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Desing and Evaluation of a Refundable In-Work Tax Credit in the Spanish Personal Income Tax: A Microsimulation Analysis[*].

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Abstract

Despite persistently high levels of in-work poverty, Spain lacks a comprehensive policy targeted at low-income workers. This paper proposes the introduction of a refundable in-work tax credit within the Spanish Personal Income Tax, inspired by the US Earned Income Tax Credit (EITC). Using the EUROMOD microsimulation model, the reform is evaluated in terms of its effects on poverty, income inequality, and work incentives. The results indicate reductions in poverty and inequality, along with stronger work incentives for low-income individuals, but weaker incentives at the intensive margin among individuals at intermediate income levels.

Keywords: in-work poverty, in-work benefit, Personal Income Tax, microsimulation.

JEL classification: H24; H31; I32; J18.

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1. Introduction

In recent years, in-work benefits have attracted growing interest in European welfare states. These policies are based on the *making work pay* approach, as eligibility is conditional on labour market participation. In-work benefits aim to *make work pay* by providing financial support to workers, either through tax credits or benefits. Therefore, their main objectives are twofold: to increase workers' disposable income and to strengthen incentives to work (OECD, 2011).

Since the introduction of the US *Earned Income Tax Credit* (EITC, hereinafter) in 1975, and the UK's *Working Family Tax Credit* (WFTC, hereinafter) in the late 1980s[1], in-work benefit schemes have become an increasingly important component of social policy in many advanced economies. Their expansion was particularly pronounced across Europe during the early 2000s (Laun, 2019). Spain, however, is an exception. Unlike many of its European counterparts, Spain has made limited use of in-work benefits. Existing support for workers is largely limited to non-refundable tax credits under the Personal Income Tax (PIT, hereinafter)[2], whilst employment incentives have focused almost exclusively on reducing disincentives to work among recipients of the Minimum Vital Income (hereinafter, IMV, its acronym in Spanish).

These types of policies present important limitations. Non-refundable tax credits provide little or no support to low-income workers, as their tax liability is often insufficient to fully benefit from the deduction (Avram, 2018; Ayala & Cantó, 2009; Rodrigo Sauco, 2015; Zalakain, 2019). At the same time, the employment incentive in the IMV,

[1] Under the 2003 reform, the WFTC was removed and replaced by two separate benefits: Working Tax Credit (WTC, hereinafter) and Child Tax Credit (CTC, hereinafter).

[2] Besides the maternity tax credit and the tax credit for large families or taxpayers with dependent persons with disabilities. However, both are targeted at specific groups of workers, no matter the level of income. The former is available to working mothers (who must have contributed to Social Insurance System for at least 30 days) with children under three years old. The latter is available to workers with dependent children, ascendants, or spouses with disabilities, and/or those belonging to a large family.

implemented on a temporary basis, has focused on avoiding disincentives to work among its beneficiaries, so it has been insufficient to improve labour supply (Valle-Inclán Cruces et al., 2024).

The limited development of policies specifically targeting low-income workers reflects the implicit assumption that labour market earnings, together with labour market regulation, should be sufficient to guarantee an adequate standard of living. Yet the persistence of in-work poverty suggests otherwise. According to Eurostat, 11.2% of workers in Spain lived in a household with an equivalised disposable income below 60% of the national median income in 2024 (Eurostat, 2024). This reflects broader structural changes in the labour market, including the expansion of precarious employment, reduced working hours, unstable employment trajectories, high rates of temporary employment, and a productive structure characterised by a large share of low-wage jobs (Ayala & Cantó, 2009; Gorjón & Romero, 2025; Gorjón & De la Rica, 2024). The incidence of in-work poverty is considerably higher among households with dependent children, reaching 31.9% for single-parent households (Gorjón & Romero, 2025).

Thus, the development of minimum income policies and the absence of specific support for the working poor, have created a gap in income protection that limits opportunities for social inclusion through employment. More fundamentally, it challenges one of the central premises of the current economic system: work is the main tool to get out of poverty.

Therefore, this paper proposes the introduction of a refundable in-work tax credit within the Spanish tax-benefit system. The proposed measure would replace two existing tax deductions for employment income under the Personal Income Tax. It is broadly inspired by the design of the US EITC. Specifically, it is targeted at workers whose earnings

exceed the eligibility threshold for the IMV but remain insufficient to ensure an adequate standard of living.

The reform is simulated using EUROMOD tax-benefit microsimulation model[3], together with data from *European Union Statistics on Income and Living Conditions* (EU-SILC). The analysis estimates the budgetary cost of the reform and its effects on income inequality and poverty. In addition, the paper evaluates changes in Effective Marginal Tax Rate (intensive margin) and in the Net Replacement Rate (extensive margin), providing evidence on the labour supply incentives generated by the proposed policy.

The simulation results indicate that the proposed in-work benefit substantially reduces both poverty and income inequality, with particularly large gains among vulnerable groups, as young people and households with dependent children. The analysis of effective marginal tax rates suggests that the reform strengthens work incentives at lower income levels, although these incentives gradually diminish as earnings increase. The estimated net replacement rates point to a similar pattern, but it shows no evidence of additional work disincentives at higher income levels.

The remainder of the paper is organised as follows. Section 2 reviews the conceptual framework of in-work benefits and discusses their implementation in the United States, the United Kingdom, Germany, Belgium, France and the Netherlands. Section 3 describes the Spanish institutional context, focusing on existing support for low-income workers and the incidence of in-work poverty, before presenting the design of the proposed reform.

[3] The results presented here are based on the EUROMOD [J0.1] version. Originally developed, updated and managed by the *Institute for Social and Economic Research* (ISER), since 2021 EUROMOD is developed, updated and managed by the *Joint Research Centre* (JRC) of the European Commission, in collaboration with Eurostat and EU country teams. We are very grateful to all the people who have contributed to the development of EUROMOD. The results and their interpretation are the responsibility of the authors.

Section 4 outlines the methodology. Section 5 presents the results, and Section 6 concludes.

2. Conceptual Framework

The OECD (2011) defines in-work benefits as "*permanent work-contingent tax credits, tax allowances or equivalent work-contingent benefit schemes designed with the dual purposes of alleviating in-work poverty and increasing work incentives for low-income workers.*" (OECD, 2011, p. 67). Unlike conventional income support programmes, eligibility for in-work benefits is conditional on labour market participation, while income requirements are generally less restrictive (Noguera, 2014).

Because eligibility requires paid employment, one of the main advantages of the in-work benefits is the ability to reduce the so-called *poverty trap*[4]. In its defence, it is also pointed out that this type of aid avoids generating cycles of dependency, unlike social benefits, due to its positive effect on the labour participation of less qualified workers (Ayala & Paniagua, 2019a). Additional advantages highlighted in the literature include its potential to encourage the formalisation of undeclared employment, and its greater capacity to adapt to changes in earning and household composition.

Despite these advantages, there are some limitations too. One of the main concerns is that they may be regarded as a substitute for, rather than a complement to, broader labour market and social protection policies. As Zalakain (2014, p. 61) argues: "*The role of low-wage employment bonus schemes can play in preventing in-work poverty—and in restoring paid employment its role as a key instrument of social inclusion—should not, in*

[4] The poverty trap arises when benefit entitlement is means-tested against other sources of income, particularly earnings from work. As benefits are gradually withdrawn as earnings increase, individuals may face weaker incentives to enter the labour market (Domínguez-Olabide & Zalakain, 2023).

any case, overshadow the need for complementary policy measures (...). In this regard, it is essential to address issues such as minimum wage setting, collective bargaining, and the development of a productive model that does not rely on low-paid employment". Another of the most pointed drawbacks is its possible negative effect on wages. By supplementing workers' earnings through public transfers, these programmes may reduce employers' incentives to raise wages, exerting downward pressure on wages (Ayala & Paniagua, 2019a). In this regard, it is of utmost importance to maintain a strong minimum wage policy.

Although in-work benefits pursue two main objectives (reducing poverty and strengthening work incentives), international experience shows that the achievement of the proposed objectives depends on three fundamental factors: the design of the policy, its interaction with the tax-benefit system, and socioeconomic context in which the policy operates. For example, Blundell & Hoynes (2004) examined why similar increases in the generosity of the British WTC and the American EITC had had different outcomes. While the expansion of the EITC led to a substantial increase in employment among single mothers in the United States, the employment response to the WTC was considerably weaker in the United Kingdom.

The study identifies two main explanations for this divergence. On the one hand, the two programmes interacted differently with the tax-benefit system. Unlike the EITC, entitlement to the WTC was considered when determining eligibility for other means-tested benefits. On the other hand, the reforms were implemented in different institutional contexts. In the United States, increases in the generosity of the EITC coincided with reductions in benefits available to unemployed and inactive individuals. By contrast, the United Kingdom largely maintained the generosity of these benefits and, in some cases, expanded them alongside the WTC.

Regarding the design of in-work benefits, several studies highlight the importance of the assessment unit used to determine eligibility and benefit entitlement. In other words, the effects of an in-work benefit differ depending on whether it is based on individual or household income. A substantial body of evidence (Bargain & Orsini, 2004; Brewer & Hoynes, 2019; Figari, 2009; Vandelannoote & Verbist, 2017) shows that family-based schemes generally achieve stronger distributive outcomes, whereas individual-based schemes tend to generate larger labour supply responses. In fact, family-based scheme may discourage employment by the secondary earners, who in many cases are women. Consequently, the choice of the assessment unit ultimately reflects the relative priority assigned to redistribution and employment incentives. In this sense, our proposal adopts an individual-based approach, but it will vary according to household composition.

Regarding the incentive to employment, an important factor to consider is the elasticity of wages with respect to working hours. A comparative study across 17 countries (Bargain et al., 2012), finds that labour supply elasticities are shaped not only by individual preferences but also by the availability of childcare and family support policies. For example, the study finds that the limited childcare provision contributes to greater instability in labour market participation among married women. Spain illustrates this pattern, displaying lower labour market responsiveness than countries with more developed family policy systems, such as France, the Nordic countries, the United Kingdom and the United States.

The reform proposed in this paper introduces a refundable tax credit into the PIT system, following the design of the EITC. Therefore, the proposed benefit follows a trapezoidal schedule consisting of three phases: a phase-in, during which the benefit increases with employment income; a plateau, where the maximum amount is maintained over a specific income; and a phase-out, in which benefit is gradually withdrawn as earnings increase.

The US pioneered the use of in-work benefits with the introduction of the EITC in 1975. The United Kingdom soon adopted a similar approach, and, during the early 2000s, several European countries implemented this type of policy, such as Germany, Belgium, France and the Netherlands, among others (Laun, 2019). Many of these aids reflect the influence of US credit, and this continues to be a reference for many works similar to the one presented (Ayala & Paniagua, 2019b; De Luca et al., 2012; Figari, 2009; Rodrigo Sauco & Sanz Arcega, 2019; 2023).

The long-standing implementation of the EITC, together with the availability of rich databases, has allowed the production of extensive body of empirical evidence on its effects. Most studies conclude that the programme has significantly increased labour market participation among certain groups, particularly single mothers (Athreya et al., 2014; Eissa & Hoynes, 2004; Eissa & Liebman, 1995; Neumark & Shirley, 2020). By contrast, the evidence regarding its effects on hours worked is considerably less conclusive, with estimated impacts varying across population groups and empirical methodologies (Athreya et al., 2014; Eissa & Liebman, 1995; Neumark & Shirley, 2020).

From a distributive perspective, the literature agrees that the EITC has lifted a substantial number of households above the poverty threshold (Bastian & Michelmore, 2018; Hoynes & Patel, 2015; Jones & Ziliak, 2019; Neumark & Wascher, 2001; Simpson et al., 2010). Beyond its direct effects on income, a growing body of research has documented positive spillover effects in other dimensions of well-being, particularly among children, such as a reduction in the intergenerational transmission of poverty (McInnis et al., 2022), improvement in educational attainment (Bastian & Michelmore, 2018; Dahl & Lochner, 2009), enhanced food security among households with children (Hoynes et al., 2012; Winkler et al., 2025), and reductions in behavioural problems (Hamad & Rehkopf, 2016).

Administratively, the EITC is managed through income tax as a refundable tax deduction. This can also lead to problems of non-take-up, whereby some eligible individuals fail to claim the benefit. According to the US Internal Revenue Service (IRS), 80.8% of eligible taxpayers claimed the EITC in 2022, the latest available data[5]. Obviously, since it is incorporated into the income tax, non-take-up is mostly concentrated among individuals who are not required to file an income tax return (Goldin, 2018).

Table 1 summarises the main characteristics of the in-work benefit schemes introduced in the United States, the United Kingdom, Germany, Belgium, France and the Netherlands, together with the principal findings reported in the empirical literature.

[Insert Table 1]

As shown in Table 1, countries have adopted markedly different approaches to the design of in-work benefit schemes. Their institutional features ultimately reflect the target population, the resources available, and the policy objectives they are intended to achieve.

3. The Spanish Context and the Proposed In-Work Benefit

This section reviews the current situation of in-work poverty in Spain, as well as the existing benefits for the employed individuals. It then presents the design of the proposed in-work benefit, which is intended to address the shortcoming of the current system.

3.1. The Spanish Context

The limited support available for workers in Spain is particularly striking given the country's high incidence of in-work poverty. Spain ranks third among European Union Members with the highest in-work poverty rate (11.2%) (Eurostat, 2024). As shown in

[5] Further information is available at: https://www.irs.gov/tax-professionals/eitc-central/eitc-participation-rate-by-state

Figure 1, this rate has declined since the COVID-19 crisis but remains well above the European Union average (8.2%). Moreover, in-work poverty rate is substantially higher among households with dependent children, reaching 31.9% in single-parent households (Gorjón & Romero, 2025; Lanau & Lozano, 2022).

[Insert Figure 1]

According to the 15th Report on the State of Poverty (*El Estado de la Pobreza*; Sanz Angulo & Sarango Monge, 2025), 32.9% of poor people are employed, a proportion that exceeds those who are unemployed (20.6%). Despite this, the Working Poor Report (*Pobres con Empleo;* Alguacil Denche et al., 2024), finds that only 35.1% of poor workers received any form of financial assistance. Moreover, among those who did receive assistance, these transfers accounted, on average, for only 22.6% of total household income, an amount that proved insufficient to lift many recipients above the poverty threshold.

On the one hand, Spain introduced a mechanism within the IMV, allowing beneficiaries to combine the benefit with labour income[6]. Under this scheme, beneficiaries who increase their labour earnings may retain all or part of the benefit, up to a specific threshold, for a maximum period of two years. The primary purpose of this reform, however, was to mitigate the *poverty trap* faced by IMV recipients rather than to establish a permanent in-work benefit. Outside the IMV framework, support for low-paid workers remains very limited.

On the other hand, the Spanish Personal Income Tax includes two tax allowances for employment income[7]. One is applied to annual employment income below €19,747.50

[6] For a more detailed description, see del Prado Pérez (2022).
[7] It is important to note that, for Spanish Personal Income Tax (PIT) purposes, employment income (*rendimientos del trabajo*) also includes pensions and unemployment benefits.

per year (art. 20 of Law 35/2006). The second is a deductible work-related expense of, generally, €2,000 per year (art. 19 of Law 35/2006). Since neither allowance can reduce taxable income below zero, they provide little support to workers with low earnings (Rodrigo Sauco, 2015). Consequently, low-income workers benefit only marginally from these tax provisions because their tax liability is often too low to take full advantage of them (Avram, 2018; Rodrigo Sauco, 2015).

Additionally, the Spanish tax system also includes two refundable tax credits targeted at a specific group of workers, with eligibility determined by personal circumstances rather than income. These are the maternity tax credit and the tax credit for large families or taxpayers supporting dependants with disabilities. Ayala & Paniagua (2019b) concluded that the current maternity tax credit has only a limited distributive impact, because virtually all working women meet the eligibility requirement (having contributed at least 100 euros per month in the Social Insurance System), regardless of their level of income.

For all these reasons, the objective of this paper is to reorient the public policy support for workers with earnings just above the eligibility threshold for the IMV. As discussed above, this group currently receives little targeted support despite facing a high risk of in-work poverty.

3.2. Proposed In-Work Benefit Design

Considering the shortcomings discussed in the previous section, this paper proposes the introduction of a refundable in-work tax credit targeted at lower-paid workers. The proposed credit replaces the current universal €2,000 work-related expense deduction

while simultaneously making the employment income allowance unavailable to recipients of the new in-work benefit[8].

By contrast, neither the maternity tax credit nor the tax credit for large families or taxpayers supporting dependants with disabilities is modified. These measures are aimed at specific population groups and pursue policy objectives that differ from those of the proposed in-work benefit.

Several studies have analysed proposals related to in-work benefits for Spain, including reforms in the maternity tax credit with an EITC-type design (Paniagua, 2018), wage subsidies in the Personal Income Tax following the US policy (Rodrigo Sauco & Sanz Arcega, 2019; 2023), tax credits linked to the IMV or inspired by the UK model (Gómez de Antonio & Villazán Pellejero, 2023), among others.

The proposed reform is guided by three broad principles: efficiency, equity and simplicity. From an efficiency perspective, economic theory suggests that no policy should alter behaviour. However, this principle does not apply to in-work benefits, whose explicit purpose is precisely to modify labour market behaviour, in order to encourage employment and increase working hours. Regarding equity, the design of the benefit should account for differences in household composition while also considering its implications for other population groups that may be adversely affected, particularly pensioners. Finally, these objectives should be achieved through a policy instrument that is administratively simple and entails the lowest possible compliance and implementation costs for both taxpayers and the public administration.

[8] Finally, the employment income tax allowance is retained for individuals who are not eligible for the proposed in-work benefit. This avoids worsening the economic position of pensioners, who could otherwise face a substantial increase in poverty if this tax credit is removed.

The proposed in-work benefit, which is modelled on the US EITC, requires the specification of several design parameters. The amount of the credit is linked to gross wage, as is common practice in many countries because gross wage is easier to verify administratively and involves lower compliance and monitoring costs[9]. In this proposal, the key parameters of the benefit are calibrated using eligibility thresholds and design of Minimum Vital Income. Figure 2 illustrates the parameters used to design the proposed refundable in-work tax credit.

[Insert Figure 2]

For single individuals without children, eligibility for the proposed in-work benefit begins at the point where IMV entitlement ends (point 1), which is approximately equal to 40% of the national median income (severe poverty threshold). The benefit then increases up to point 2, where the IMV employment incentive is fully phased out, which is close to 60% of the national median income (relative poverty threshold). Consequently, throughout this initial phase-in region, the proposed in-work benefit coexists with the IMV employment incentive, which is available on a temporary basis. The benefit then reaches a plateau, which extends up to 140% of point 2, corresponding approximately to the national median income (point 3). Beyond this threshold, the benefit enters a phase-out region and is gradually withdrawn until it reaches zero at an income level equal to 200% of the wage level at which the IMV employment incentive disappears (point 4). Finally, for a single individual without dependent children, the maximum annual benefit is set at €2,200.

The distribution of beneficiaries under the proposed reform is presented in Figure 3.

[9]Although some countries, such as the United Kingdom, also impose a minimum hours-of-work requirement.

[Insert Figure 3]

As shown in Figure 3, beneficiaries are concentrated in the middle of the income distribution. The overlap with the IMV is minimal, as the proposed in-work benefit is designed to operate only once employment income exceeds the eligibility thresholds for the IMV. As expected, the value of the benefit gradually declines as earnings increase.

In addition, the parameters and amounts will vary according to household composition. Given the higher incidence and intensity of poverty among households with dependent children (Gorjón & De la Rica, 2024; Gorjón & Romero, 2025; Lanau & Lozano, 2022), the proposed in-work benefit is more generous for families with children. To this end, the benefit schedule for each household type is calibrated using the modified OECD equivalence scale[10]. However, because Spanish Personal Income Tax is assessed on an individual basis, it is more consistent for the in-work benefit to be assigned individually[11]. Accordingly, for two-adult household with dependent children, the equivalence weight assigned to each child under the modified OECD scale is divided equally between the two adults. In addition, reflecting the greater economic vulnerability of single-parent households, an additional equivalence weight of 0.22 is applied, matching the adjustment currently used in the Minimum Vital Income.

Table 2 reports the individual equivalence scale used to determine the maximum amount of the proposed in-work benefit for each household type.

[Insert Table 2]

[10] Under this scale, the first income earner in the household is assigned a weight of 1, the second income earner a weight of 0.5, and each child under the age of 14 a weight of 0.3. In our proposal, however, the age threshold for dependent children is extended to 18 years.

[11] The best-known in-work benefits, such as the US EITC and the UK WTC, are based on household income. By contrast, many European in-work benefits are assessed on an individual basis.

For couples, the individual nature of the proposed tax credit implies that one spouse may be eligible while the other could not. When both spouses qualify, the household-level adjustment reported in Table 2 is divided equally between them. For example, in a couple with one child, if only one spouse is eligible, the in-work benefit will be 1.15 (2.30 divided equally) times higher than that of a childless household. Whereas, in the case of a single-parent household with one child, the tax credit will be 1.52 times higher than that of a childless household (result of 1.3 + 0.22).

Finally, as discussed above, the proposed in-work benefit is administered through the PIT as a refundable tax credit. Compared with conventional benefits, this approach entails lower administrative costs because it is integrated into the existing tax assessment process, reduces the potential stigma associated with means-tested benefits and, as it is refundable, extends support to low-income workers with little or no tax liability (Avram, 2018; Hermida & Noguera, 2014; Rodrigo Sauco, 2015; Zalakain, 2019). A potential limitation, however, is that entitlement is determined on the basis of earnings from the previous tax year, which may reduce the effectiveness of the policy in addressing current poverty and labour market incentives (OECD, 2011).

An additional challenge concerns take-up. Under the Spanish tax system, individuals with annual earnings below a certain threshold are not required to file an income tax return. As a result, non-take-up may be substantial among this group. The rationale is that, under the withholding system, many taxpayers have already satisfied their tax liability, making it unnecessary to impose the compliance costs associated with filing a tax return (e.g. time, information, tax advisors) (Kleven et al., 2011; Klun, 2009). Accordingly, the Spanish PIT sets relatively high filing thresholds (generally, €22,000 per year -art. 96 of Law 35/2006). However, the proposed reform would alter these incentives, as the value of the refundable tax credit would exceed the cost of filing for many eligible individuals. In this

context, a feasible policy option would be for the Spanish Tax Agency to provide a pre-completed tax return electronically to all taxpayers, effectively introducing a universal pre-filled tax return. Taxpayers would therefore be informed automatically of their eligibility and the amount of the credit. This proposal builds on existing administrative capacity: taxpayers can already access a pre-filled return through the Tax Agency's online platform and either accept it directly (the so-called *Renta Directa*) or amend it using the *Renta Web* system. The main constraint therefore appears to be taxpayer outreach rather than administrative capacity. Similar systems are already in operation in several Nordic countries and in Slovenia, where tax authorities prepare returns using third-party information and taxpayers simply confirm the proposed assessment, which may even be accepted by default if no response is received.

Non-take-up could be further reduced by allowing eligible workers to opt for monthly advance payments without requiring the submission of an annual tax return, following the model currently used for the Spanish maternity tax credit. Under such an arrangement, take-up would likely approach full participation. Accordingly, the simulations presented in this paper assume full take-up.

Finally, self-employed workers are excluded from the proposed reforms. As noted by Rodrigo Sauco and Sanz Arcega (2019; 2023) and Ayala and Paniagua (2019b), this group has greater scope to adjust reported earnings strategically in order to obtain the maximum entitlement to the benefit. These behavioural responses have been documented for the US EITC (Nichols & Rothstein, 2015; Saez, 2010).

Figure 4 illustrates the benefit schedule for the different household types, while Table 3 reports the corresponding parameter values.

[Insert Figure 4]

[Insert Table 3]

4. Microsimulation Methodology

The proposed reform is evaluated using the EUROMOD tax-benefit microsimulation model, a static microsimulation model that includes direct taxes, social insurance contributions and cash benefits for all European Union Member States (Dreoni et al., 2024; Figari et al., 2007; Sutherland et al., 2008; Sutherland & Figari, 2013). EUROMOD is typically based on the *European Union Statistics on Income and Living Conditions* (EU-SILC), which provides detailed information on multiple income sources, including earnings, capital, social benefits, pensions, and income from real estate. Using market income and household characteristics from EU-SILC, EUROMOD simulates taxes and benefits according to each country's legislation and derives household disposable income. The simulation presented in this paper is based on the 2024 Spanish tax-benefit system.

As a preliminary step, the *Hypothetical Household Tool* (HHoT) is used to assess the ex ante impact of the proposed in-work benefit on stylised household types. HHoT is an extension of EUROMOD that generates hypothetical households based on user-defined characteristics. It facilitates the analysis of tax-benefit interactions without interference from other sources of heterogeneity and allows the effects of policy reforms to be illustrated for household types that are underrepresented in the survey data. Its main limitation is that it cannot be used to perform distributional analysis (Hufkens et al., 2016; 2019). The distributional effects will be shown later.

The hypothetical households correspond to those presented in Figure 4. A dependent child is considered as a younger than 18 years of age living with their parents. As an illustration, the effects of the proposed reform are first presented for three representative household

types: a single adult without dependent children, a single-parent household with one child, and a couple with one child. The corresponding results for the remaining household types are reported in the Appendix.

[Insert Figure 5]

[Insert Figure 6]

[Insert Figure 7]

[Insert Appendix. Figure 13]

Across the three household types, the proposed reform reduces income tax liabilities over part of the earnings distribution, with tax liabilities becoming negative for some income levels because of the refundable tax credit. Consequently, eligible households achieve higher disposable income than under the current system. This effect is particularly pronounced for single-parent households, which receive a more generous amount of the in-work benefit. Once earnings exceed the eligibility range for the in-work benefit, however, disposable income becomes slightly lower than in the current system. This reflects the higher tax liability resulting from the replacement of universal €2,000 work-related tax allowance with the proposed refundable tax credit.

It should be noted that EUROMOD does not capture behavioural responses to policy reforms. Consequently, the results presented in this paper are static, and do not incorporate changes in labour supply. However, to provide evidence on the direction of work incentives, changes in effective marginal tax rates and net replacement rates are calculated.

The simulation incorporates non-take-up of both regional Minimum Income Schemes and the Minimum Vital Income, at the levels suggested by EUROMOD, based on AIReF

estimates (AIReF, 2025). By contrast, the proposed in-work benefit is assumed to have full take-up, reflecting its proposed implementation through a universal pre-filed tax return.

This analysis evaluates the effects of the reform on public budgetary costs, inequality, and poverty. Distributional effects are assessed using a range of inequality measures, together with the Kakwani index of progressivity and Reynolds-Smolensky index of redistributive effectiveness. The analysis also compares equivalised disposable income by income deciles and household type, as well as the average tax burden across income deciles. Income deciles are defined based on equivalised disposable income using the modified OECD equivalence scale.

Poverty effects are evaluated using the Foster-Greer-Thorbecke (FGT) indicators, considering both the headcount ratio (FGT0) and the poverty gap (FGT1). The headcount ratio measures the proportion of poor households (poverty incidence), whereas the poverty gap index captures the difference between the average income of poor households and the poverty threshold (poverty intensity). Throughout the analysis, the poverty line is defined as 60% of the national median equivalised disposable income.

Finally, labour market incentives are assessed using Effective Marginal Tax Rates (MTR, hereinafter) and the Net Replacement Rate (NRR, hereinafter). MTRs measure work incentives at the intensive margin (hours worked), whereas NRRs capture incentives at the extensive margin (participation in the labour market).

MTRs are calculated as follows (Gómez de Antonio & Villazán Pellejero, 2023; H. X. Jara & Tumino, 2012):

$$MTR = 1 - \left(\frac{Y_{HH}^{1} - Y_{HH}^{0}}{E_i^{1} - E_i^{0}}\right) = 1 - \left(\frac{\Delta Y_{HH}}{\Delta E_i}\right) \quad (1)$$

Where the numerator of the second term represents the change in household disposable income before (Y_{HH}^{0}) and after (Y_{HH}^{1}), while the denominator corresponds to the increase in gross earnings (E_i). Change in MTRs can be interpreted as changes in work incentives at the intensive margin, i.e. working hours. A decrease (increases) in the MTR indicates that the proposed reforms strengthen (weakens) incentives to increase labour supply. A noted above, these indicators do not measure actual behavioural responses, but rather the incentive structure generated by the tax-benefit system.

NRRs are calculated as follows (Gómez de Antonio & Villazán Pellejero, 2023; H. X. Jara, 2024):

$$\mathrm{NRR}=\frac{\mathrm{Y_n^u}}{\mathrm{Y_n^w}} \tag{2}$$

Where Y_n^u represents the simulated disposable income of household n under unemployment, and Y_n^w the corresponding disposable income under employment. In other words, the NRR measures the proportion of in-work disposable income that is retained when an individual becomes unemployed. Therefore, it captures work incentives at extensive margin, that is, in labour participation.

Several assumptions are used to carry out the simulation: the duration of unemployment equals the duration of previous employment, and the period of contributions to unemployment insurance is equal to the number of months worked. A lower (higher) NRR following the reform indicates stronger (weaker) incentives to enter employment.

As with MTRs, changes in NRRs should be interpreted as changes in the incentive structure rather than as evidence of actual behavioural responses. Assessing the impact of these incentives on labour supply would require an explicit behavioural model.

5. Effects of the Reform

5.1. Budgetary Effects

To carry out a robust distributional analysis, it is necessary that the proposed policy be neutral. For this reason, the maximum amount of the in-work benefit has been established in such a way that the budgetary cost of the proposed tax credit would be virtually zero (public revenue increases by 0.03%, or €96.68 million), so more generous amounts would imply a higher cost.

5.2. Poverty and Inequality Effects

To assess the distributive effects of the reforms, a range of inequality and redistribution indicators are estimated using equivalised disposable income based on the modified OECD equivalence scale. As shown in

Table **4**, the introduction of the in-work benefit reduces inequality across all indices considered, with percentage reductions generally ranging between 2% and 4%. At the same time, both Kakwani and Reynolds-Smolensky indices increase substantially, indicating an improvement in the progressivity and redistributive capacity of the tax-benefit system.

[Insert

Table **4**]

Figure 8 reports the average tax burden by income deciles. Introducing a refundable tax credit reduces tax liability among eligible workers, whereas eliminating the universal €2,000 employment income allowance has the opposite effect. Consequently, the average tax burden falls in the lower income deciles, where beneficiaries are concentrated, but becomes slightly higher than under the current system from the seventh decile onwards.

[Insert Figure 8]

A similar pattern emerges for equivalised disposable income. As shown in Figure 9, the largest increase in average income is observed in the second income decile, where low-paid workers are most heavily concentrated. The distribution of reform winners follows a similar pattern, with the highest share of beneficiaries located between the second and fifth decile, reflecting the concentration of low- and lower-middle-income workers within these groups.

[Insert Figure 9]

The results by household type (Table 5) indicate that lone-parent household benefit the most from the proposed reform, with average equivalised disposable income increasing by 3.28%. By contrast, households without children experience the smallest gains, reflecting both the lower generosity and the narrower eligibility range of the in-work benefit for these households. Even so, the average losses are lower, reaching just over 1% for households with two adults without children.

[Insert Table 5]

The poverty effects are reported in Table 6. Both the poverty headcount and the poverty gap decline following the reform, although the magnitude of these improvements varies across household types.

Among household groups, couples with children experience the largest reduction in poverty, followed by lone-parent households. By contrast, the poverty rate among single-adult households declines by just over one percentage point. The reform also generates the largest reductions in poverty among younger age groups. The only group experiencing a slight deterioration is individuals aged 65 and over. As most are outside the labour

market, they are ineligible for the in-work benefit while still being affected by the removal of the universal €2,000 employment income allowance. Nevertheless, the increase in poverty within this group is negligible.

[Insert Table 6]

5.3. Effects on the Effective Marginal Tax Rate

Figure 10 presents the average Effective Marginal Tax Rate (MTR) by monthly individual earnings.

[Insert Figure 10]

At the lower end of the earnings distribution, the proposed reform generally reduces Effective Marginal Tax Rates relative to the current system. This pattern reverses at intermediate earnings levels, where the combination of the in-work benefit and the removal of the universal €2,000 employment income allowance results in higher marginal tax rates. At higher earnings levels, however, the MTRs under the two systems gradually converge.

Figure 11 decomposes effective marginal tax rates by income percentile into taxes and means-tested benefits. The right-hand panel also reports the average monthly value of the proposed in-work benefit by income percentile.

Comparing the counterfactual MTR profile with the average value of the in-work benefit shows that marginal tax rates begin to increase as the average amount of the credit is gradually phased out, which occurs at approximately the 70th income percentile. The only way to avoid this pattern would be to eliminate the phase-out region and maintain the maximum benefit for all eligible workers once the plateau is reached. However, such a

design would be inconsistent with the redistributive objectives of the policy and would substantially increase its fiscal cost.

[Insert Figure 11]

Figure 11 also shows that the peaks observed under the current system are driven primarily by the withdrawal of means-tested benefits and tax allowances. Relative to the current system, the introduction of the in-work benefit initially reduces the tax component of the MTR, which becomes slightly negative during the phase-in region. This smooths one of the most pronounced spikes in the existing schedule—around the 70th income percentile—although MTRs remain somewhat higher under the counterfactual system at higher income levels.

Overall, the results suggest that the proposed reform strengthens financial incentives to increase hours worked among low-income workers, while producing weaker incentives at intermediate and upper-middle income levels.

5.4. Effects on the Net Replacement Rate

Figure 12 reports the Net Replacement Rate (NRR) by income deciles.

[Insert Figure 12]

The reform reduces NRRs among lower-income individuals, while leaving them broadly unchanged in the upper income deciles. Consequently, individuals at the bottom of the income distribution would retain a smaller share of their disposable income if they became unemployed, thereby strengthening financial incentives to enter employment. By contrast, NRRs do not increase at higher income levels but instead gradually converge towards those under the current system. This suggests that the proposed in-work benefit does not create additional financial incentives to leave the labour market among higher-income workers.

6. Conclusions

For a substantial share of individuals, employment and poverty coexist. International experience shows that several countries addressed this challenge by introducing in-work benefits aimed at both reducing in-work poverty and strengthening work incentives. Since the introduction of the EITC in the United States and the WFTC (or WTC) in the United Kingdom, similar schemes have been adopted in several European countries, such as Germany, Belgium, France and the Netherlands. Overall, the evidence suggests that these policies have produced positive outcomes, although their effectiveness depends critically on policy and the broader socioeconomic context (Blundell & Hoynes, 2004; Immervoll & Pearson, 2009).

Spain, however, has followed a different approach. Public support for low-income workers has relied primarily on conventional tax relief measures, which provide limited benefits to taxpayers with insufficient tax liability (Avram, 2018; Ayala & Cantó, 2009; Rodrigo Sauco, 2015). More recently, employment incentives have been incorporated into the Minimum Vital Income (IMV), although only on a temporary basis (Valle-Inclán Cruces et al., 2024). While these measures have had some positive effects, their limited scope leaves many vulnerable workers without support, particularly those with earnings just above the IMV eligibility threshold.

This limited protection contributes to Spain's persistently high rates of in-work poverty, especially among households with dependent children (Gorjón & Romero, 2025; Lanau & Lozano, 2022), highlighting the need for targeted policies that account not only for employment status but also for household composition. In response, this paper proposes the introduction of a refundable in-work tax credit within the Spanish Personal Income Tax. The proposed benefit replaces the current €2,000 employment income deduction and

the employment income tax allowance. Benefit levels vary according to household type, with more generous support for households with dependent children.

The microsimulation shows that this measure would contribute to improving the situation of workers in the lower and lower-middle parts of the income distribution. Both poverty indicators and disposable income improve, especially among households with dependent children and younger individuals. Additionally, there is also an improvement in the progressivity and redistributive capacity of the tax-benefit system. These improvements, however, come at the cost of a modest reduction in disposable income for individuals who are not eligible for the wage supplement, reflecting the abolition of the universal €2,000 deduction.

The analysis of effective marginal tax rates and net replacement rates also provides evidence on the direction of the work incentives generated by the reform. Effective marginal tax rates decline for low-income workers, suggesting stronger incentives to increase labour supply at the intensive margin, although they rise for some middle-income individuals. At the extensive margin, the reduction in net replacement rates for low and lower-middle income workers indicates stronger incentives to enter employment, while no evidence of stronger incentives to leave the labour market is found among higher-income groups.

These findings should nevertheless be interpreted considering the study's limitations. First, the simulations assume full take-up of the proposed benefit, which may overstate its effects. However, the proposed implementation through the tax system and a universal tax return is expected to achieve very high participation rates. Second, EUROMOD is a static microsimulation model and therefore does not capture behavioural responses to policy changes. This last issue will be addressed as a future line of research.

In conclusion, this paper proposes a revenue-neutral in-work benefit for Spain. The reform would align Spain more closely with well-established international practice while addressing persistently high levels of in-work poverty. The results suggest that, if appropriately designed, in-work benefits can become an effective instrument for strengthening both redistribution and labour market participation. Nevertheless, they should be viewed as part of a broader policy package, complementing labour market regulation and other measures supporting low-income households, rather than as a standalone solution to poverty and labour market precariousness.

7. Bibliographical references

AIReF. (2025). *4.ª Opinión Ingreso Mínimo Vital* (Opinión 3/25).

Alguacil Denche, A., Ortiz Llano, J., & Angulo Sanz, A. (2024). *El estado de la Pobreza. Seguimiento de los indicadores de la Agenda UE 2030. Pobres con empleo.* (No. 14). European Anti-Poverty Network (EAPN).

Athreya, K., Reilly, D., & Simpson, N. (2014). Single Mothers and the Earned Income Tax Credit: Insurance Without Desincentives? *IZA Discussion Paper*, (8114).

Avram, S. (2018). Who benefits from the 'hidden welfare state'? The distributional effects of personal income tax expenditure in six countries. *Journal of European Social Policy*, *28*(3), 271-293. https://doi.org/10.1177/0958928717735061

Ayala, L., & Cantó, O. (2009). *Políticas económicas y pobreza infantil* (Análisis y propuestas sobre la pobreza infantil en España, pp. 9-43). Unicef-Comité Español.

Ayala, L., & Paniagua, M. (2019a). Los complementos salariales y la garantía de ingresos: Posibilidades y límites. *El Observatorio Social (La Caixa)*.

Ayala, L., & Paniagua, M. (2019b). The impact of tax benefits on female labor supply and income distribution in Spain. *Review of Economics of the Household*, *17*(3), 1025-1048. https://doi.org/10.1007/s11150-018-9405-5

Bárcena Martín, E., & Imedio Olmedo, L. J. (2017). La desigualdad en la distribución de la renta. Medición y aspectos normativos. *Papeles de Economía Española*, (154), 2-27.

Bargain, O., Caliendo, M., Haan, P., & Orsini, K. (2005). *'Making Work Pay' in a Rationed Labour Market: The Mini-Job Reform in Germany* (No. 536; Discussion Papers). German Institute for Economic Research.

Bargain, O., & Orsini, K. (2004). In-work Policies in Europe: Killing Two Birds with One Stone? *IZA Discussion Paper*, (1445).

Bargain, O., Orsini, K., & Peichl, A. (2012). Comparing Labor Supply Elasticities in Europe and the US: New Results. *IZA Discussion Paper*, (6735).

Bastian, J., & Michelmore, K. (2018). The Long-Term Impact of the Earned Income Tax Credit on Children's Education and Employment Outcomes. *Journal of Labor Economics*, *36*(4), 1127-1163. https://doi.org/10.1086/697477

Blundell, R., & Hoynes, H. (2004). Has «In-work» Benefit Reform Helped the Labor Market? *National Bureau of Economic Research*, *Seeking a Premier Economy: The Economic Effects of British Economic Reforms, 1980-2000*.

Bosch, N., & van der Klaauw, B. (2009, june). Analyzing Female Labor Supply: Evidence from a Dutch Tax Reform. *IZA Discussion Paper Series*.

Brewer, M., Duncan, A., Shephard, A., & Suárez, M. J. (2006). Did working families' tax credit work? The impact of in-work support on labour supply in Great Britain. *Labour Economics*, *13*(6), 699-720. https://doi.org/10.1016/j.labeco.2005.11.002

Brewer, M., & Hoynes, H. (2019). In-Work Credits in the UK and the US. *Fiscal Studies*, *40*(4), 519-560. https://doi.org/10.1111/1475-5890.12207

Caliendo, M., & Wrohlich, K. (2006). Evaluating the German "Mini-Job" Reform Using a True Natural Experiment. *IZA Discussion Paper Series*, (2041).

Cousins, M. (2014). In-Work Benefits: Effective Social Protection of «Emperor's New Clothes»? *European Journal of Social Security*, *16*(2).

Dagsvik, J. K., Jia, Z., Orsini, K., & Van Camp, G. (2011). Subsidies on low-skilled workers' social security contributions: The case of Belgium. *Empirical Economics*, *40*(3), 779-806. https://doi.org/10.1007/s00181-010-0367-6

Dahl, G., & Lochner, L. (2009). The Impact of Family Income on Child Achievement: Evidence from the Earned Income Tax Credit. *Institute For Research on Poverty. Discussion paper*, (1361-09).

De Luca, G., Rosetti, C., & Vuri, D. (2012). In-Work Benefits for Married Couples: An Ex-Ante Evaluation of EITC and WTC Policies in Italy. *IZA Discussion Paper Series*, (6739).

Dilnot, A., & McCrae, J. (2000). The Family Credit System and The Working Families Tax Credit in the United Kingdom. *OECD Economic Studies*, *2000/II*(31).

Domínguez-Olabide, P., & Zalakain, J. (2023). Bajos salarios y garantía de ingresos: Diseño e impacto de los complementos salariales. *Zerbitzuan*, (80), 35-60. https://doi.org/10.5569/1134-7147.80.03

Dreoni, I., Leventi, C., Papini, A., Picos, F., & Serruys, H. (2024). Exploring EUROMOD: research, policy and teaching. *Revista electrónica sobre la enseñanza de la Economía Pública*, (34), 1-12.

Eissa, N., & Hoynes, H. W. (2004). Taxes and the labor market participation of married couples: The earned income tax credit. *Journal of Public Economics*, *88*(9-10), 1931-1958. https://doi.org/10.1016/j.jpubeco.2003.09.005

Eissa, N., & Liebman, J. B. (1995). Labor supply response to the Earned Income Tax Credit. *NBER working paper, NBER Working Paper Series*, (5158), 1-50.

Eurostat. (2024). *In work at-risk-of-poverty rate* [Dataset]. Eurostat. https://doi.org/10.2908/SDG_01_41

Figari, F. (2009). Can in-work benefits improve social inclusion in the Southern European countries? *EUROMOD Working paper*, (EM/09).

Figari, F., Levy, H., & Sutherland, H. (2007). Using the EU-SILC for policy simulation: Prospects, some limitations and suggestions. *EUROMOD Working paper*, (EM1/07).

Francesconi, M., Rainer, H., & Van Der Klaauw, H. W. (2007). The Effects of In-Work Benefit Reform in Britain on Couples: Theory and Evidence. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.1011153

Goldin, J. (2018). Tax Benefit Complexity and Take-up: Lessons from the Earned Income Tax Credit. *Tax Law Review*, *72*(59).

Gómez De Antonio, M., & Villazán Pellejero, N. (2023). Propuesta de implantación de políticas de complemento salarial en el Ingreso Mínimo Vital y en el IRPF: Un análisis empírico con EUROMOD. *Revista Hacienda Pública Española*, *245*(2), 35-69. https://doi.org/10.7866/HPE-RPE.23.2.2

Gorjón, L., & De la Rica, S. (2024). *Trabajo a tiempo parcial: Precariedad laboral y brechas de género* (No. 2). iseak.

Gorjón, L., & Romero, G. (2025). *Cuentas que no salen: Radiografía de la pobreza laboral en los hogares de España*.

Gregg, P., Hurell, A., & Whittaker, M. (2012). *Assessing the impact of tax credits in the last decade and considering what this means for Universal Credit* (Resolution Fundation Creditworthy).

Hamad, R., & Rehkopf, D. H. (2016). Poverty and Child Development: A Longitudinal Study of the Impact of the Earned Income Tax Credit. *American Journal of Epidemiology*, *183*(9), 775-784. https://doi.org/10.1093/aje/kwv317

Hermida Justo, P., & Noguera, J. A. (2014). Integración de impuestos y prestaciones: Una vía innovadora para la reforma de la protección social. *Documento social*, (169), 103-123.

Hoynes, H. W., Miller, D. L., & Simon, D. (2012). *Income, the Earned Income Tax Credit, and Infant Health* (Working paper No. 18206). National Bureau of Economic Research (NBER).

Hoynes, H. W., & Patel, A. J. (2015). Effective policy for reducing inequality? The Earned Income Tax Credit and the distribution of income. *NBER Working Paper Series*, (21340).

Hufkens, T., Goedemé, T., Gasior, K., Leventi, C., Manios, K., Rastrigina, O., Recchia, P., Sutherland, H., Van Mechelen, N., & Verbist, G. (2019). The Hypothetical Household Tool (HHoT) in EUROMOD: a new instrument for comparative research on tax-benefit policies in Europe. *International Journal of Microsimulation*, (12(3)), 68-85.

Hufkens, T., Leventi, C., Rastrigina, O., Manios, K., Van Mechelen, N., Verbist, G., Sutherland, H., & Goedemé, T. (2016). HHoT: A new flexible Hypothetical Household Tool for tax-benefit simulations in EUROMOD (Deliverable 22.2). *Leuven, FP7 InGRID project.*

Immervoll, H., & Pearson, M. (2009). *A Good Time for Making Work Pay? Taking Stock of In-Work Benefits and Related Measures across the OECD* (OECD Social, Employment

and Migration Working Papers No. 81; OECD Social, Employment and Migration Working Papers, Vol. 81). https://doi.org/10.1787/225442803245
Jara, H. X., & Tumino, A. (2012). Tax-benefit systems, income distribution and work incentives in the European Union. *International Journal of Microsimulation*, *6*(1), 27-62. https://doi.org/10.34196/ijm.00076
Jara, H. X. (2024). EUROMOD Net Replacement Rate (NRR) Add-on—Technical note. *European Commission*, *JRC136811*.
Jones, M. R., & Ziliak, J. P. (2019). The Antipoverty Impact of the EITC: New Estimates from Survey and Administrative Tax Records. *National Tax Journal*, *75*(3), 451-479.
Kleven, J. H., Knudsen, M. B., Thustrup Kreiner, C., Pedersen, S., & Saez, E. (2011). Unwilling or Unable to Cheat? Evidence From a Tax Audit Experiment in Denmark. *Econometrica*, *79*(3), 651-692. https://doi.org/10.3982/ECTA9113
Klun, M. (2009). Pre-filled Income Tax Returns: Reducing Compliance Costs for Personal Income Taxpayers in Slovenia. *Financial Theory and Practice*, *33*(2), 219-233.
Lanau, A., & Lozano, M. (2022). El peso de la precariedad en la pobreza de los hogares con menores. *Perspectives demogràfiques*, (027), 1-4.
Laun, L. (2019). In-work benefits across Europe. *Institute for Evaluation of Labour Market and Education Policy*, *Working Paper 2019*(16).
McInnis, N., Michelmore, K., & Pilkauskas, N. (2022). The Intergenerational Transmission of Poverty and Public Assistance—Evidence from the Earned Income Tax Credit. *Poverty Solutions, Working Paper Series*.
Meyer, B. D., & Rosenbaum, D. T. (2001). Welfare, the Earned Income Tax Credit, and the Labor Supply of Single Mothers. *Quarterly Journal of Economics*, *116*(3), 1063-1114.
Michelmore, K. (2025). Tax credits and child outcomes: Lessons from the United States, the United Kingdom and Canada. *Fiscal Studies*, *46*(1), 65-90. https://doi.org/10.1111/1475-5890.12396
Neumark, D., & Shirley, P. (2020). *Long-Run Effects of the Earned Income Tax Credit* [Economic Letter]. Federal Reserve Bank of San Francisco.
Neumark, D., & Wascher, W. (2001). Using The EITC to Help Poor Families: New Evidence and a Comparison with the Minimum Wage. *National Tax Journal*, *54*(2), 281-317. https://doi.org/10.17310/ntj.2001.2.05
Nichols, A., & Rothstein, J. (2015). The Earned Income Tax Credit (EITC). *NBER Working Paper*, (21211).
Noguera, J. A. (2014). *La renta básica universal: Un estado de la cuestión* (VIII Informe FOESSA; Documento de Trabajo del VIII Informe sobre Exclusión y Desarrollo Social en España, nº 6). Fundación Foessa.
OECD. (2011). *Taxation and Employment*. OECD. https://doi.org/10.1787/9789264120808-en
Orsini, K. (2007). Is Belgium «Making Work Pay»? *Brussels Economic Review-Cahiers Economiques de Bruxelles*, *50*(2).
Paniagua, M. (2018). *Incentivos y redistribución en las políticas in-work: Un análisis de microsimulación para España*. Instituto de Estudios Fiscales.
Rodrigo Sauco, F. (2015). La integración de impuestos y prestaciones: El uso de subsidios salariales en la experiencia internacional. Lecciones para España. *Ekonomiaz*, (88), 219-261.
Rodrigo Sauco, F., & Sanz Arcega, E. (2019). Coste y efectos redistributivos de diversos esquemas de subsidio salarial en el IRPF: algunas simulaciones con microdatos tributarios. *Papeles de Economía Española, Presente y futuro de la Seguridad Social*, (161), 195-220.
Rodrigo Sauco, F., & Sanz-Arcega, E. (2023). ¿Es plausible introducir en España un complemento salarial en el IRPF? Una valoración a partir de un ejercicio de simulación. *Cuadernos Económicos de ICE*, (105). https://doi.org/10.32796/cice.2023.105.7560
Saez, E. (2010). Do Taxpayers Bunch at Kink Points? *American Economic Journal: Economic Policy*, *2*(3), 180-212. https://doi.org/10.1257/pol.2.3.180

Sanz Angulo, A., & Sarango Monge, G. (2025). *El estado de la pobreza 2025. Seguimiento de los indicadores de la Agenda UE 2030.* (No. 15). European Anti-Poverty Network (EAPN).

Simpson, N. B., Tiefenthaler, J., & Hyde, J. (2010). The Impact of the Earned Income Tax Credit on Economic Well-Being: A Comparison Across Household Types. *Population Research and Policy Review*, *29*(6), 843-864. https://doi.org/10.1007/s11113-009-9170-5

Steiner, V., & Wrohlich, K. (2005). Work Incentives and Labor Supply Effects of the 'Mini-Jobs Reform' in Germany. *Empirica*, *32*(1), 91-116. https://doi.org/10.1007/s10663-005-1982-x

Sutherland, H., & Figari, F. (2013). EUROMOD: The European Union tax-benefit microsimulation model. *EUROMOD Working paper*, (EM8/13).

Sutherland, H., Figari, F., Lelkes, O., Levy, H., Lietz, C., Mantovani, D., & Paulus, A. (2008). *Improving the Capacity and Usability of EUROMOD – Final Report* (Working Paper EM4/08; EUROMOD Working Paper).

Valle-Inclán Cruces, H., Hernández, A., & Nazarani, E. (2024). Overcoming the inactivity trap in Spain: The work incentive reform of the Ingreso Minimo Vital. *JRC Working Papers on Taxation and Structural Reforms*, (11).

Vandelannoote, D., & Verbist, G. (2017). *The impact of in-work benefits on employment and poverty* (Working Paper EM4/17; EUROMOD Working Paper).

Vermare, S., Junod-Mesqui, B., Cochard, M., & Arnaud, F. (2008). Les effets incitatifs de la prime pour l'emploi: Une évaluation difficile. *Economie et statistique*, *412*(1), 57-80. https://doi.org/10.3406/estat.2008.7042

Winkler, M. R., Clohan, R., Komro, K. A., Livingston, M. D., & Markowitz, S. (2025). State Earned Income Tax Credit and Food Security: Results Among Economically At-Risk Households With Children. *American Journal of Preventive Medicine*, *69*(1), 107637. https://doi.org/10.1016/j.amepre.2025.04.007

Zalakain, J. (2014). El papel de los sistemas de garantía de ingresos en el abordaje de la pobreza en el empleo: La experiencia del País Vasco. *Lan Harremanak*, *II*(31), 36-62.

Zalakain, J. (2019). La fiscalización de las políticas sociales: Funcionamiento e impacto de las deducciones fiscales reembolsables. *Zerbitzuan*, (68), 111-141. https://doi.org/10.5569/1134-7147.68.08

TABLES

Table 1 *Overview of in-work benefits in the US, UK, Germany, Belgium, France and the Netherlands*

Country/Programme	Features	Effects on employment	Effects on poverty and inequality	Bibliographic references
US EITC	Refundable tax credit with trapezoidal scheme	Increased labour force participation, especially among single mothers. Disincentive in the case of a second recipient of household income.	Significant reduction in poverty, especially child poverty.	(Athreya et al., 2014; Bastian & Michelmore, 2018; Eissa & Liebman, 1995; Hoynes et al., 2012; Maggie R. Jones & James P. Ziliak, 2019; Meyer & Rosenbaum, 2001; Neumark & Wascher, 2001)
United Kingdom: Working Family Tax Credit; Working Tax Credit and Child Tax Credit	Tax credit and minimum hours requirement	Same effects as in the US but more modest.	Moderate reduction in poverty.	(Brewer et al., 2006; Brewer & Hoynes, 2019; Dilnot & McCrae, 2000; Francesconi et al., 2007; Gregg et al., 2012; Michelmore, 2025)
Germany: Mini-Jobs	Discount on social insurance	Slight increase in labour participation and reduction of working	-	(Bargain et al., 2005; Caliendo & Wrohlich, 2006; Steiner & Wrohlich, 2005)

	contributions for "mini jobs"	hours. Negative aggregate impact.		
Belgium: Workbonus	Reduction in the employee's Social Insurance contribution.	Moderately increased labour force participation and full-time employment.	Slight reduction on poverty.	(Dagsvik et al., 2011; Orsini, 2007; Vandelannoote & Verbist, 2017)
France: *Prime pour l'emploi* and *Prime d'Activité*	Tax credit	Limited effects on employment.	Limited effect on poverty.	(Cousins, 2014; Laun, 2019; Vermare et al., 2008)
Netherlands: several tax credits	Multiple tax credits for different types of households, and one universal one.	Increase in employment in the case of couples.	-	(Bosch & van der Klaauw, 2009)

Source: authors' own elaboration.

Table 2 *Individual equivalence scale for the proposed in-work benefit*

Household Type[a]	**OECD Modified Equivalence Scale**	**Increase in the in-work benefit by household type**
An adult without children	1.0	-
Two childless adults	1.5	-
An adult and a child	1.3	1.52
One adult and two children	1.6	1.82
One adult and three or more children	1.9	2.12
Two adults and one child	1.8	2.30
Two adults and two children	2.1	2.60
Two adults and three or more children	2.4	2.90

[a] Household types are the same as that set out in the US EITC.

Source: authors' own elaboration.

Table 3 *Design of the In-Work Benefit for Spain.*

Household type	***Phase in***	***Phase in rate***	***Plateau***	***Phase out***	***Phase out rate***	**End**
Single and Childless Couple	7,326.4	0.361	13,413.0	2,200	0.273	18,778.2
Single with one child	5,635.6	0.200	22,358.0	3,344	0.249	31,301.2
Single with two children	4,579.0	0.180	26,770.0	4,004	0.249	37,478.0
Single with three or more children	3,656.0	0.171	31,182.0	4,664	0.249	62,364.0
Couple with a child	6,370.7	0.279	15,424.9	2,530	0.273	21,594.6
Couple with two children	5,635.6	0.242	17,436.9	2,860	0.273	24,411.6
Couple with three or more children	5,052.6	0.222	19,448.8	3,190	0.273	27,228.3

Source: Authors' own elaboration.

Table 4 *Inequality, progressivity and redistribution*[a]

	Baseline	Reform
Gini	0.3140	0.3067
Atkinson (α=0.25)	0.0406	0.0390
Atkinson (α=0.5)	0.0808	0.0777
P50/P10	2.2535	2.2067
Generalized Entropy (c=0)	0.1793	0.1724
Generalized Entropy (Theil; c =1)	0.1662	0.1596
Generalized Entropy (c =2)	0.1991	0.1911
Kakwani	0.1718	0.2029
Reynolds-Smolensky	0.0440	0.0513

[a] the parameter c in the Generalized Entropy Index shows different perceptions of inequality, i.e., when c decreases, the index is more sensitive to transfers at the lower tail of the distribution. While the parameter α in the Atkinson index measures the degree of inequality aversion; the higher α the more sensitive society is to inequality, and, therefore, the distribution in the lowest incomes has more weight in the calculation of the coefficient (Bárcena Martín & Imedio Olmedo, 2017).
Note: Results are displayed with a 95% confidence interval.
Source: Authors' own elaboration based on EUROMOD data.

Table 5 *Average equivalised disposable income by household type.*

Household type	Baseline	Reform	Difference (%)
1 adult without children	1,670.38	1,657.73	-0.76%
2 adults without children	2,013.38	1,988.99	-1.21%
Other childless households	1,888.40	1,880.10	-0.44%
1 adult with children	1,233.75	1,274.23	3.28%
2 adults with children	1,724.37	1,754.17	1.73%
Other households with children	1,439.51	1,460.31	1.45%

Source: Authors' own elaboration based on EUROMOD data.

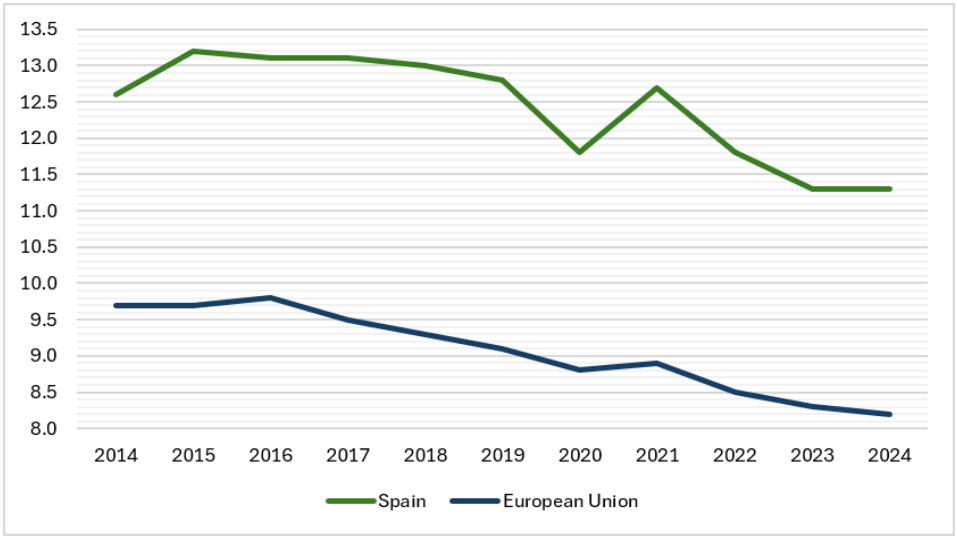
Table 6 *Aggregate poverty rate, by household type and age*

GENERAL	Baseline	Reform
Poverty rate	19.52%	18.14%
Poverty gap	6.00%	5.70%
HOUSEHOLD TYPE		
1 adult without children	21.99%	21.67%
2 adults without children	15.11%	14.90%
Other childless households	12.30%	11.76%
1 adult with children	43.67%	41.43%
2 adults with children	22.58%	19.73%
Other households with children	29.35%	26.56%
AGE		
< 16 years old	26.62%	23.69%
16 to 29 years old	22.10%	20.37%
30 to 44 years old	19.01%	17.36%
45 to 64 years old	18.19%	17.00%
≥65 years old	14.83%	14.92%

Note: Results are displayed with a 95% confidence interval.
Source: Authors' own elaboration based on EUROMOD data.

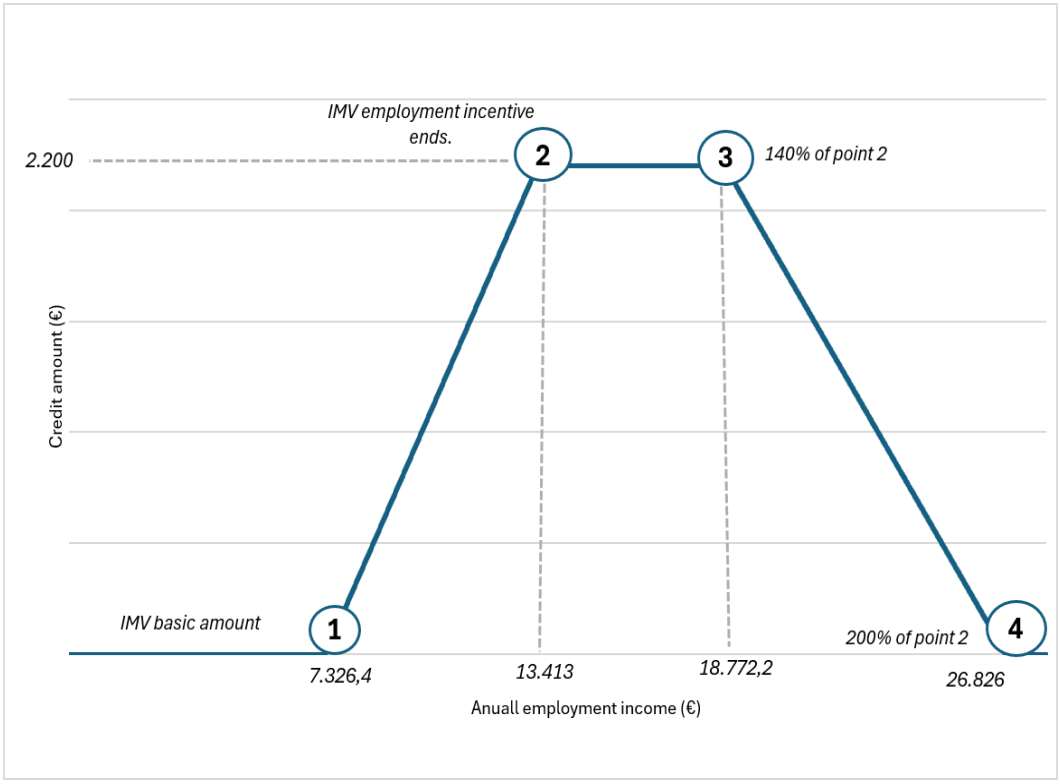
FIGURES

Figure 1 *Evolution of the in-work poverty rate (2014-2024).*



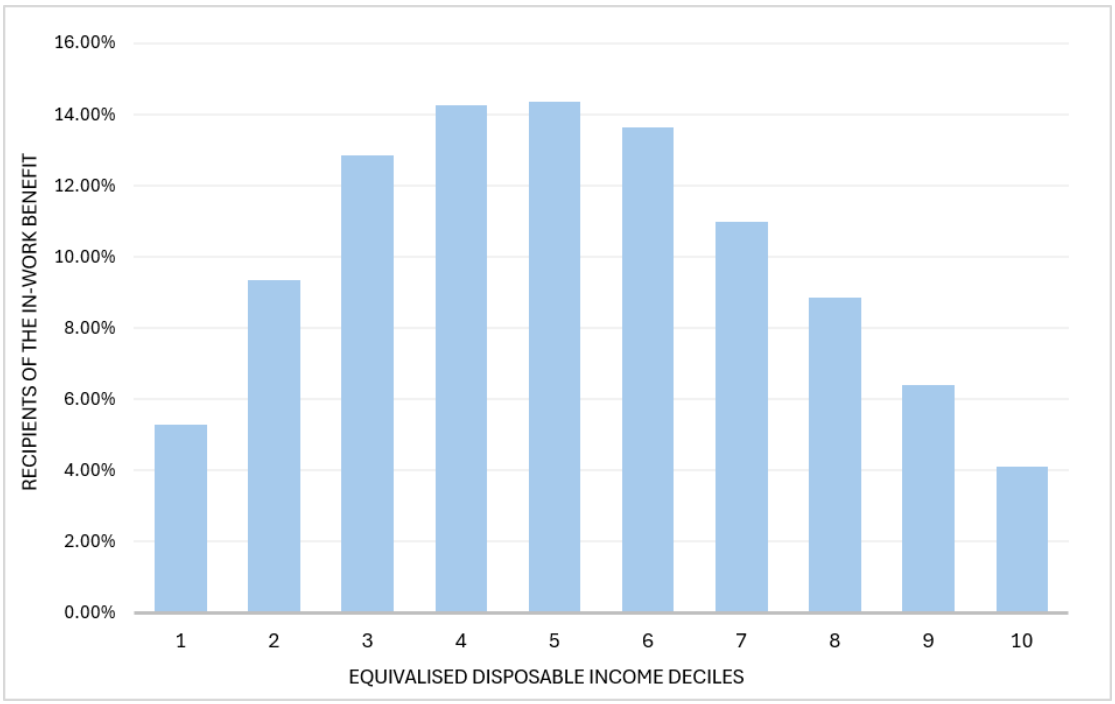
Source: EUROSTAT

Figure 2 *Design of the In-Work Benefit for Spain, parameters (individual without children).*



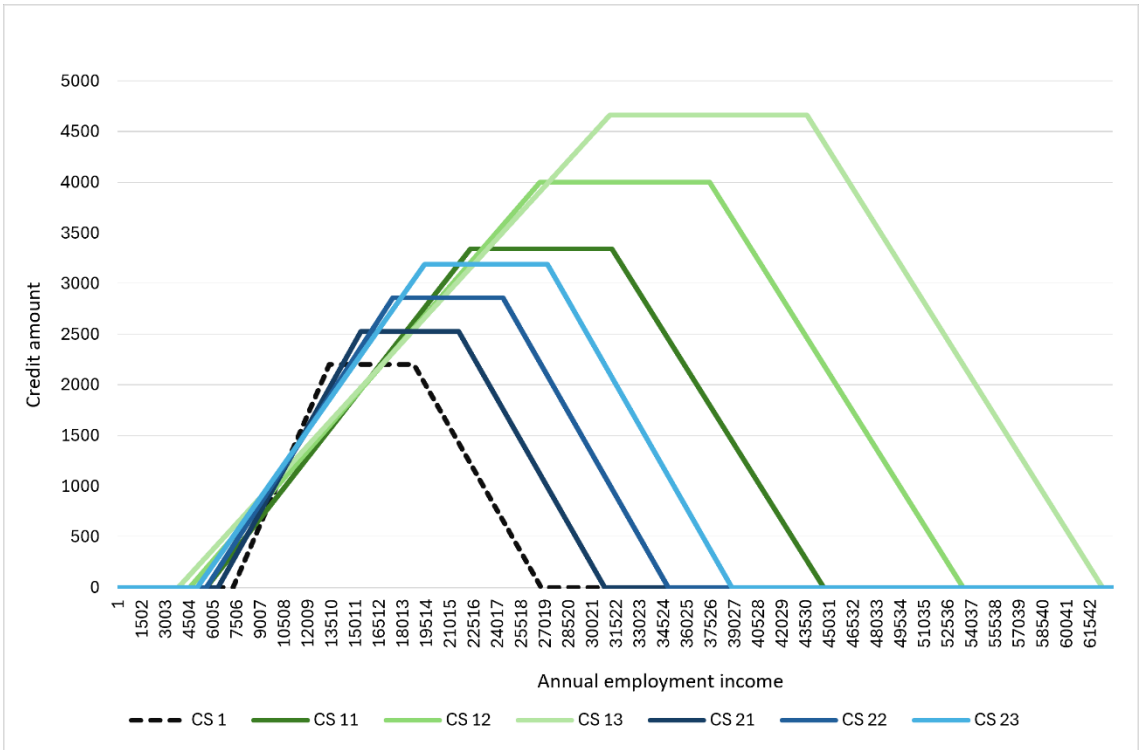
Source: Authors' own elaboration.

Figure 3 *Share of beneficiaries of the proposed in-work benefit by income deciles.*



Source: Authors' own elaboration based on EUROMOD data.

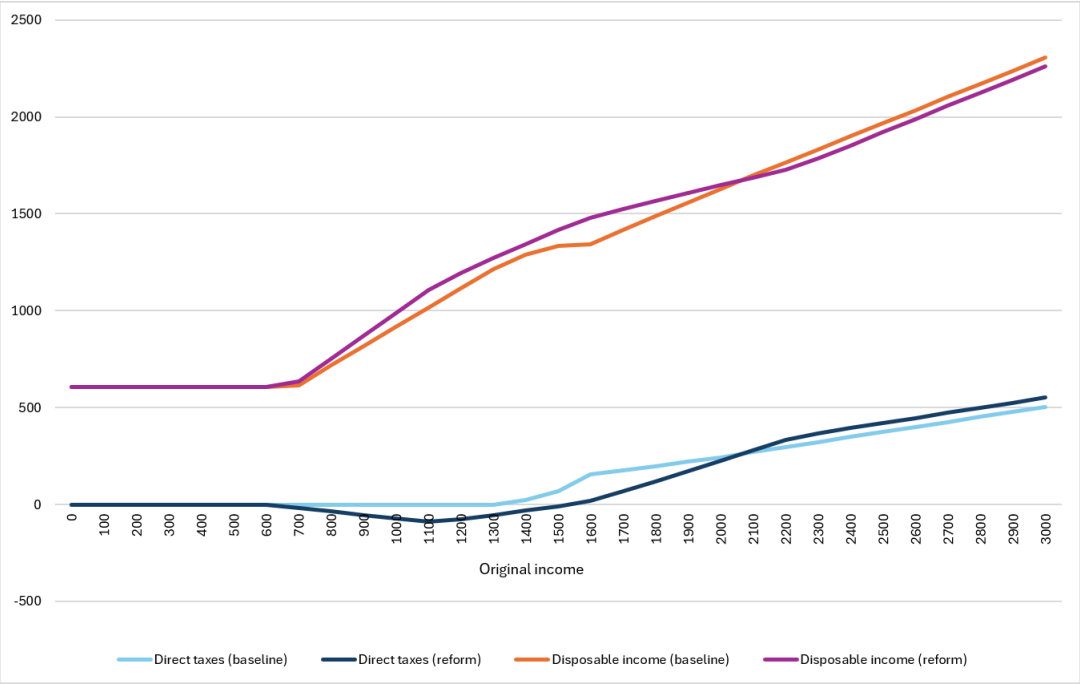
Figure 4 *Design of the In-Work Benefit for Spain*[a].



[a]CS 1 refers to singles and couples without children; CS 11, 12 and 13 to single-parent households with one, two and three children or more children, respectively; and CS 21, 22, 23 refers to couples with one, two, and three or more children, respectively.

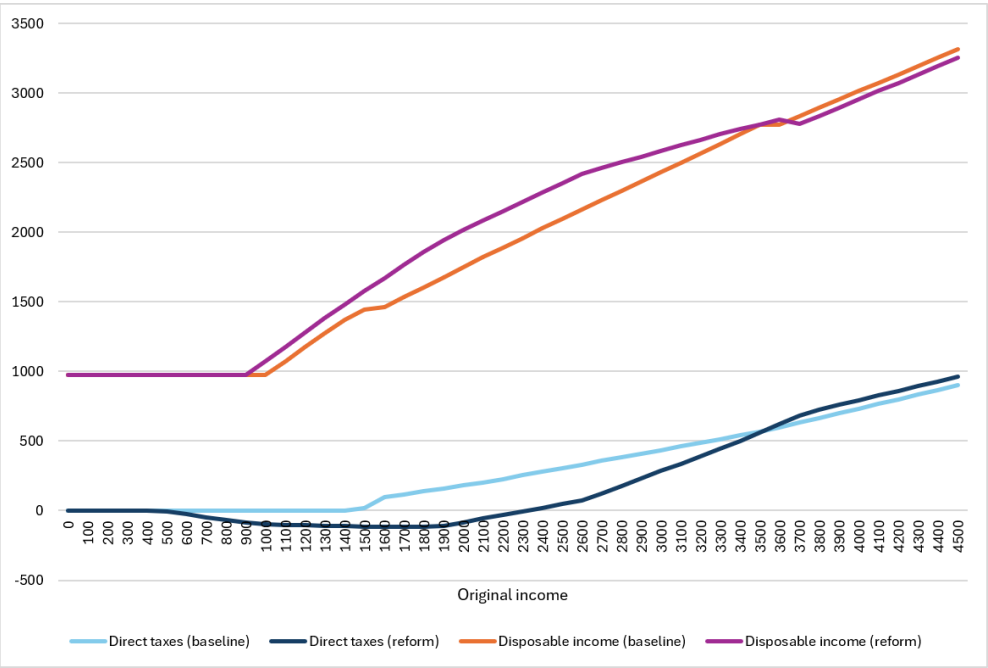
Source: Authors' own elaboration.

Figure 5 *HHoT. Disposable income for a single without children.*



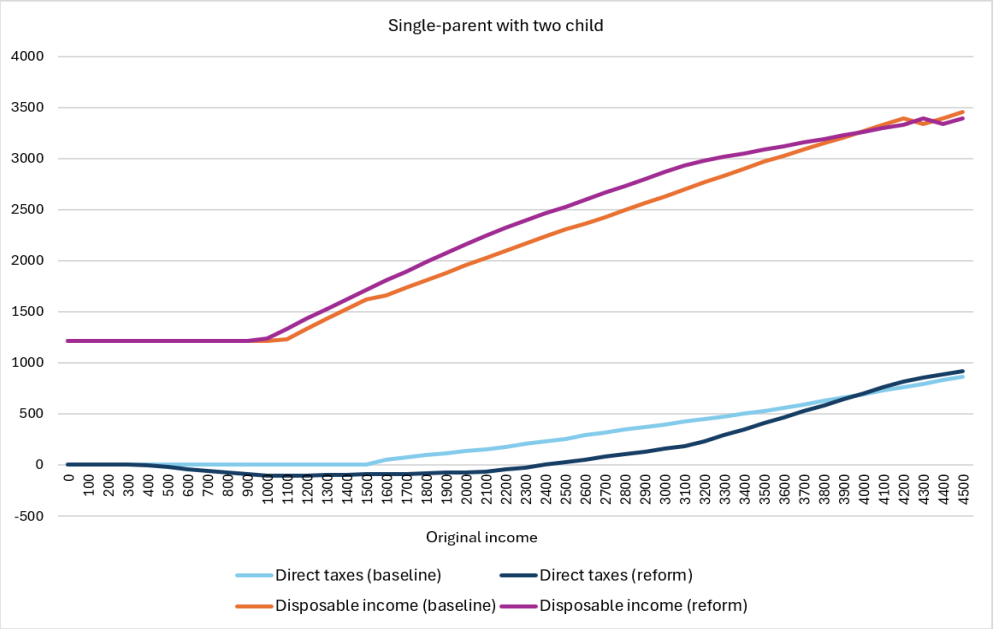
Source: Authors' own elaboration based on Hypothetical Household Tool (HHoT) data..

Figure 6 *HHoT. Disposable income for a single parent with one child.*



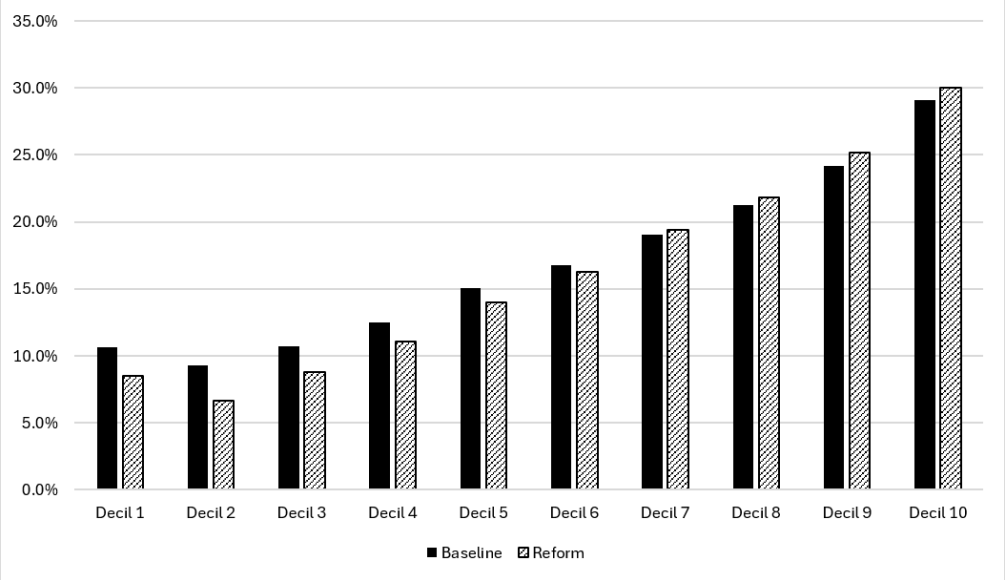
Source: Authors' own elaboration based on Hypothetical Household Tool (HHoT) data..

Figure 7 *HHoT. Disposable income for a couple with one child.*



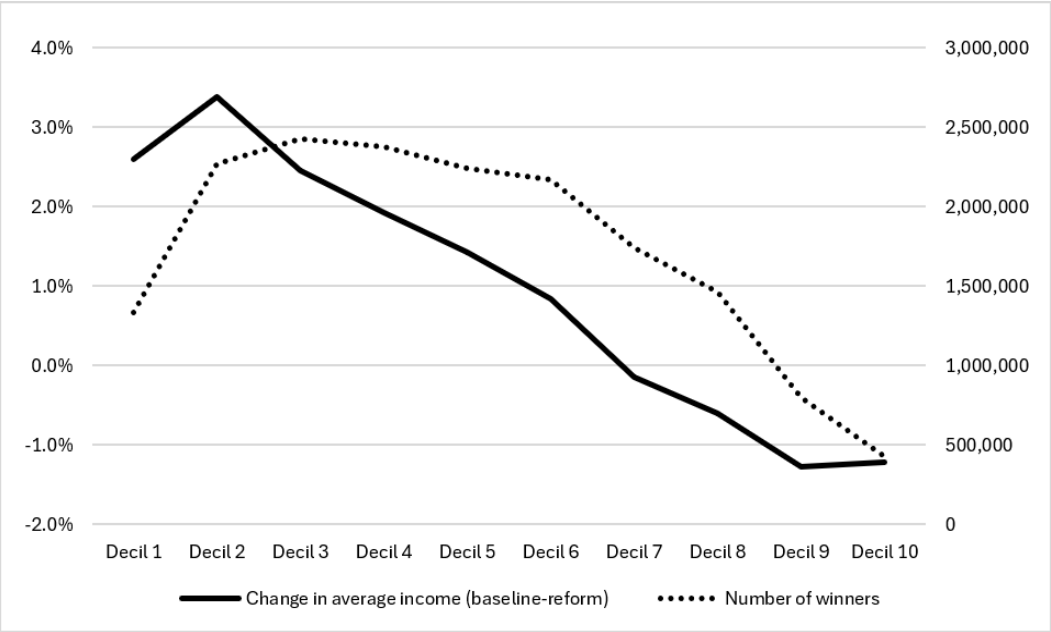
Source: Authors' own elaboration based on Hypothetical Household Tool (HHoT) data..

Figure 8 *Average tax burden by income deciles.*



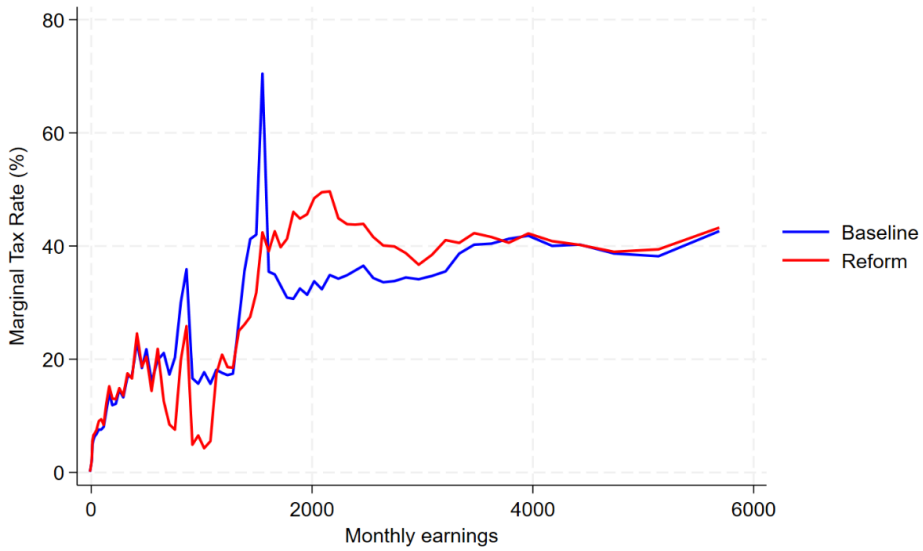
Source: Authors' own elaboration based on EUROMOD data.

Figure 9 *Change in average equivalised disposable income (left axis) and proportion of winners (right axis) by income deciles.*



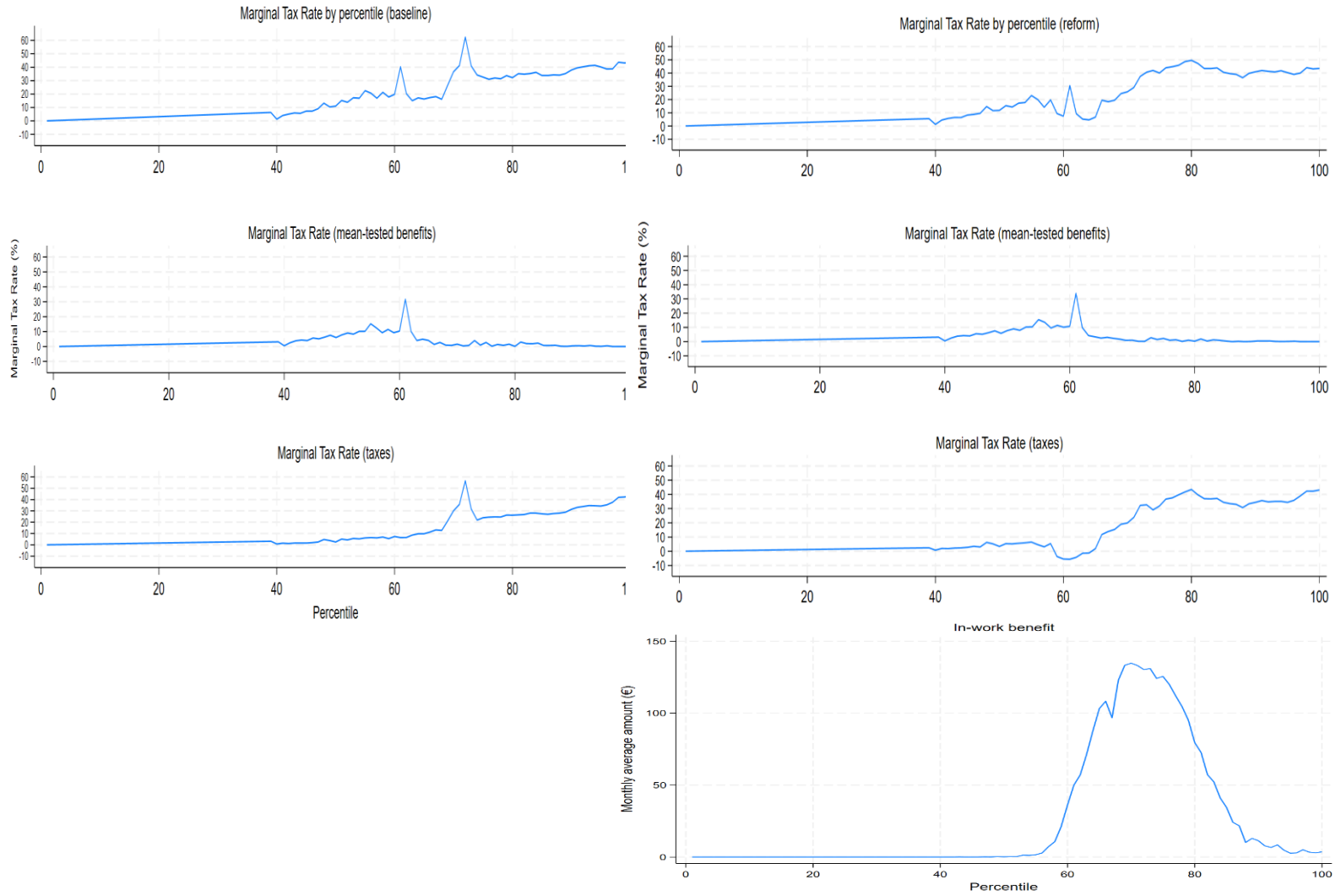
Source: Authors' own elaboration based on EUROMOD data.

Figure 10 *Average effective marginal tax rate by monthly individual earnings (%).*



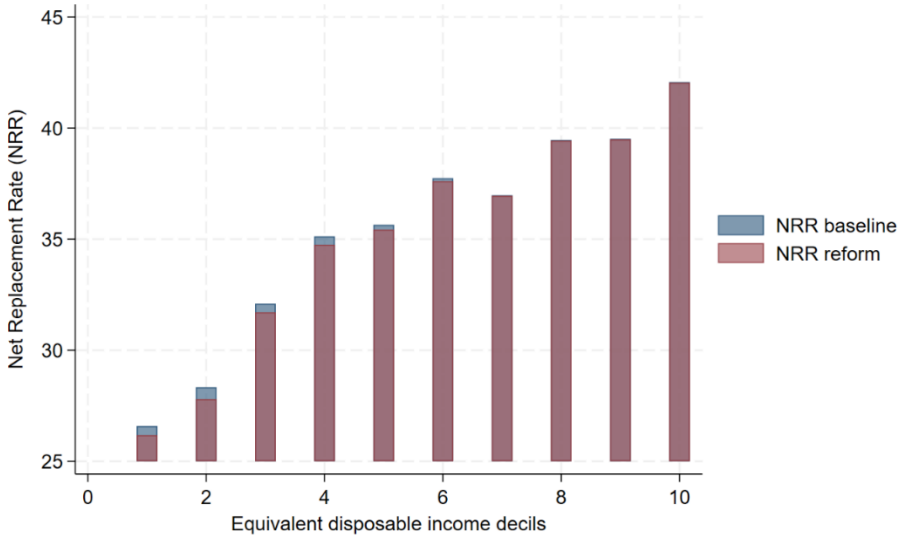
Source: Authors' own elaboration based on EUROMOD data.

Figure 11 *Marginal Tax Rate by percentiles. Baseline (left side) and reform (right side).*



Source: Authors' own elaboration based on EUROMOD data.

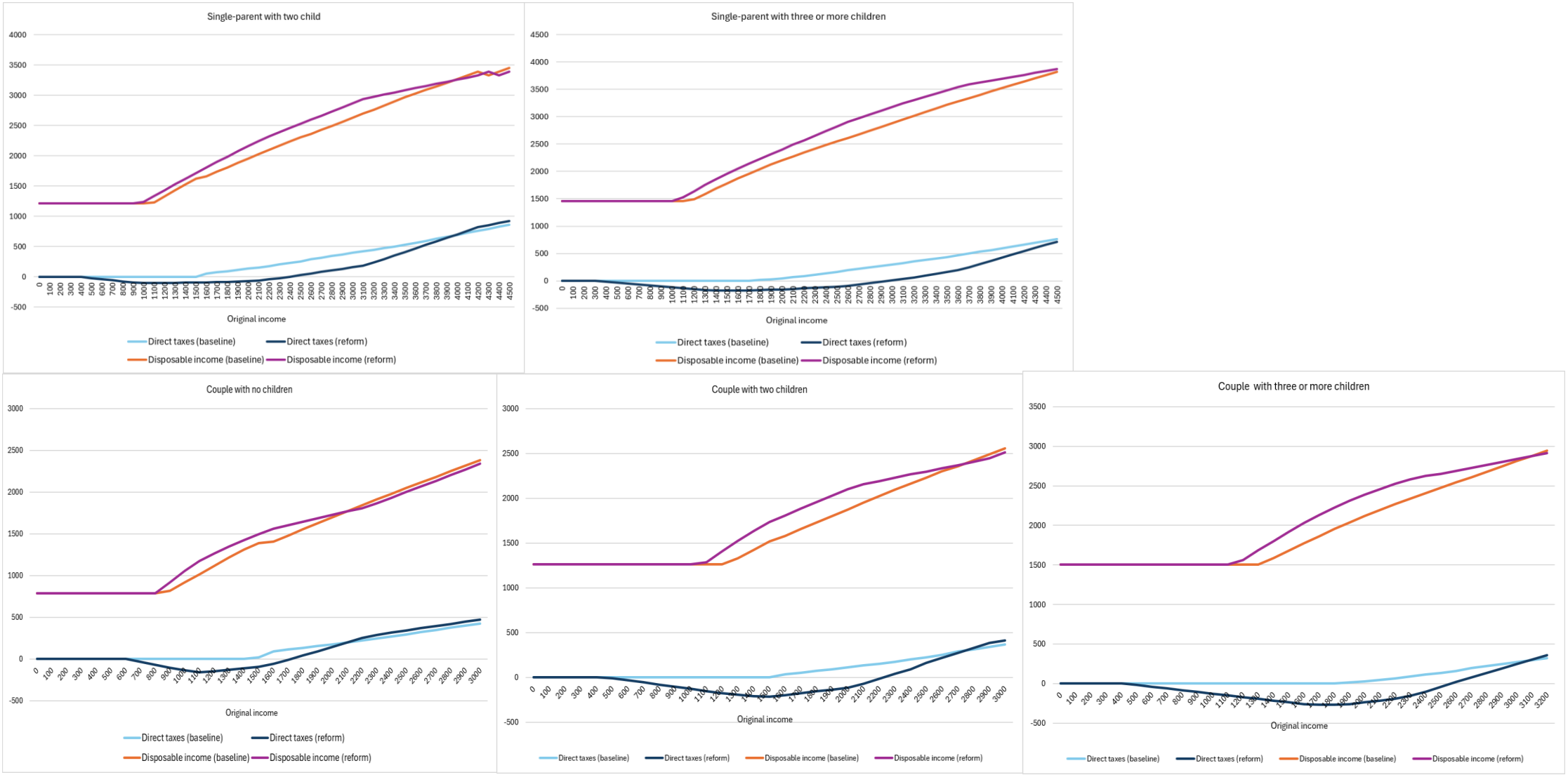
Figure 12 *Net Replacement Rate by income deciles.*



Source: Authors' own elaboration based on EUROMOD data.

8. Annex

Figure 13 *HHoT Analysis.*



Source: *Authors' own elaboration based on Hypothetical Household Tool (HHoT) dat*