) Elimination of the USC, combined with an increase in the high PIT rate to 45 % (**scenario n. 2 in the main text**);
- 4) Elimination of the USC, combined with a decrease in the tax above mentioned credits to EUR 1 350;
- 5) Elimination of the USC, combined with an increase in the high PIT rate to 45 % and a decrease in the above mentioned tax credits to EUR 1 350 (**scenario n. 3 in the main text**).

We then considered the introduction of an intermediate income tax-band. In the reformed three-rate PIT system, we have simulated the following combinations:

- 6) Elimination of the USC, combined with a three-rate PIT system 20 %-30 %-40 %;
- 7) Elimination of the USC, combined with a three-rate PIT system 20 %-30 %-40 % and a decrease in the above mentioned tax credits to EUR 1 350;
- 8) Elimination of the USC, combined with a three-rate PIT system 20 %-30 %-45 %;
- 9) Elimination of the USC, combined with a three-rate PIT system 20 %-30 %-45 % and a decrease in the above mentioned tax credits to EUR 1 350;

- 10) Elimination of the USC, combined with a three-rate PIT system 20 %-35 %-45 %;
- 11) Elimination of the USC, combined with a three-rate PIT system 20 %-35 %-45 % and a decrease in the above mentioned tax credits to EUR 1 350 (**scenario n. 4 in the main text**).
- 12) In addition, scenarios with an "a" provide for a tapered withdrawal of tax credits for income above EUR 70 000.

Tables below summarise the main results.

Table II.a: Relative fiscal impact of the simulated reform

	[1]/[0]	[2]/[0]	[3]/[0]	[4]/[0]	[4a]/[0]	[5]/[0]	[5a]/[0]	[6]/[0]	[7]/[0]	[7a]/[0]	[8]/[0]	[9]/[0]	[9a]/[0]	[10]/[0]	[11]/[0]	[11a]/[0]
	No USC	No USC and standard rate 20%=>25%	No USC and high rate 40%=>45%	No USC and tax credits 1650=>1350	No USC, tax credits 1650=>1350 phasing out of the employee tax credit (from EUR 70000)	No USC and high rate 40%=>45% and tax credits 1650=>1350	No USC and high rate 40%=>45%, tax credits 1650=>1350 and phasing out of employee tax credit (from EUR 70000)	No USC and three PIT brackets 20%-30%-40%	No USC and three PIT brackets 20%-30% 1650=>1350	No USC and three PIT brackets 20%-30% 1650=>1350 and tax credits phasing out of employee tax credit (from EUR 70000)	No USC and three PIT brackets 20%-30% 1650=>1350	No USC and three PIT brackets 20%-30% 1650=>1350	No USC and three PIT brackets 20%-30% 1650=>1350	No USC and three PIT brackets 20%-35% 1650=>1350	No USC and three PIT brackets 20%-35% 1650=>1350	No USC and three PIT brackets 20%-35% 1650=>1350
PIT	100.00	120.71	107.56	108.20	108.85	115.76	116.42	100.46	108.66	109.31	106.79	114.99	115.65	109.49	117.68	118.34
Universal social charge	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total taxes	83.15	98.65	88.81	89.29	89.78	94.95	95.44	83.49	89.63	90.12	88.23	94.37	94.86	90.25	96.38	96.88
SIC employee	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
SIC employer	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
SIC self-employed	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Total SIC	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Pensions	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Means tested benefits	99.80	99.92	99.80	99.86	99.86	99.86	99.86	99.80	99.86	99.86	99.80	99.86	99.86	99.80	99.86	99.86
Non-means tested benefits	100.00	99.98	100.00	99.98	99.98	99.98	99.98	100.00	99.98	99.98	100.00	99.98	99.98	100.00	99.98	99.98
Total benefits	99.92	99.96	99.92	99.93	99.93	99.93	99.93	99.92	99.93	99.93	99.92	99.93	99.93	99.92	99.93	99.93
Net budgetary effect	50.05	96.14	66.95	68.31	69.77	85.20	86.66	51.08	69.33	70.80	65.24	83.48	84.94	71.25	89.48	90.95
Mean equiv. disp. income	103.56	100.21	102.35	102.25	102.15	101.04	100.94	103.48	102.17	102.07	102.47	101.16	101.06	102.03	100.72	100.62
Gini coefficient	104.23	102.52	102.14	103.84	103.51	101.72	101.40	104.18	103.79	103.47	102.36	101.94	101.91	101.81	101.38	101.06

Note: all values are percentage

Source: European Commission, Joint Research Centre, based on the EUROMOD model

Table II.b: change in the mean equivalised disposable income

	[1]/[0]	[2]/[0]	[3]/[0]	[4]/[0]	[4a]/[0]	[5]/[0]	[5a]/[0]	[6]/[0]	[7]/[0]	[7a]/[0]	[8]/[0]	[9]/[0]	[9a]/[0]	[10]/[0]	[11]/[0]	[11a]/[0]
	No USC	No USC and standard rate 20%=>25%	No USC and high rate 40%=>45%	No USC and tax credits 1650=>1350	No USC, tax credits 1650=>1350 phasing out of the employee tax credit (from EUR 70000)	No USC and high rate 40%=>45% and tax credits 1650=>1350	No USC and high rate 40%=>45%, tax credits 1650=>1350 and phasing out of employee tax credit (from EUR 70000)	No USC and three PIT brackets 20%-30%-40%	No USC and three PIT brackets 20%-30% 1650=>1350	No USC and three PIT brackets 20%-30% 1650=>1350 and tax credits phasing out of employee tax credit (from EUR 70000)	No USC and three PIT brackets 20%-30% 1650=>1350	No USC and three PIT brackets 20%-30% 1650=>1350	No USC and three PIT brackets 20%-30% 1650=>1350	No USC and three PIT brackets 20%-35% 1650=>1350	No USC and three PIT brackets 20%-35% 1650=>1350	No USC and three PIT brackets 20%-35% 1650=>1350
1	0.20	-0.75	0.20	-0.32	-0.30	-0.32	-0.30	0.19	-0.32	-0.30	0.19	-0.32	-0.30	0.19	-0.33	-0.31
2	0.20	-0.52	0.15	-0.23	-0.20	-0.23	-0.20	0.15	-0.23	-0.20	0.15	-0.23	-0.20	0.15	-0.23	-0.20
3	0.47	-0.56	0.41	-0.10	-0.07	-0.11	-0.09	0.42	-0.10	0.01	0.41	-0.11	-0.09	0.40	0.00	-0.10
4	0.99	-1.02	0.95	-0.05	0.03	-0.09	-0.01	0.97	-0.06	0.27	0.95	-0.09	0.00	0.92	0.00	-0.04
5	1.56	-1.32	1.46	0.16	0.26	0.07	0.18	1.50	0.11	0.58	1.44	0.05	0.15	1.36	0.00	0.07
6	2.30	-1.03	2.00	0.76	0.80	0.47	0.50	2.24	0.71	1.26	2.03	0.50	0.53	1.83	0.29	0.33
7	2.90	-1.08	2.40	1.23	1.26	0.75	0.77	2.77	1.11	1.69	2.42	0.77	0.79	2.08	0.43	0.45
8	3.63	-0.66	2.84	2.04	2.00	1.27	1.22	3.43	1.86	2.32	2.88	1.31	1.27	2.34	0.77	0.73
9	4.50	-0.18	3.08	2.84	2.76	1.44	1.36	4.35	2.70	3.21	3.30	1.65	1.58	2.51	0.88	0.80
10	7.26	3.43	3.71	5.98	5.53	2.42	1.97	7.21	5.93	6.02	4.06	2.78	2.33	3.24	1.95	1.50
All	3.56	0.21	2.35	2.25	2.15	1.04	0.94	3.48	2.17	2.51	2.47	1.16	1.06	2.03	0.72	0.62

Note: Mean values are calculated for all households

Note 2: All values are percentages

Source: European Commission, Joint Research Centre, based on the EUROMOD model

¹ EUROMOD is a microsimulation model that replicates the tax and benefit systems of all EU Member States, allowing the quantification of the most relevant income taxes, social contributions and benefits, and their effects on household disposable income. EUROMOD is developed by the Institute for Social and Economic Research at the University of Essex in collaboration with national experts. It is financed by the EU Programme for Employment and Social Innovation, run by the European Commission (DG Employment). Since March 2013 it has been used as the main modelling tool of the Fiscal Policy Analysis Unit of the Joint Research Centre of the European Commission. More information is provided in Annex II.

² It is acknowledged that an alternative solution to the tax trilemma might lie in looking beyond changes to the labour tax system, for instance in property or environmental taxation.

³ In the years up to the crisis, policy measures with regard to income tax were mostly aimed at increasing tax credits and income-tax-bands to the point where around 40 % of income earners were exempted from income tax and only 20 % of earners were liable to the higher rate of income tax. The sudden falls in incomes and employment at the onset of the crisis meant that the income tax base narrowed drastically. According to the Department of Finance over 45 % of income earners were exempt from income tax in 2010 and just over 13 % were liable to higher rate of income tax.

⁴ Parliamentary question n. 84/2016 addressed to the Minister for Finance (Deputy Michael Noonan) by Deputy Pearse Doherty.

⁵ The entry-threshold of the USC has been raised during the years, from EUR 4 004 in 2011, when initially introduced, to EUR 13 000 in 2016.

⁶ See new government programme at:

http://www.merionstreet.ie/MerionStreet/en/ImageLibrary/Programme_for_Partnership_Government.pdf

⁷ 2016 Budget, in particular, focused on changes to the Universal Social Charge (USC). The USC rates were cut in each of the three lowest bands, from 1.5 % to 1 %, from 3.5 % to 3 % and from 7 % to 5.5 %. The Budget also increased the entry threshold of the USC from EUR12 012 to EUR13 000, removing approximately 42 500 earners from the scope of the charge, while the middle threshold was also increased by over EUR1000 to EUR18 668.

⁸ Indeed the Irish labour force is characterised by an unusual degree of international mobility and it has the third largest international workforce in the EU as 15 % of the labour force are immigrants. The Irish Central Statistical Office has recently estimated that nearly 32 000 international citizens moved to Ireland in the 12 months to April of 2016.

⁹ The analysis focuses on the tax burden, which combines income tax plus employees' social security contributions (SSC), in order to emphasise the attractiveness of Ireland for workers in the context of its high international labour mobility. Taking into account employees' SSC also facilitates international comparison, as Ireland has low SSC contributions compared to the EU average.

¹⁰ OECD (2016). The Report shows the amounts of taxes, social security contributions, payroll taxes and cash benefits for eight family-types, which differ by income level and household composition. It also presents the resulting average and marginal tax rates.

¹¹ The sum of personal income taxes and employee social security contributions, net of cash benefits, as a percentage of gross wages.

¹² This indicator shows the incremental change to personal income tax and employee social security contributions less cash benefits when gross wage earnings rise marginally.

¹³ See, for example, O' Connor et al. (2016).

¹⁴ For a single employee, entry into PIT tax occurs at approximately EUR 16 500 and entry into social contributions (PRSI) occurs at EUR 18 304.

¹⁵ While Ireland has relatively high income inequality before tax and transfers, the Gini coefficient, after taxes and transfers, is below the EU average, demonstrating the highly progressive nature of tax and welfare systems.

¹⁶ Thresholds for couples and single parents have been changed accordingly.

¹⁷ According to Eurostat, the equivalised disposable income is the "total income of a household, after tax and other deductions, that is available for spending or saving, divided by the number of household members converted into equivalised adults; household members are equalised or made equivalent by weighting each according to their age, using the so-called modified OECD equivalence scale"

(http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Equivalised_disposable_income).

¹⁸ Although some of the losses in disposable income for lower deciles are due to the sizeable reduction of tax credits, it primarily reflects the difficulties of reforming the existing income tax system in an equitable manner.

¹⁹ Other ways to simplify the income tax system could be to terminate incentives to stay at home and/or move to a fully individualised tax system. Under the latter, the tax band for single earners would be the same as the married one-earner band and each spouse in a married couple would have the same non-transferable standard rate band. Both measures could also expand the tax base by encouraging more people to seek employment. However, such reforms could be difficult to implement as they could provoke resistance.

^{xx} The average production worker in Ireland earned EUR 34 847 in 2015, according to the OECD's estimates.

^{xxi} Income tax liabilities account also for the basic tax credit relief (EUR 1 650) and the employee credit (EUR 1 650).

^{xxii} The micro-data used in the EUROMOD simulations come from the EU Statistics on Income and Living Conditions survey (EU-SILC), in its cross-section version, and consist mainly of data on personal and household characteristics, several types of income (e.g., market income, pensions or social transfers), certain expenditures (e.g., housing costs or life insurance payments), and other variables related to living conditions. Most of the taxes, contributions and benefits are simulated based on these variables.

^{xxiii} It involved: updating the 2015 tax rates of the USC schedule to the ones applied in 2016; increasing the Home Carer tax credit from 810 to 1 000 Euros, raising also the home carer's income threshold from EUR 5 080 to EUR 7 200; introducing a PRSI relief for employees of a maximum of EUR 12 per week, commencing at income of EUR 352.01 Euros weekly, tapering out at a rate of one-sixth of income in excess of this threshold (i.e. relief ends as income reaches EUR 424 per week); increasing the weekly threshold of the employers' PRSI from EUR 356.01 to EUR 376.01 and updating the rate applied to the first bracket of this contribution's schedule from 4.25 % to 8.5 %.

^{xxiv} The minimum income earned by each spouse to be in the first band would be EUR 20,800 (EUR 29,800 – EUR 9,000) and to be in the second band would be EUR 28 800 (EUR 37 800 – EUR 9 000). This would be equivalent to the married one earner first and second thresholds computed as the sum of the single thresholds plus the EUR 9 000 allowable transfer.

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