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Rethinking social assistance amid the COVID-19 pandemic: Guaranteeing the right to income security in Ecuador

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Abstract

In the face of increased uncertainty and a slow economic recovery, it is crucial to protect populations from the effects of systemic crises beyond the narrow goal of poverty reduction. In Ecuador, social assistance programs had little effect in reducing earnings losses caused by the COVID-19 pandemic, leading to a renewed discussion on the implementation of a universal basic income (UBI). This study evaluates the potential impact of social assistance reforms using tax-benefit microsimulation techniques. Four simulated counterfactual reforms are assessed, ranging from an extension of current social assistance programs to the implementation of UBI, which would replace existing programs and be partially funded through progressive personal income tax and social security contributions. Our findings demonstrate that poverty and inequality would decrease significantly under the more generous UBI scenarios. This research contributes to the ongoing debate on the potential benefits of UBI in reducing poverty and inequality and emphasizes the importance of considering alternative social assistance reforms in the face of growing systemic challenges.

KEYWORDS

social protection, Ecuador, micro-simulation, tax reform, cash transfers, universal basic income, poverty, inequality

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1 | INTRODUCTION

Latin America is currently facing a challenging post-pandemic situation. Poverty reduction, economic growth and formal employment have all stagnated, resulting in the erosion of social and economic rights. This has had a negative impact on middle-income earners who work informally, as they are left to fend for themselves in a stratified health and social protection system. Even those who earn above the official poverty line are vulnerable, as they experience significant income instability. According to ECLAC and ILO (2019), as of 2019, 77% of the Latin American population belonged to the low or lower middle-income strata, and only 31.8% of the labour force in these strata was affiliated or contributing to pension systems. Lustig et al. (2020) also found that the pandemic hit middle-income earners the hardest in a selected sample of Latin American countries.

The COVID-19 pandemic prompted Latin American governments to reconsider their social assistance policies, moving away from traditionally defended conditionalities and narrow targeting. Instead, they began a conversation about the universality and unconditionality of social assistance. This shift was in response to the need to mitigate the socio-economic impacts of the pandemic (Filgueira & Lo Vuolo, 2020; Lavinás, 2021). However, emergency cash transfers, which amounted to an average of 25% of GDP per capita, only replaced a small portion of the income losses of households in the second and third quintiles. Emergency transfers primarily targeted the poor, reaching more than 90% of households in the first quintile in a sample of Latin American countries (Busso et al., 2021).

Despite this, expanding social assistance programs coverage faced significant limitations, as hard-to-reach populations might experience temporary consumption poverty instead of the structural poverty captured in the social registries used to target cash transfer programs (Busso et al., 2021). Lustig et al. (2020) found that only the countries with significant expansion of social assistance programs and good targeting and coverage before the pandemic managed to offset the increase in poverty caused by lockdown measures. Rodríguez et al. (2022) further highlighted the lack of benefits that act as automatic stabilizers in the region due to the design of the main social assistance programs, which were in place before the pandemic, as proxy means-tested benefits.

As we move towards the recovery phase, it is worth reconsidering the universalistic principle in social protection. Social policy discourse across Latin America has undergone a significant shift, particularly with conditional cash transfer programs. Lavinás (2021) cites the Brazilian experience as an example that questions the need for cash transfer schemes to evolve into a universal basic income or remain targeted programs in a post-pandemic scenario. Martínez Franzoni and González Hidalgo (2021) discuss the COVID-19 crisis and the debates it sparked about the adequacy of child support and emergency cash transfers in Latin America. Their analysis reveals that income for children could be ensured through a universal basic income, stressing the importance of reconsidering universal basic income. However, the basic income debate in Latin America has historical roots and is often contrasted with narratives of assistance beneficiaries as being dependent. García Valverde (2022) highlights that distrust towards recipients has historically shaped anti-poverty policies in Latin America and conditional cash transfer programs have perpetuated this narrative.

LoVuolo (2012) investigated the feasibility of shifting from conditional to unconditional social assistance in the region. These discussions are vital in imagining universal social protection in a post-pandemic world. This paper takes up this challenge and explores social protection reforms in Ecuador that move towards universalism, with transfers given to all residents without means-testing or conditions. However, implementing such reforms would require sufficient fiscal resources to expand coverage of existing social protection policies and programs. The paper evaluates tax reforms that adhere to universalistic principles for funding social assistance, such as progressive income taxes and social security contributions. However, relying solely on labour taxes for funding social assistance is not possible or

desirable. Therefore, the paper explores other funding options including royalties and windfall revenues, corporate income taxes, excise taxes, wealth taxes (including inheritance taxes) and solidarity schemes.

The paper is organized as follows. Section 2 introduces the primary theoretical debates regarding targeting and universalism in social protection, focusing on issues on the various institutional modalities for providing income support and provides the background for a discussion of UBI, its advantages and disadvantages, and specific challenges to implement them in the global South. Section 3 presents the policy context, briefly explaining the social assistance system in Ecuador. Section 4 presents the materials and methods used in the analysis and describes the policy scenarios to be simulated. Section 5 discusses the main results regarding winners and losers from the reforms, their distributional and budgetary effects, and the possible impact on formal work incentives. Finally, Section 6 concludes by fleshing out the key advantages of moving towards universalism and sketching financing alternatives beyond the empirical approach used for this paper.

2 | INCOME SUPPORT: A SURVEY OF INSTITUTIONAL MODALITIES

This section explores two opposite institutional modalities regarding income support: conditional cash transfers or CCTs, the preferred institutional modality for targeted social protection in Latin America and universal basic income or UBI. There are other modalities along the social assistance spectrum, and both CCTs and UBIs have their variants regarding their understanding of universalism, that is, regarding provisioning modalities, costing, pricing and financing (Fischer, 2018). Many UBI proposals are categorically targeted cash transfer programs, e.g., social pensions targeted at the elderly or child benefits, which might follow a universalistic principle in delivery in the context of limited fiscal capacity.

2.1 | Conditional cash transfers

Conditional cash transfers are part of social assistance, i.e., income support directed to those in need, one of the three components of social protection next to social security and labour regulation. These programs benefit poor individuals or households, often conditional on the recipients meeting specific requirements, e.g., school attendance or medical check-ups. Regarded as a revolution from the Global South (Hanlon et al., 2012), CCTs have been at the core of social protection systems in Latin America (Papadopoulos & Velázquez Leyer, 2016). These programs are often considered a step towards advancing a 'rights-based social, political, economic, and cultural inclusion' (Grugel & Riggirozzi, 2018, p. 532). However, CCTs operate under a selectivity logic, dividing the population into deserving and undeserving, 'breaking with the rationale of universal and unconditional rights' (Lavinas, 2015, p. 121). Hence, these programs encapsulate a different logic of social protection separate from universalistic principles and in tension with the rights-based rhetoric often predicated by their proponents.

Furthermore, CCTs are conceived as temporary interventions designed to protect the poor while affecting production and investment decisions to secure a permanent way out of poverty, i.e., graduation. Their transitory nature makes it hard to conceive CCTs as right-based social protection, for as soon as the features determining eligibility are no longer present, e.g., condition of poverty, age of dependent children, recipients exit the program with many not necessarily 'graduating' into secure and formal employment. A few beneficiaries that exit CCTs can participate in social security. It becomes difficult to consider CCTs a steppingstone for 'universalizing rights beyond entitlements derived from an occupational status, an option particularly valid for labor regimes with high informality' (Lavinas, 2015, p. 115). On the contrary, CCTs have helped delink entitlements from labour and citizenship regimes and, as a result, have been wrongly assumed to replace social provisioning and publicly funded social security.

2.2 | Universal basic income

Universal basic income or UBI can be defined as a regular cash payment to every member of the population, i.e., universal, as a fundamental right, paid on an individual basis without means-testing or conditionalities (van Parijs, 1991). There is some ambiguity in the understanding of universalism among UBI proponents. Strictly following a rights-based approach, UBI benefits should reach all individuals (Mkandawire, 2005; van Parijs, 1991) regardless of their legal status (Gentilini, Grosh, et al., 2020). However, most UBI designs consider transfers to citizens and accredited residents aged eighteen and above (Arcarons et al., 2014; Browne & Immervoll, 2017). While some proposals consider that payments could be made regardless of the household composition (Molina & Ortiz-Juarez, 2020), others follow a categorical targeting, e.g., a flat payment for each underage child in the household (Browne & Immervoll, 2017).

Compared to CCTs, UBIs are more straightforward in their administration as '[t]here is no income or asset test, no requirement to have participated in the paid labor force, and no requirement to retire from paid employment' (Willmore, 2007). UBI also allows for tackling problems of poor targeting by proxy-means-tested benefits, which leads to exclusion and inclusion errors (Brown et al., 2018; Hanna & Olken, 2018). However, some argue that UBI could create incentives for informality since UBI proposals delink entitlements from formal employment or might lead to dismissals or wage reduction, as discussed in Gentilini, Almenfi, et al. (2020). Mainstream accounts of labour economics tend to regard social assistance as a disincentive to (formal) paid work, arguing that income support reduces the need to participate in employment (Browne & Immervoll, 2017). These concerns often motivate a choice of a low level of income support to prevent such perverse incentives. However, it is essential to note that the transition to informality can also be explained by other structural factors, such as the availability of formal jobs, the care work pressures in the lack of state-provided childcare (Palacio Ludeña, 2019) or labour law enforcement. Furthermore, as has been pointed out by Folbre (2020), too much attention seems to be given to perverse incentives associated with social assistance targeted to the poor while ignoring inherited privileges and wealth that benefit other groups.

However, UBI can be expensive. Debates surrounding basic income in Latin America also revolve around the affordability of such programs. Recent studies have tested the notion of unaffordability, suggesting that reallocating resources and increasing tax revenues can make universal social assistance programs economically viable in the region (Cruz-Martínez, 2019). The conditionality and targeting of social programs in Latin America may be politically motivated, driven by elite responses to universality. Elites' perceptions of poverty and inequality often influence their support for specific policies, even in different political contexts (Lopez, 2016). Normative views on the idea of deservedness emerge from such perceptions. Lopez (2016) delves into how elites perceive poverty, inequality and social policy. When perceived threats are posed by poverty, these have pushed elites towards various measures, even based on different understandings of poverty and inequality. This could explain the revival of basic income debates during the pandemic.

Still, to reduce the fiscal burden, proponents might compromise the UBI universality by adding administrative costs and barriers to access. For example, some might require residency or recover (claw-back) a portion of the transfer (ex-post means test). Such decisions also illustrate the political economy of social protection and the policy goals the reform serves. Universal does not necessarily mean identical, as different households or individuals could benefit differently from the UBI depending on the accompanying policies of redistribution and financing (via the taxation system). Brazil illustrates a hybrid case of a targeted basic income option in the Latin American region, often discussed as a UBI. An 'emergency basic income' was rolled out in April 2020 and is set to reach sixty million low-income Brazilians (a quarter of the total population), providing R\$600,00, about USD120, which is more than half the monthly minimum wage, for 3 months (then extended to four months). This basic income program targeted adult citizens 18 years and above (although the age requirement was waived for single adolescent mothers) living in poverty and extreme poverty. The program was additive and not substitutive: Bolsa Familia beneficiaries could participate. The target population included informal and precarious workers and registered unemployed populations with a

monthly per capita household income below half the minimum wage of RS552,00 or USD 110, making this a means-tested program. Though this allowance compensated the poorest for their earning losses, according to preliminary studies discussed by Lavinas (2021), it cannot be considered a UBI, for it is neither granted as a right (but temporary) nor universal (but targeted at the poorest).

3 | ECUADOR'S SOCIAL ASSISTANCE SYSTEM

3.1 | Bono de Desarrollo Humano or Human Development Grant

Created in 1998, *Bono Solidario* was the first national-wide cash transfer program implemented in Ecuador, initially designed to compensate poor households for eliminating a subsidy on cooking gas in the context of the financial crisis and mass mobilizations that took place by the end of the 1990s. *Bono Solidario* started as an unconditional transfer of 120,000 sucres (about US\$11.50) per month, reaching about 1.3 million households, and was meant to be temporary (Schady & Rosero, 2008). Individual payments made by *Bono Solidario* were small, and as of 2002, they were assigned 0.75 % of GDP (Schady & Rosero, 2008).

The target population included women with at least one dependent underage child—18 and younger—living in poverty, determined by a monthly income ceiling of one million sucres. To remain eligible, neither the recipient's mother nor her spouse could be in regular formal employment (Martínez, 2016). No conditionalities were imposed on recipients. Because *Bono Solidario* was implemented as a quick alleviation response, the program resulted in targeting errors despite having a targeting protocol (Martínez, 2016). By 2001, the administration had developed a proxy-means evaluation. Most families living in rural areas and poorer urban areas were surveyed. *Beca Escolar* (School Grant), an addition to *Bono Solidario*, was implemented in 2002. Designed as a conditional cash transfer program, *Beca Escolar* aimed at preventing school dropouts among people with low incomes. The program awarded school-age children (aged 6 to 15) a bi-monthly stipend of 125,000 sucres (about US\$12).

In 2003, the *Bono Solidario* and *Beca Escolar* were merged into a conditional scheme, *Bono de Desarrollo Humano* or BDH. It was accompanied by retargeting the recipient population using the SELBEN, another proxy-means test. The new scheme included the same target population, with eligible households in the lowest income quintile. In 2007, benefits allocated to the elderly and disabled were levelled up to meet the conditional component of the BDH. In 2013, an accelerated graduation process began, reducing the number of recipient households from 1.2 million in 2012 to 430 thousand in 2016 as their eligibility was 'switched off' (Bosch & Schady, 2019). The transfer had been maintained at US\$50 per household until the end of 2017 and increased to US\$150 per household, conditional on the number of dependent children, covering a markedly lower number of families. According to Buser et al. (2017), 2 years after families lost the cash transfer, which they had received for seven years, the young children in these families weigh less and are shorter and more likely to be stunted than young children in families that kept the cash transfer.

3.2 | Bono Joaquín Gallegos Lara

Created in 2010, the *Bono Joaquín Gallegos Lara* was initially part of the Manuela Espejo Solidary Mission, which included other services and social assistance: technical support, labour market integration, entrepreneurship, housing provision and early diagnosis of disabilities. Part of non-contributory social protection, this grant targets individuals who live in socioeconomic vulnerability and (i) have a severe disability, (ii) suffer from catastrophic illnesses or rare diseases or (iii) are HIV positive and have AIDS (under the age of 14). The benefit is disbursed to the primary caregiver of a person with a disability. The allowance has remained at US\$ 240 per person since its creation.

This program follows a categorical targeting logic prioritizing persons with disabilities and their carer givers, for they tend to experience higher poverty rates and embedded inequalities. Disability is related to vulnerability across the lifecycle; thus, the program includes additional benefits such as access to medicines, memorial expenses, and life insurance for the caregiver in the household. Though disability is a separate category for selection, it might intersect with others, such as childhood or old age. It is argued that the program has effectively reduced extreme poverty among recipient households (Grugel & Riggirozzi, 2018).

3.3 | Bono de Protección Familiar

On 15 May 2020, the National Assembly approved the Humanitarian Support Law to address the Covid-19 Economic Emergency. The legislative reform also indicated that employees in relation to dependency and contributing to the social security system could receive unemployment benefits during March, April, May, June and July 2020. The affiliate must have made at least 24 contributions to be eligible, of which six must have been made uninterruptedly and right before the COVID-19 outbreak. The law stated that they should be unemployed for more than 10 days to apply for this benefit. However, it should be noted that unemployment insurance has low coverage¹ in Ecuador precisely because of the difficulty of making continuous contributions to the social security system (Palacio Ludeña, 2019), given temporary employment and casual work levels. Informal workers, by definition, do not contribute to the social security system, making such unemployment benefit unattainable for the bulk of the labour force.

Amid the COVID-19 outbreak, the government's social assistance response prioritized the delivery of an additional cash transfer: *Bono de Protección Familiar* presented as extending social protection to informal workers. However, the implementation was complex as informal workers could not be easily identified in the social registry used to allocate BDH and *Pensión Asistencial* transfers, for it contained no information on employment status (a variable that is avoided to prevent moral hazard). The program was rolled out in two phases: US\$120 paid in April 2020 (US\$60) and May 2020 (US\$60) to the nuclear family using the 2014 Social Registry; US\$120 paid between 1 May 2020 (US\$60) and 30 June 2020 (US\$60), paid to a representative of the nuclear family or individual whose income was below US\$313.50, the per capita monetary value of a basic bundle of goods (estimated by INEC, 2015).² The second phase excluded beneficiaries of other cash transfers or those who received the *Bono de Protección Familiar* in Phase 1.

For this emergency program, the Social Registry Unit was set to identify a 'technical, objective and uniform' indicator of vulnerability, as quarantine and physical distance affected those identified as poor. This program was documented by ECLAC and ILO (2019) as one of the innovative crisis responses to extend social protection to informal workers in the region. Though its design was disruptive, as it explicitly aimed at reaching precarious workers in economic branches vulnerable to dismissal and redundancies, the weaknesses of the existing social registries made it challenging to identify them. The narrow focus on poor households—with social registries mostly gathering data on consumption, household structure and dwelling conditions limited the ability to identify informal workers (Palacio Ludeña, 2021). The transfer was criticized for mistargeting the poor, being prone to abuses and corruption,³ or further exposing vulnerable populations crowded in at the cash-out points (Palacio Ludeña, 2021).⁴

¹There is a coverage gap of nine percentual points between formal employment, i.e., full-time registered employment with a salary equivalent or greater than the minimum wage, and insured employment, i.e., those workers contributing to the social security system (Gabinete Sectorial de lo Social; Sistema de Naciones Unidas, 2020). Second, and after disaggregating these figures according to official poverty indicators, it is found that about 75% of the working poor are excluded from contributory social security (Gabinete Sectorial de lo Social; Sistema de Naciones Unidas, 2020).

²The ECV is used to estimate the level of consumption poverty at the national level. The syntax for the poverty estimate considers a consumption aggregate of both food and non-food expenditures. For food expenditures, it considers all items that each household member consumed in the month prior to the survey. The non-food consumption considers expenditures on durable goods, education, basic services (utilities) and other non-food expenditures of the household in the same period (INEC, 2015).

³<https://www.inclusion.gob.ec/mies-denuncia-cobro-indebido-de-bonos/>

⁴<https://www.eluniverso.com/noticias/2020/04/07/nota/7806666/cobro-bono-hay-aglomeracion-afuera-bancos>

This issue is related to using social registries, a statistical instrument, to survey populations and identify those deemed as poor. These registries are used to identify social assistance beneficiaries and are managed centrally and technically. Since 2019, the Social Registry Unit (URS or Unidad de Registro Social) has been the institution 'with powers of coordination, management, monitoring and evaluation' of the social registry in Ecuador. It is responsible for administering, updating, and maintaining the social registry. On 22 July 2019, the Ecuadorian state and the International Bank for Reconstruction and Development (Banco Internacional de Reconstrucción y Fomento or BIRF) signed the BIRF 8946-EC to partly fund the Social Protection Network Project or Proyecto Red de Protección Social (MIES and Banco Mundial, 2019). One of the main objectives of this loan was to keep the information in the social registry database updated and increase the quality, timeliness, relevance and availability of the information.

Despite the additional funding and advanced targeting tools (which include geolocation and machine learning), the selection process of social assistance beneficiaries is plagued with difficulties. The geographical targeting mechanism used to prioritize the areas included in the registry is obsolete (it relies on the last population census conducted in 2010). Despite efforts to predict the level of vulnerability, the social registry proved ineffective in supplying timely and complete information during the Covid-19 pandemic, which posed a significant challenge for the program managers. Vulnerable populations were missing in the social registry, as their informal occupations forced them to move or reside in areas not deemed as poor.

4 | MATERIALS AND METHODS

Our study uses microsimulation techniques applied to representative household survey data to evaluate the effect of counterfactual policy reforms on income protection and work incentives. This section presents the microsimulation model and the data used in the analysis. Then, we describe the characteristics of the different hypothetical reforms to be simulated.

4.1 | The data and ECUAMOD

Our results are based on microdata from the 2020 National Survey of Employment, Unemployment and Underemployment of Urban and Rural Households (ENEMDU). ENEMDU 2020 contains detailed information on labour and non-labour income, public pensions, cash transfers, private transfers and personal and household characteristics. ENEMDU does not include information on household expenditure, which is needed to simulate personal income tax. For the simulations, we imputed expenditure data in ENEMDU based on information from the National Survey of Income and Expenditures of Urban and Rural Households (ENIGHUR 2011–2012).⁵

Our analysis uses ECUAMOD, the tax-benefit microsimulation model for Ecuador, applied to data from ENEMDU 2020.⁶ ECUAMOD combines detailed country-specific coded policy rules with household survey data to simulate direct and indirect taxes, social security contributions and cash transfers for the household population of Ecuador. More precisely, ECUAMOD comprises a series of arithmetic equations representing as close as possible the policy rules of each tax-benefit instrument according to the national legislation. Market incomes and sociodemographic characteristics from the microdata are then taken as input in the models to calculate, for each individual in the data, the amount of taxes and social insurance contributions they have to pay and the amount of

⁵Our approach to impute expenditure data in ENEMDU follows Akoguz et al. (2020) who impute expenditure data in the EUROMOD input data for EU countries.

⁶ECUAMOD has been developed as part of UNU-WIDER's project on 'SOUTHMOD—simulating tax and benefit policies for development' (Decoster et al., 2019). The model has been implemented on the EUROMOD software (see Sutherland & Figari 2013).

benefits they are entitled to receive. For instance, in terms of social insurance, ECUAMOD calculates the amount of contributions each individual is liable to pay according to the legislation based on their employment status (employee or self-employed), their sector of work (public or private), their industry of work and the amount of gross earnings reported in the data. Regarding cash transfers, ECUAMOD replicates the composite index used by the Ecuadorian government to assess entitlement to social assistance benefits based on household and housing characteristics available in the data. Then, the benefit amount stipulated in the legislation is attributed to those entitled to social assistance.

Our analysis focuses on disposable income, which is the sum of market income plus social cash transfers (including pensions) minus income tax and social insurance contributions.⁷ ECUAMOD simulates the main tax-benefit components of household disposable income in the country, including (i) employee and self-employed social security contributions; (ii) personal income tax; (iii) the Human Development Transfer or BDH, which represents the main social protection program in the country; (iv) the disability carer benefit Joaquin Gallegos Lara; and (v) the COVID-related Family Protection Grant. Due to data limitations, contributory pensions are not simulated, but contributory pension amounts, as reported in the data, are included in the concept of disposable income.⁸

Simulating social insurance contributions and personal income tax under the assumption of full compliance in countries with high informal employment might distort the distribution of disposable income. Therefore, our simulations consider partial compliance using affiliation to social security as a proxy for formal employment. More precisely, social insurance contributions and personal income tax are simulated only for individuals who report affiliation to social security in the data. Tax-benefit simulations obtained with ECUAMOD are static in the sense that they abstract from the behavioural reactions of individuals (e.g., changes in labour supply as a result of tax-benefit reforms), and no adjustments are made for changes in the population composition over time. However, the model can calculate work incentive indicators and generate input data to estimate behavioural labour supply models. Simulation results for ECUAMOD have been validated against official statistics, and the model has been used in recent empirical studies by Bargain et al. (2017), Jara et al. (2022), among others.

Our analysis takes 2020 policies (as of 31 December) in Ecuador as the starting point. ECUAMOD is used to simulate the distribution of household disposable income at the end of the year, which we consider our baseline scenario. Then, the model simulates four hypothetical reforms to social assistance in Ecuador. Our analysis further exploits the functionalities of ECUAMOD to simulate hypothetical reforms to social security contributions and personal income tax to finance, at least partially, the counterfactual reforms to social assistance and motivate a discussion on progressive taxation and other funding sources.

4.2 | Simulating reforms to the social protection system

In this section, we describe the characteristics of four hypothetical reforms to social assistance in Ecuador, simulated in ECUAMOD to assess their distributional and budgetary effects and their impact on work incentives. Table 1 summarizes the main characteristics of the reform.

Our first counterfactual reform (Scenario 1) consists of maintaining the Family Protection Grant as part of the social protection system and extending its duration to the entire year. Therefore, instead of considering the Family Protection Grant as a temporary measure to protect vulnerable household incomes during the pandemic, our simulations assess its effect in case it would become a permanent social assistance benefit, as is the case for the Human Development Transfer or the disability carer benefit Joaquin Gallegos Lara.

⁷Market income is defined as the sum of employment and self-employment income, bonuses, in-kind income, own consumption from self-employment activities, capital and property income, inter-household payments, private transfers, minus alimony payments. Imputed rent is not included as part of market income.

⁸ENEMDU does not contain information on contribution history over individual's working life, which prevents us from simulating contributory pensions.

TABLE 1 Characteristics of the counterfactual policy reforms

	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Social assistance benefits	• Social assistance benefits are preserved • Contributory pensions are preserved • Family Protection Grant is extended to be paid throughout the whole year	• Social assistance benefits are integrated into a single benefit of USD60 for each individual aged above 15 and below the welfare threshold identifying beneficiaries of the Family Protection Grant • Contributory pensions are preserved	• Social assistance benefits are replaced • Contributory pensions are preserved • USD60 UBI is introduced to be paid individually to everyone aged above 15. The benefit amount decreases by USD1 for every dollar of contributory pensions.	• Social assistance benefits are replaced • Contributory pensions are preserved • USD150 UBI is introduced to be paid individually to everyone aged above 15. The benefit amount decreases by USD1 by every dollar of contributory pensions
Social insurance contributions	• Social security contributions remain unchanged	• Social security contributions remain unchanged	• Employee social security contributions are increased by 2.5% • Employer social security contributions are increased by 2.5%	• Employee social security contributions are increased by 2.5% • Employer social security contributions are increased by 2.5%
Personal income tax	• Personal income tax remains unchanged	• Exempted threshold decreased to 2 annualized minimum wages • Tax brackets proportionally adjusted downwards based on the decreased exempted threshold • Deductions from personal expenditures abolished • Top tax rate increased from 35% to 40% • Contributory pensions and social assistance are subject to personal income tax	• Exempted threshold decreased to 1.5 annualized minimum wages • Tax brackets proportionally adjusted downwards based on the decreased exempted threshold • Deductions from personal expenditures abolished • Top tax rate increased from 35% to 40% • Contributory pensions and UBI are subject to personal income tax	• Exempted threshold decreased to 1 annualized minimum wage • Tax brackets proportionally adjusted downwards based on the decreased exempted threshold • Deductions from personal expenditures abolished • Top tax rate increased from 35% to 40% • Contributory pensions and UBI are subject to personal income tax

Source: Authors' elaboration.

Our second counterfactual reform (Scenario 2) integrates all existing social assistance benefits (Human Development Transfer, the disability carer benefit Joaquin Gallegos Lara and Family Protection Grant) into a single benefit. We assume eligibility for the single social assistance benefit is based on the Social Registry's welfare index, with the

eligibility threshold set to identify all current recipients of social assistance.⁹ Contrary to current social assistance benefits, which are paid at the household level (i.e., one payment per household), the single social assistance benefit is an individual-level benefit of USD60 per month paid to all individuals above 15 years old who are below the eligibility threshold.¹⁰ To partially finance this counterfactual social assistance benefit, we also simulate a reform to personal income tax, which consists of (i) decreasing the exempted threshold to the equivalent of two times the annualized minimum wage, (ii) proportionally adjusting downwards the tax brackets based on the decrease in the exempted threshold; (iii) abolishing deductions from personal expenditures; (iv) increasing the top tax rate from 35% to 40%; and (v) making contributory pensions and the single social assistance benefit subject to personal income tax.

Our third counterfactual reform (Scenario 3) considers a universal basic income with the following characteristics. First, the benefit amount is set at USD60 per month, equivalent to the Family Protection Grant amount, which is paid throughout the year. Second, the benefit is unconditional and independent of household income or employment status. It is an individual-level benefit paid to all individuals above 15 years old who reside in the country. Third, the UBI replaces all existing social assistance benefits (i.e., Human Development Transfer, Joaquín Gallegos Lara benefit and Family Protection Grant). Contributory old-age pensions are preserved. However, the UBI benefit amount decreases by USD1 for every USD dollar of contributory pensions received. Fourth, social security contributions are modified as follows: (i) a 2.5% social security contribution paid by employees is levied on all earnings (from employment and self-employment) above two minimum wages; (ii) a 2.5% social security contribution paid by employers¹¹ is levied on all earnings from employment above two minimum wages; and (iii) individuals with earnings below two minimum wages pay a 2.5% social security contribution on the received UBI. Fifth, the design of personal income tax is modified as follows: (i) the exempted threshold is decreased to the equivalent of 1.5 times the annualized minimum wage; (ii) the tax brackets are proportionally adjusted downwards based on the decrease of the exempted threshold; (iii) deductions from personal expenditures are abolished; (iv) the top tax rate is increased from 35% to 40%; and (v) contributory pensions and the UBI is subject to personal income tax.

Finally, our fourth counterfactual reform (Scenario 4) consists of a universal basic income, like Scenario 3 but with two critical differences. First, the benefit amount is more generous, set to USD150 per month, equivalent to 50% of median earnings, and corresponds to the maximum amount of the Human Development Transfer for Families and the cost of an emergency basket of goods. Second, the exempted personal income tax threshold is decreased to the equivalent of one annualized minimum wage.

Our simulations focus on reforms to social assistance rather than unemployment insurance due to the difficulty of implementing the latter in the context of high informality. As previously discussed, unemployment insurance in Ecuador suffers from low coverage as a large share of the workforce is not affiliated to social security, and eligibility conditions based on continuous contributions are fulfilled only by a small share of affiliated workers (Palacio Ludena, 2019). Moreover, expanding social assistance is more in line with the idea to guarantee a right to income security, beyond contributory programs and employment status.

⁹This identification strategy is still prone to inclusion and exclusion errors if the threshold set by the Social Registry index differs from the actual poverty line as estimated from household surveys, for instance. Individuals who are income poor might not be below the threshold of the index estimated using proxy-means test (i.e., exclusion errors), and individuals who are not poor in terms of income might be below the threshold of the index (i.e., inclusion errors).

¹⁰This age threshold accounts for the early fertility rates in the country and matches the official working age lower limit as established by regulatory institutions (IESS and SRI) and statistical bodies (INEC).

¹¹Employers who hire workers pay social insurance contributions based on their workers' gross earnings.

5 | RESULTS

5.1 | Winners and losers

Figure 1 presents the share of individuals affected by the reform, distinguishing between winners, losers and those that remain unaffected. Winners are defined as those whose per capita household disposable income increases with the reforms.¹² The reform defines losers as those whose per capita household disposable income decreases. Those unaffected by the reform keep their per capita household disposable income unchanged. Results are presented by income decile groups and for the entire population, where income deciles are based on per capita household disposable income.

Figure 1 shows that, on average, 18.5% of individuals would gain from extending the duration of the Family Protection grant to the entire year (Scenario 1). The reform would benefit most individuals at the bottom of the income distribution. No individuals would lose from this reform as there are no simulated changes in personal income tax or social insurance contributions to finance the increased duration of the benefit.

Under Scenario 2, 34.2% of individuals would benefit, on average, from the introduction of the single social assistance benefit paying an individual benefit of US\$60 per month. Due to its design, the reform would benefit the most individuals at the bottom of the distribution, with up to 66.2% of winners in the first income decile. The gains from this reform are since our second scenario moves away from current household-level benefits to an individual-level targeted social income, where each person aged above 15 is entitled to US\$60 per month if eligible. However, Figure 1 shows that some people would also lose under this counterfactual scenario. At the bottom of the income distribution, some individuals will lose from the reform because the single social assistance benefit replaces other existing social assistance benefits, which in some cases are more generous. For instance, under Scenario 2, individuals entitled to the existing disability carer benefit (Joaquín Gallegos Lara) would receive US\$60, whereas they were previously entitled to US\$240 per month. At the top decile of the income distribution, 61.5% of individuals would lose from the reform, which is explained by the increased progressivity of personal income tax and the abolition of deductions for personal expenditures.

Under Scenario 3, 91.3% of individuals would benefit, on average, from the introduction of a universal basic income of US\$60 per month. As in Scenario 2, some people would lose from introducing this reform even if framed as a universal basic income. At the bottom of the income distribution, losses are explained by less generous UBI payments than existing social assistance benefits, as discussed above. At the top of the income distribution, losses are explained by introducing the 5% contribution on employment income and the reforms to personal income tax. However, compared to Scenario 2, losses at the top of the distribution are smaller because the universal basic income is paid to all individuals aged above 15, irrespective of their income or welfare index as obtained from the Social Registry.

Finally, under the more generous universal basic income reform (Scenario 4), the percentage of winners reaches 98–100% in all income decile groups, except the tenth decile, where 20.5% of individuals would experience a drop in their income due to the increase in social security contributions and progressive personal income tax liabilities.

To further assess the effect of the reforms, Figure 2 presents the change in household disposable income by income deciles and for the whole population. Figure 2a shows that extending the duration of the targeted Family Protection Grant (Scenario 1) results in an increase in per capita household disposable income of US\$2 on average, with households at the bottom of the income distribution benefitting slightly more.

The individual-level social assistance benefit of US\$60 per month (Scenario 2) increases household disposable income by US\$7 on average. The increase in household disposable income is larger for the bottom decile group,

¹²The use of per capita household disposable income for welfare analysis is standard in Latin American countries. It implies that every member of the household (adults and children) enjoys the same level of consumption when calculating poverty at the individual level. More complex models (e.g., collective bargaining models) can be used to estimate poverty at the individual level, accounting for differences between adults and children and across gender. However, such models require detailed disaggregated data on consumption, which is not available in Ecuador.

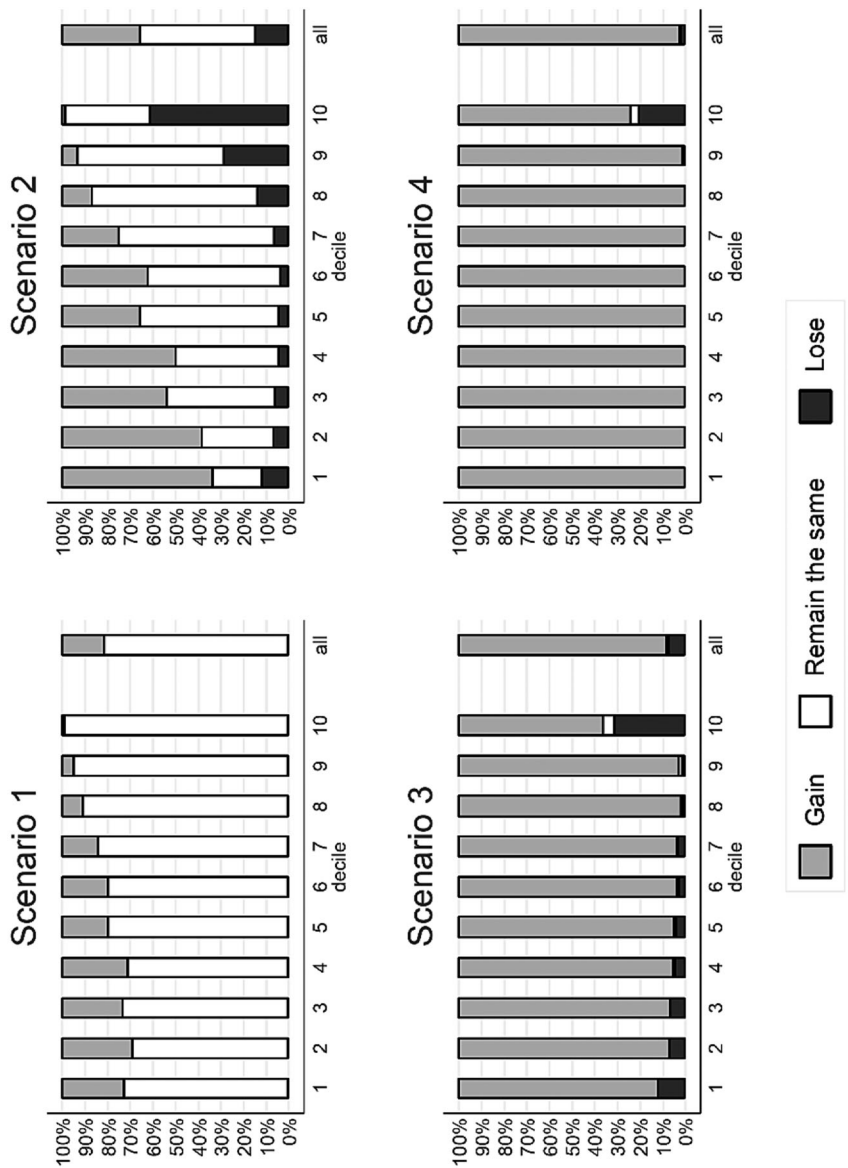


FIGURE 1 Winners and losers as the percentage of individuals, by income deciles. Source: Own elaboration based on ECUAMOD v2.0

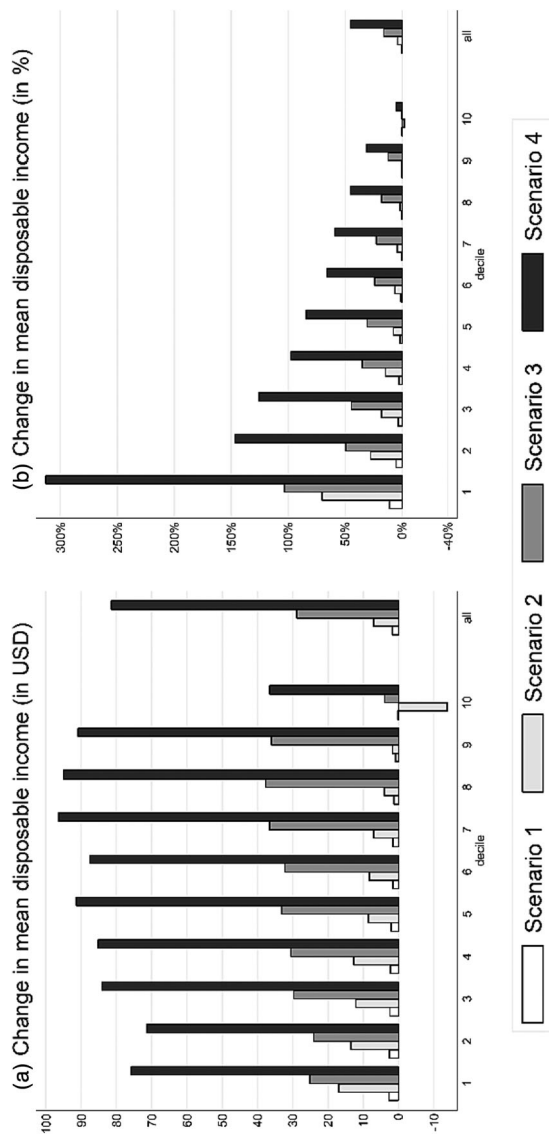


FIGURE 2 Change in per capita household disposable income by income deciles. *Source:* Own elaboration based on ECUAMOD v2.0. (a) Change in mean disposable income (in USD); (b) change in mean disposable income (in %)

representing an additional US\$17 per month. The average gain from the individual-level social assistance benefit decreased along with the income distribution as fewer individuals are entitled to the benefit based on the welfare index from the Social Registry. Individuals in the top decile group experience a US\$14 decrease in household income due to the increased personal income tax payments and exclusion from targeted income support.

The US\$60 per month universal basic income (Scenario 3) increases household disposable income by US\$29 on average, with a broadly uniform increase for deciles one to nine. The top decile group still experiences an increase in household disposable income but is equivalent to US\$4 on average. The more generous universal basic income (Scenario 4) increases household income by US\$81 on average, and as was the case under Scenario 3, the gains are broadly uniform until the ninth decile. The tenth decile group still experiences an increase under Scenario 4 but is much smaller (US\$36) than other decile groups.

Figure 2b presents the same information as Figure 2a but captures the effect of the reforms in percentage change relative to per capita household disposable income in the baseline scenario. The results show that all four reforms are progressive in the sense that households at the bottom of the distribution experience more significant gains than households at the top relative to their baseline income.

6 | DISCUSSION

6.1 | Poverty and inequality

Poverty and inequality are measured at the individual level, based on per capita household disposable income. Figure 3 compares absolute poverty and extreme poverty headcounts and the Gini coefficient in our baseline and reform scenarios. The 2020 national poverty lines of US\$84.05 per month for poverty and US\$47.37 per month for extreme poverty are used in the calculations. The results show that poverty, extreme poverty and inequality would decrease under our four counterfactual scenarios compared to the baseline results of December 2020. Extending the duration of the Family Protection Grant to the entire year under Scenario 1 decreases poverty by 3.8% (from 33.95% to 32.67%), extreme poverty by 10% (from 14.31% to 12.89%) and the Gini coefficient by 1.4% (from 0.483 to 0.476). Still, the progressiveness of the baseline matters: the Covid-related Family Protection Grant played a minor role in mitigating the effects of the pandemic (estimated at 12.4 %) even among the poorest income decile, which was targeted by the program but still experienced a 34.5 drop in household disposable income Jara et al. (2022).

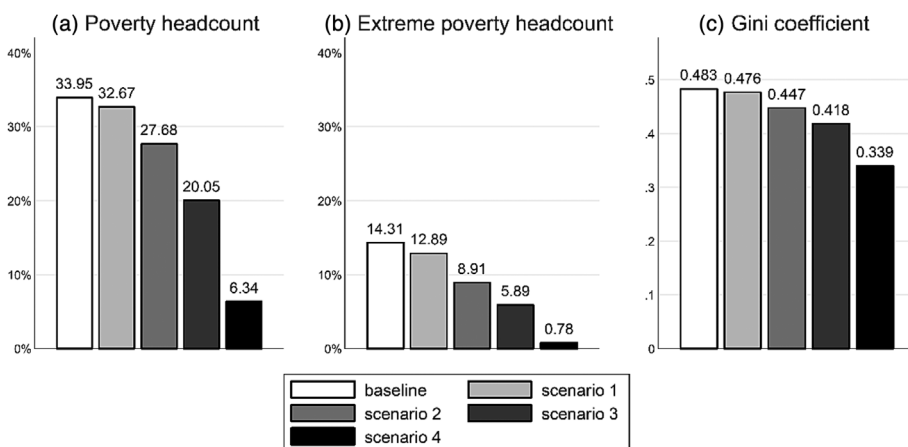


FIGURE 3 Changes in income poverty and inequality. Source: Own elaboration based on ECUAMOD v2.0. (a) Poverty headcount, (b) extreme poverty headcount, and (c) Gini coefficient

Poverty and inequality would decrease further under our individual-level social assistance benefit (Scenario 2). Under this scenario, poverty would decrease by 18% (from 33.95% to 27.7%), extreme poverty by 38% (from 14.31% to 8.9%) and the Gini coefficient by 7% (from 0.483 to 0.447).

Poverty and inequality would drop under our universal basic income reforms. Under the US\$60 universal basic income (Scenario 3), poverty would decrease by 41% (from 33.95% to 20.05%), extreme poverty would reduce by more than half (from 14.31% to 5.89%) and the Gini coefficient would fall by 13% (from 0.483 to 0.418). A sharp drop is observed under the more generous universal basic income (Scenario 4), with the poverty headcount falling to 6.34%, the extreme poverty headcount to 0.78% and the Gini coefficient to 0.339.

Substituting existing benefits with the four counterfactual policies might result in transitions in and out of poverty. Some individuals who benefit from generous cash transfers under the existing system might experience a fall below the poverty line, particularly those who benefit from the baseline social assistance program Joaquín Gallegos Lara. Most people who benefit from less generous social assistance programs or are excluded might appear as new beneficiaries under our reforms and exit poverty.

Figure 4 provides information about poverty and extreme poverty transitions under our simulated scenarios. By construction, only transitions out of poverty are observed under Scenario 1 as existing benefits remain unchanged, and the duration of the Family Protection Grant is extended to the entire year. Under Scenario 2, we do observe transitions in both directions. However, only 0.6% of individuals would move into poverty and 0.4% into extreme poverty, whereas transitions out of (extreme) poverty represent 6.8% (5.8%). A similar pattern is observed under Scenario 3 but with smaller transitions into (extreme) poverty and larger transitions out of (extreme) poverty. Finally, under Scenario 4, only transitions out of poverty are observed, meaning that the more generous universal basic income compensates for substituting existing social assistance benefits in all cases. This is in line with the information provided in Figure 1, where losses from the introduction of the generous universal basic income are concentrated in the top decile because of increased taxation only.

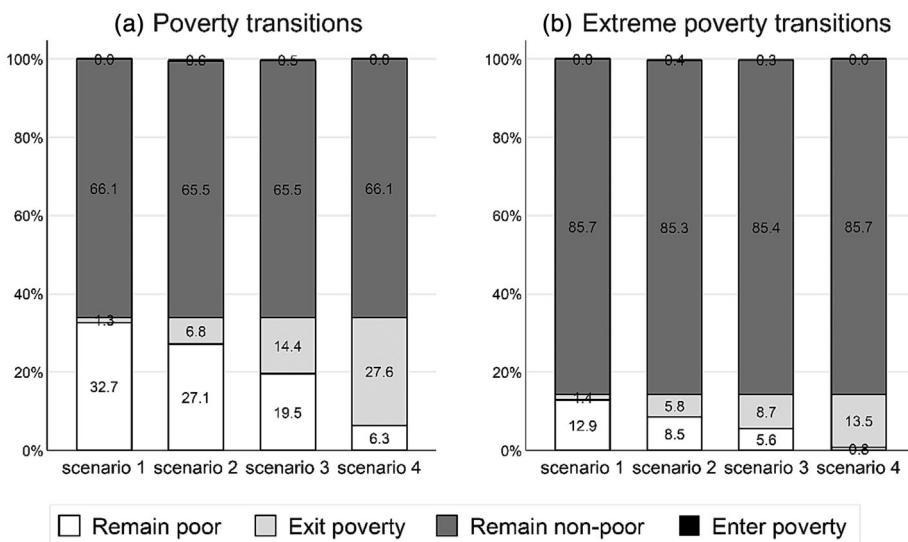


FIGURE 4 Poverty transitions. Source: Own elaboration based on ECUAMOD v2.0. (a) Poverty transitions; (b) extreme poverty transitions

6.2 | Budgetary costs and financing

Universal basic income grants and expanded social assistance programs can be costly. Our hypothetical changes to social security contributions and taxes are meant to finance their cost partially. In this section, we first discuss the budgetary cost of our reforms to social assistance and the extent to which changes to social security contributions and taxes would cover the costs related to increased benefits. Then, we review and discuss other potential sources of financing to initiate a political economy discussion about social protection in Ecuador.

Table 2 presents the increase in tax revenue and social spending in cash transfers under our three hypothetical reforms. Additional tax revenue and social spending are expressed as a percentage of GDP in 2020. Under Scenario 1, government expenditure in cash transfers would represent 0.4% of GDP. As no social security contributions or personal income tax changes were simulated under this scenario, the net revenue would be equal to −0.4% of GDP. As we will discuss in detail below, there are some potential financing alternatives to face this slight increase in social spending, such as reducing tax expenditures or the tax gap due to tax evasion.

The cost of our individual-level social assistance benefit (Scenario 2) is higher compared to Scenario 1, representing 1.9% of GDP. Under the simulated reforms to personal income tax in this scenario, the increase in government tax revenue would represent 0.3% of GDP. As a result, net revenue would amount to an equivalent of −1.5% of GDP.

As expected, the cost of universal basic income policies increases with the generosity level. Under the US\$60 universal basic income (Scenario 3), government expenditure in cash transfers represents 7.4% of GDP, whereas the increase in government revenue covers 15.6% of the increased spending (1.2% of GDP), which would result in a net revenue equivalent to −6.2% of GDP. Under the more generous universal basic income reform (Scenario 4), the additional government expenditure in social cash transfers would be 20.1% of GDP. The additional tax revenue generated by social insurance contributions and personal income tax changes would only cover 13% of the significant increase in social spending with a net revenue equivalent to −17.5% of GDP.

Expenditures on social assistance might represent a substantial income transfer from salaried workers and taxpayers, fuelling class allegiances. Due to the significant fiscal cost associated with implementing universal basic income policies, their financing should be considered beyond potential reforms to direct taxation (as implemented in our illustrative reforms). Table 3 summarizes potential sources of financing, which could be considered given strengthening social protection.

The first potential source of financing comes from policies aimed at reducing tax evasion. According to the Economic Commission for Latin America and the Caribbean (ECLAC) (ECLAC & ILO, 2019), the tax gap due to tax evasion in Ecuador amounts to 7.7% of GDP. The tax gap from corporate taxation is relatively high, representing 4.4% of GDP. Given the size of the tax gap, tax evasion constrains fiscal capacity and hinders social protection reforms in Ecuador. It should also be noted that in the absence of effective tax collection, initiatives such as UBI might constitute an implicit subsidy for wealthier segments of the population that accrue benefits from these practices.

The second source of financing relates to potential reforms to reduce tax expenditure. The concept of tax expenditures refers to losses in government revenue due to special provisions of the tax code, such as exemptions, deductions, credits, preferential tax rates and other mechanisms, which affect direct and indirect taxes. Tax

TABLE 2 Changes in social spending and tax revenue under the reform scenarios (in % of GDP)

	Reform 1	Reform 2	Reform 3	Reform 4
Tax revenue (employee and self-employed SICs and PIT)	0.0	0.3	1.2%	2.6%
Expenditure in social cash assistance programs	0.4	1.9	7.4%	20.1%
Net revenue	−0.4	−1.5	−6.2	−17.5

Source: Own elaboration based on ECUAMOD v2.0.

TABLE 3 Potential sources of financing

Potential source	Revenue (in % of GDP)
Tax evasion	
Tax gap from VAT	2.2
Tax gap from personal income tax	1.1
Tax gap from corporate tax	4.4
Subtotal	7.7
Tax expenditure	
VAT	2.3
Corporate income tax	1.7
Personal income tax	0.8
Other taxes	0.4
Subtotal	5.2
Subsidies	
Fuel subsidies	1.9
TOTAL	14.8

Source: Own elaboration based on Manual de Gasto Tributario 2019 (SRI) and Gomez Sabaini and Moran (2020).

expenditures in Ecuador amount to 5.2% of GDP (SRI 2021). VAT tax expenditure accounts for the largest share of total tax expenditure and is related to the existence of zero-rated goods and services. Tax expenditure from corporate income tax amounts to 1.7% of GDP, explained by exempted incomes, tax credits and deductions. Personal income tax expenditures represent 0.8% of GDP and are mostly related to deductions from personal expenditures and exempted incomes. Finally, tax expenditure from other taxes amounts to 0.4% of GDP.

Exemptions might absorb the resources of lax tax administrations and distort the allocation of savings. Reducing exemptions might simplify the tax structure and result in higher revenues and efficiency gains. Nevertheless, two remarks are critical regarding potential reductions to tax expenditure to finance reforms to social assistance. First, our changes to personal income tax under Scenarios 2–4 already reduce some tax expenditures. In addition to increasing the progressivity of personal income tax, we implement a total withdrawal of deductions from personal expenditures, and we introduce contributory pensions and social assistance as part of taxable income. Therefore, additional revenue from reducing tax expenditures from personal income tax might be limited. Second, reducing VAT tax expenditures would affect personal finances, particularly middle-income earners, which should be weighed against potential gains from more generous income support. For instance, applying the regular 12% VAT rate to existing zero-rated goods and services would imply that household expenditures might increase. General consumption taxes have high revenue potential but are particularly sensitive to the business cycle and have relatively low redistributive potential (European Commission, 2020; Hanni et al., 2015).

Reducing tax expenditure from corporate income tax could be considered an alternative to finance reforms to social assistance, given its political acceptability and visibility. This is particularly appealing for the Ecuadorian case, given its reliance on natural resource revenues, which might allow the tax administration to extract rents in profit taxes from the predominantly foreign corporations extracting oil and minerals. However, such revenues are highly volatile, and compliance is limited, given the rigidity of extraction contracts. Furthermore, these reforms might indirectly affect household income if firms decide to compensate their losses by adjusting wages or employment or hurting the disposable income of entrepreneurs, who might be taxed under the corporate income tax unless a specific tax on extractive industries is introduced, which might serve ecological justice concerns too.

The third source of financing comes from potential reductions in government subsidies. Fuel subsidies have constituted an essential part of public policy since the 1970s in Ecuador and currently represent 1.9% of the GDP in the

country. There has been a long discussion about the possibility of abolishing fuel subsidies in Ecuador, motivated by the need to reduce government spending and the fact that aggregate fuel subsidies are concentrated at the top of the income distribution. However, the size of fuel subsidies relative to household income is more prominent at the bottom of the income distribution. Although lower income households spend less on fuel, the subsidy they obtain from its purchase represents an important share of household income (Jara et al., 2018). In this sense, and as discussed for VAT, reducing or abolishing fuel subsidies would have distributional costs, which should be weighed against the gains from implementing reforms to social protection.

Other funding sources can be obtained from redistributing royalties and windfall revenues (a mechanism already in place in Ecuador), corporate income taxes, excise taxes, wealth taxes (including inheritance taxes) and solidarity schemes. Measures to collect windfall revenues and increase corporate income taxes should be accompanied by anti-avoidance and evasion measures. Otherwise, given the cross-border mobility of capital, they might not have the desired impact. Nevertheless, these reforms' political visibility and societal preferences are worth considering for the distributional considerations of favouring capital incomes instead of labour. Finally, our simulations do not consider the potential savings in administering targeted social assistance programs (which would be replaced by UBI), including the fielding of social registries and platforms to select and monitor beneficiaries. Those savings would also contribute to financing reforms to enhance and improve social protection.

As argued above, financing the expansion of social assistance solely through taxes on households might not be feasible nor desirable. However, to provide an idea of the cost, it would represent to households to bear the burden of the increase in social protection considered in this paper, revenue-neutral reforms can be simulated where taxes on households are increased to cover the expansion in social assistance programs fully. Figures A1 and A2 in the appendix show the effect of such revenue-neutral reforms. As expected, Figure A1 shows that the percentage of losers would increase in all scenarios, especially in the top three income decile groups. In the top decile, the share of losers would range between 61% under Scenario 1 and 89% under Scenario 4. Figure A2 focuses on changes in poverty and inequality. In terms of poverty, the results are very similar to those presented in Figure 4 (partial funding) because the effect of revenue-neutral reforms is minimal at the bottom of the distribution. On the contrary, we see a larger effect of the Gini coefficient, which would decrease further under the revenue-neutral reform because of higher tax payments at the top of the distribution to finance expanded social protection programs. It is important to note that to achieve budget neutrality, significant changes to direct taxation would be needed. Under Scenario 1 (the least generous social assistance reform), the exempted tax threshold would need to be decreased to the equivalent of two annualized minimum wages, tax brackets adjusted proportionally, deductions for personal expenditures abolished, and the top tax rate increased from 35% to 40%. Under Scenario 4 (the most generous social assistance reform), the exempted tax threshold would need to be decreased to the equivalent of one annualized minimum wage, tax brackets adjusted proportionally, deductions for personal expenditures and all other personal income tax deductions abolished. The top tax rate would need to increase from 35% to 55%, and the first tax rate from 5% to 20%. Moreover, financing such a scenario would also require increasing employer and employee social insurance contribution rates by 18 percentage points. The revenue-neutral exercise highlights the need to think about financing possibilities beyond direct taxation, as discussed in this section.

6.3 | Work incentives

Policymakers often face a trade-off between raising tax revenue to strengthen social assistance and avoiding adverse work incentives.¹³ Our ex-ante distributional analysis of counterfactual policy reforms is complemented by assessing potential effects on work incentives. This section compares work incentives under our four hypothetical reform

¹³Our analysis refers to incentives related to paid formal work, which is subject to social security contributions and personal income tax. It does not consider informal paid work and unpaid work.

scenarios employing the Marginal Effective Tax Rates (METRs) indicator. METRs measure the proportion of a marginal increase in earnings that would be taxed away due to increased social security and tax liabilities and withdrawal of cash transfers.¹⁴ Thus, METR captures people's financial incentives to earn more (either by increased working hours or increased pay), known as incentives at the intensive margin of labour supply.

It is worth noting that we do not expect to observe an effect of our policy reforms on work incentives from changes in benefits. As mentioned in Section 3, existing benefits, including the Family Protection Grant, whose duration is extended under Scenario 1, do not depend on household income but are a welfare indicator of household and housing characteristics. Therefore, a marginal increase in earnings would not result in a withdrawal of proxy means-tested benefits (Scenarios 1 and 2), meaning that cash transfers do not contribute to METR. Additionally, in the case of universal basic income alternatives (Scenarios 3 and 4), work incentives are not affected because the transfer is made to all individuals irrespective of their income.

However, the partial financing of the individual-level social assistance benefit and universal basic income policies through increased social security contributions and personal income tax would influence formal work incentives. Imagine, for instance, that a marginal increase in earnings would result in moving to a higher personal income tax bracket. That marginal increase in earnings would translate into increased personal income tax payments, reducing individuals' financial incentives to engage in formal work or earn more.

Figure 5 shows METR by per capita household income deciles and the population under our four policy reform scenarios. Results are presented for formal workers aged fifteen or older with positive earnings, where formal employment is defined as affiliation to social security. Only workers in formal employment are considered because METR would be zero for informal workers assuming they do not contribute to social security and pay no personal income tax.¹⁵

Under Scenario 1, the mean METR is 7.8% for the entire population. On average, 7.8% of the marginal increase in earnings would be taxed away because of increased social insurance contributions and tax payments. METR under Scenario 1 is the same as under the baseline scenario of existing policies in December 2020. The simulated extended duration of the Family Protection Grant does not affect formal work incentives, as eligibility for the benefit is not based on income. To the best of our knowledge, there is no comparative evidence on METR for Latin American countries. Therefore, to provide a benchmark for comparison, we note that METR in Ecuador is substantially low compared to the European context, where the lowest mean METR is 21.9% for Bulgaria (Jara et al., 2020). The low METR observed in Ecuador is the result of two factors. First, cash transfers do not contribute to METR as they do not depend directly on household income but on a composite welfare index. Second, the personal income tax in Ecuador is characterized by a remarkably high exempted threshold equivalent to 2.4 annualized minimum wages and generous deductions from personal expenditures, resulting in primarily individuals in the top income deciles effectively subject to personal income tax payments. Mean METRs increase along with the income distribution, representing 11.7% in the tenth income decile under Scenario 1.

Mean METR increased by 14% (from 7.8% to 8.9%) for the total population under Scenario 2. The reforms explain the increase in METR to personal income tax to cover the cost of increasing social spending partially. Mean METR increases progressively along with the income distribution from decile five. A 23% increase in mean METR is observed for the top decile group, from 11.7% to 14.4%.

METR would increase substantially under the universal income reforms, meaning that the reforms would lower formal work incentives. However, the levels of mean METR remain low compared to European countries. Under Scenario 3, the mean METR is 12.9% for the entire population. Following a marginal increase in earnings, 12.9% of the

¹⁴We follow Jara et al. (2020) and calculate METR for individuals with positive earnings by increasing their earnings by 3% and recalculating their household disposable income. For households with multiple earners, the procedure is done for each earner, holding the information of other earners fixed. METR are then defined as follows: where is the change in household disposable income following an individual's increase in earnings and represents the marginal increase in earnings. In the context of Ecuador, METR are calculated only for workers in formal employment, with formal employment is defined as affiliation to social security, if informal workers pay no social insurance contributions or personal income tax.

¹⁵Note that METR does not capture potential effects on labour demand, though employers may offset increased tax contributions by paying lower wages or cutting personnel costs.

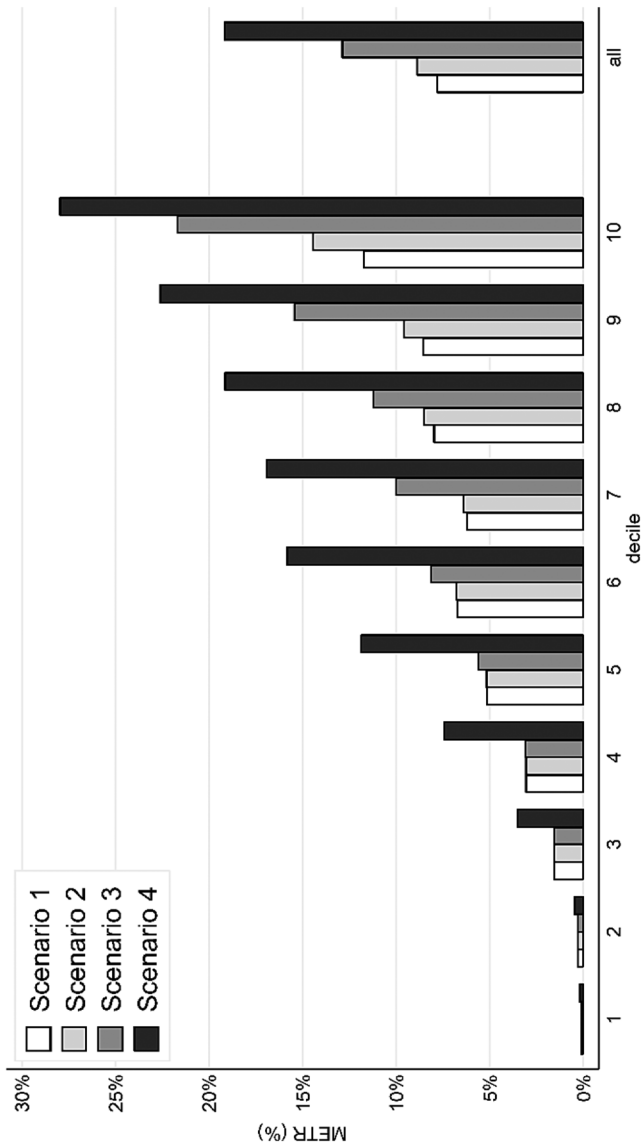


FIGURE 5 Marginal effective tax rates in the reform scenarios. Source: Own elaboration based on ECUAMOD v2.0

marginal increase would be taxed away due to increased social security contributions and tax payments. Under Scenario 4, the mean METR for the total population rises to 19.2%, more in line with the lower bound levels observed in European countries. METR under Scenarios 3 and 4 increases along with the income distribution. At the top of the income distribution, METR increased by 85% and more than doubled under Scenarios 3 and 4.

7 | CONCLUSIONS

There are evident challenges in providing social assistance in contexts marked by deep-rooted socioeconomic inequities, poor data infrastructures, incomplete administrative records and high levels of informality, which could deepen processes of exclusion and marginalization. Existing proxy means-tested conditional cash transfer programs, the preferred design of social protection in low- and middle-income countries, suffer from targeting errors, excluding vulnerable populations in need of income support. Furthermore, proxy means-tested programs fail to function as automatic stabilizers in the event of income shocks as they do not directly depend on household income. Moreover, targeted social assistance has high administrative costs, leakage and exclusion problems, while it carries a stigma. This invites critical engagement and healthy scepticism regarding targeted income support and social registries.

This study provides an ex-ante assessment of the effect of potential reforms to social protection in Ecuador, a country hit severely by the COVID-19 pandemic. The Ecuadorian case is marked by excluding vast segments of the population from social security and targeted social assistance. ECUAMOD, the tax-benefit microsimulation model for Ecuador, is used to simulate three counterfactual reforms: (i) an extension of the Family Protection Grant to be paid throughout the entire year; (ii) a Universal Basic Income (UBI) of the same amount as the Family Protection Grant, US\$60 per month; and (iii) a more generous UBI set at US\$150 per month. In the simulations, UBI policies are assumed to replace existing social assistance cash transfers and are partially financed through increased social insurance contributions and personal income tax.

Our analysis shows that all simulated policies would positively reduce poverty and inequality in Ecuador. The decrease in poverty and inequality increases with the generosity of the benefit reforms, substantially decreasing under the more generous UBI scenarios. However, UBI policies are costly, representing an increase in social spending equivalent to 7.4% of GDP under the US\$60 UBI and 20.1% under the US\$150 UBI. Changes in social insurance contributions and personal income tax would cover between 15% and 28% of the cost of the UBI, depending on the generosity of the payment. Due to the high cost of implementing UBI policies, and from a fairness perspective, their financing should be considered beyond potential reforms to direct taxation affecting only households. A large amount of revenue resources is lost due to tax evasion and tax expenditures from corporate tax. Corporate and wealth taxation reforms should also be considered in a highly unequal society to increase fiscal capacity and enhance social protection. The analysis shows that reforms to social security contributions and personal income tax, which partially financed UBI policies, would affect formal work incentives. However, marginal effective tax rates (an indicator of incentives to work or earn more) under the simulated reforms remain low compared to international standards.

In conclusion, the simulations conducted in this study reveal the importance of considering the interdependence between social policies and various actors, such as states, families, communities and markets, when envisioning the future of welfare in Ecuador. While the implementation of a universal basic income is a step in the right direction, it must work in tandem with other universal social policies to eradicate extreme poverty. It is crucial to consider the design UBI proposals as part of a broader strategy of decommodification and socialization of social reproduction, which translates into publicly funded and free healthcare, education, childcare and other aspects of social provisioning. This will prevent UBI proposals from being misused to retrench the state from social provisioning further. Additionally, endorsing UBI should strengthen the creation, regulation and protection of formal and secure employment and social security systems, rather than their substitution. Therefore, it is essential to consider the implications of UBI proposals on the broader social protection framework to ensure they serve as a pillar of solidarity and social cohesion.

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DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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APPENDIX A

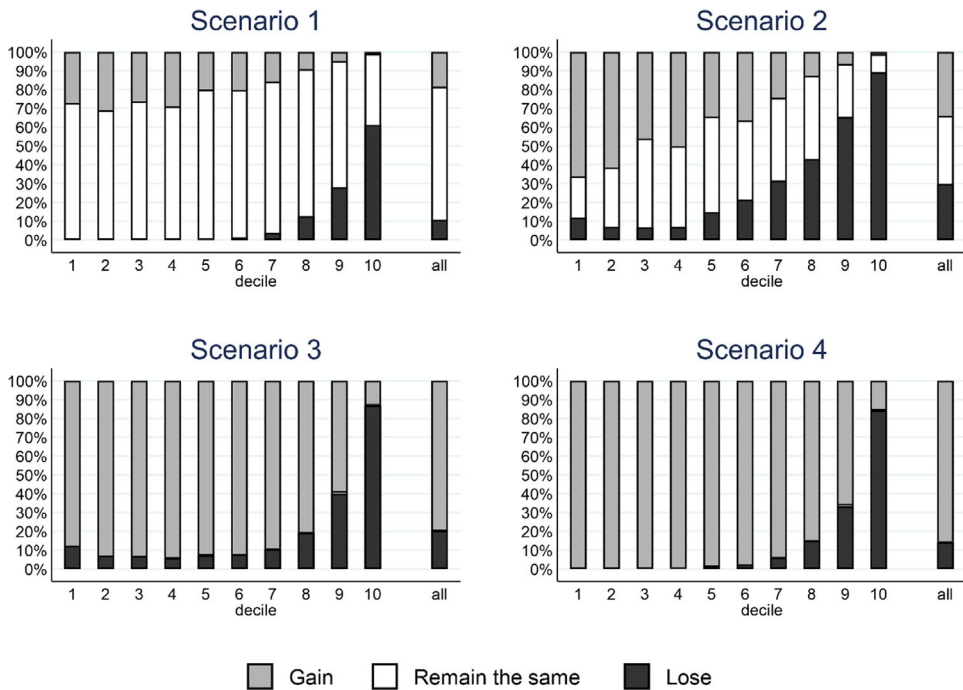


FIGURE A1 Winners and losers as the percentage of individuals, by income deciles – revenue neutral reforms. Source: Own elaboration based on ECUAMOD v2.0 [Colour figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/doi/10.1002/jid.3878)]

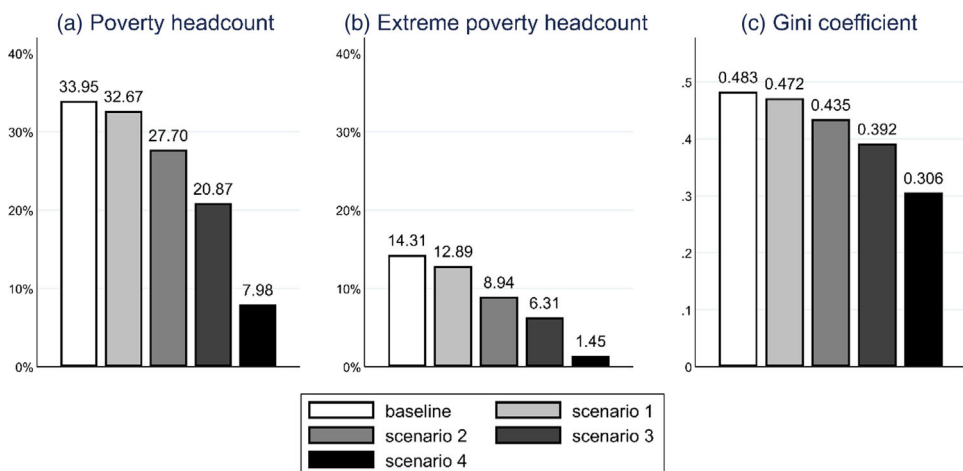


FIGURE A2 Changes in income poverty and inequality – revenue neutral reforms. Source: Own elaboration based on ECUAMOD v2.0 [Colour figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/doi/10.1002/jid.3878)]

APPENDIX B: ECUAMOD, THE TAX-BENEFIT MICROSIMULATION MODEL FOR ECUADOR

ECUAMOD, the tax-benefit microsimulation model for Ecuador, is a computer program that performs the computation of taxes and social insurance contributions paid and cash transfers received by households based on their market income and demographic characteristics, following as close as possible the national legislation of each policy instrument. Using representative household survey data as input, the model can reproduce the existing distribution of household disposable income (i.e., market income minus direct taxes and social insurance contributions plus cash transfers). ECUAMOD can also be used to perform counterfactual simulations by modifying specific parameters of the instruments considered (e.g., increasing benefit amounts or tax rates) or by introducing hypothetical policies, such as a Universal Basic Income. The model can then assess the redistributive and budgetary effects of the counterfactual simulations compared to the actual policies in place.

More precisely, ECUAMOD uses as input information on market income and the sociodemographic characteristics of households in the National Survey of Employment, Unemployment and Underemployment of Urban and Rural Households (ENEMDU) to calculate personal income tax and social insurance contributions of employees and self-employed workers affiliated—as reported in the data—to the Ecuadorian Institute of Social Security (IESS), the Human Development Transfer (Bono de Desarrollo Humano) and the Joaquín Gallegos Lara Transfer. Contributory pensions (e.g., old-age pensions) cannot be simulated in the model due to the lack of information on contributory history by each person in the data. In that case, the pension amounts are allocated to individuals as reported in ENEMDU. Based on the simulated policies and incomes reported in the survey, ECUAMOD calculates disposable income for each household in the survey.

Formally, household disposable income, $y(x, z, p)$, can be represented as

$$y(x, z, p) = x - \tau(x, z, p) + b(x, z, p),$$

where x represents market income, z denotes the sociodemographic characteristics of the household (e.g., number of children, educational attainment of household members and characteristics of the dwelling) and p represents the monetary parameters of the tax-benefit system (e.g., benefit amounts and the level of the personal income tax bands).

The function $\tau(x, z, p)$ represents the amount of personal income tax and social insurance contributions to be paid, which depend on the level of market income and the sociodemographic characteristics of each member of the household and the parameters of personal income tax and social contributions. For instance, the simulation of social insurance contributions takes into account the contribution rates that apply to each worker in the household depending on whether they report affiliation to social security and their industry of work (this information is included in z) according to the legislation. Then, the contribution rate is applied to the market income of each affiliated person in the household to obtain the amount of social insurance to be paid.

The function $b(x, z, p)$ represents the amount of cash transfers that households are entitled to which also depend on the level of market income, sociodemographic characteristics and the parameters of the cash transfer programs in the country. It is important to note that the function $b(x, z, p)$ contains the cash transfers simulated in the model (Human Development Transfer and Joaquín Gallegos Lara Transfer) as well as the contributory pensions taken directly from the data. For the simulation of the Human Development Transfer, ECUAMOD replicates the proxy-means-tested index (based on information in the survey and included in z) used to identify beneficiaries of the program and to assign them the amount of the transfer as stipulated in the rules of the program. For the simulation of the Joaquín Gallegos Lara Transfer, the beneficiaries are identified as those reporting receipt of the benefit in the survey, and we assign them the amount of the transfer stipulated in the law.

ECUAMOD not only allows obtaining the distribution of disposable income according to the actual policies in place but also simulating counterfactual distributions through changes tax-benefit function. For example, the

introduction of a reform to personal income tax or social contributions (e.g., an increase in the number of income tax bands and a change in the contribution rates to the IESS) can be represented by the function $\tau'(x, z, p')$. Similarly, a reform to the cash transfers (i.e., an increase in the amount of the Human Development Transfer) can be represented by $b'(x, z, p')$. Assuming that there are no changes in the distribution of market income or in the sociodemographic characteristics of the population, ECUAMOD allows us to obtain the counterfactual distribution of disposable income represented by

$$y'(x, z, p') = x - \tau'(x, z, p') + b'(x, z, p'),$$

where to the original household population in the survey—with market income x and sociodemographic characteristics z —we have applied the rules of the counterfactual taxes and cash transfers (i.e., $\tau'(x, z, p')$ and $b'(x, z, p')$).

The effect of the simulated reform in ECUAMOD can be evaluated by comparing different indicators of poverty, inequality or fiscal revenue and spending, based on the original and counterfactual distribution, $y(x, z, p)$ and $y'(x, z, p')$. In the case of our analysis, ECUAMOD is used to create counterfactual distributions of disposable income obtained by modifying the characteristics of cash transfers in the country and adjusting personal income tax and social insurance contributions to partially finance the additional spending in social protection. It is important to mention that ECUAMOD is a static model. In this sense, the simulations do not take into account potential behavioural changes of individuals (e.g., changes in labour supply) as a result of the counterfactual tax-benefit reforms implemented.