

Nichelatti, Enrico; Shahir, Adnan A.

Working Paper

How could taxing illicit financial flows contribute to financing a universal child benefit in Ghana?

WIDER Working Paper, No. 56/25

Provided in Cooperation with:

United Nations University (UNU), World Institute for Development Economics Research (WIDER)

Suggested Citation: Nichelatti, Enrico; Shahir, Adnan A. (2025) : How could taxing illicit financial flows contribute to financing a universal child benefit in Ghana?, WIDER Working Paper, No. 56/25, ISBN 978-92-9267-615-5, The United Nations University World Institute for Development Economics Research (UNU-WIDER), Helsinki,
<https://doi.org/10.35188/UNU-WIDER/2025/615-5>

This Version is available at:

<https://hdl.handle.net/10419/331388>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

How could taxing illicit financial flows contribute to financing a universal child benefit in Ghana?

Enrico Nichelatti¹ and Adnan A. Shahir²

September 2025

Abstract: Trade mis-invoicing represents a significant economic challenge in Ghana, with losses estimated at 3.03 per cent of gross domestic product in 2018. We examine the potential of a universal child benefit in Ghana through a counterfactual taxation of illicit financial flows. Using microsimulation, we model two budget-neutral designs: a flat per-child transfer and a quasi-universal schedule with higher amounts for larger households. Both options lower poverty and inequality, with stronger effects in rural areas and among larger households. The universal design yields slightly greater overall poverty reduction: the quasi-universal variant better protects large families. Although such revenues cover only a limited share of the poverty gap, redirecting them can expand social protection without raising distortionary taxes. The study links tax justice to social policy expansion and questions claims that universal benefits are unaffordable in low- and lower-middle-income countries. The study assesses only first-round effects and does not address political feasibility.

Key words: illicit financial flows, universal child benefit, microsimulation, poverty and inequality

JEL classification: D31, H55, I32

Correction: An error in the ISBN displayed below was corrected on 19 September 2025.

¹ Institute for Research on Socio-Economic Inequalities, University of Luxembourg, Luxembourg, email:

enrico.nichelatti@uni.lu; ² University of Bologna, Bologna, Italy.

This study is published within the UNU-WIDER project **SOUTHMOD -simulating tax and benefit policies for development Phase 3**, which is a part of the research area **Creating the fiscal space for development**. The project is under the **Domestic Revenue Mobilization** programme, which is financed through specific contributions by the Norwegian Agency for Development Cooperation (Norad).

Copyright © UNU-WIDER 2025

UNU-WIDER employs a fair use policy for reasonable reproduction of UNU-WIDER copyrighted content—such as the reproduction of a table or a figure, and/or text not exceeding 400 words—with due acknowledgement of the original source, without requiring explicit permission from the copyright holder.

Information and requests: publications@wider.unu.edu

ISSN 1798-7237 ISBN 978-92-9267-615-5

<https://doi.org/10.35188/UNU-WIDER/2025/615-5>

United Nations University World Institute for Development Economics Research provides economic analysis and policy advice with the aim of promoting sustainable and equitable development. The Institute began operations in 1985 in Helsinki, Finland, as the first research and training centre of the United Nations University. Today it is a unique blend of think tank, research institute, and UN agency—providing a range of services from policy advice to governments as well as freely available original research.

The Institute is funded through income from an endowment fund with additional contributions to its work programme from Finland and Sweden, as well as earmarked contributions for specific projects from a variety of donors.

Katajanokanlaituri 6 B, 00160 Helsinki, Finland

The views expressed in this paper are those of the author(s), and do not necessarily reflect the views of the Institute or the United Nations University, nor the programme/project donors.

1 Introduction

Universalism has gained popularity as one of the most promising tools for achieving the UN Agenda 2030 goal of 'leaving no one behind'. The universal aspect reaffirms the necessity and importance of providing at least a basic level of income security to all members of society in order to realize human dignity. However, recent evidence suggests that a fully universal social protection system would be prohibitively expensive for almost all countries around the world. Ortiz et al. (2018) calculated the potential cost of a universal basic income (UBI) as a share of gross domestic product (GDP) by region, with a transfer of 100 per cent of the national poverty line for all adults and children. According to the findings, the average cost of the UBI is between 20 per cent and 30 per cent of GDP. Similar results were obtained by Rigolini et al. (2019), who calculated the share of GDP needed to implement a UBI able to reduce poverty in ten different countries.

Although the literature on universal social protection is expanding and pilots of universal cash transfers are being implemented around the world, some of their aspects remain unexplored. One example is the interaction between taxation and universalism. Only a few studies (e.g., Ortiz et al. 2018; Rigolini et al. 2019) investigate the financial aspects of universal coverage. These are, however, often limited to calculating the share of GDP or tax revenue required to fund such a policy rather than proposing realistic tax reforms or other options capable of generating the required amount.

In the optic of universalism, the universal child benefit (UCB) represents a less expensive policy tool for reducing poverty and inequality for a population group with a high risk of exclusion from social protection. According to International Labour Organization data (ILO n.d.), children receive only 1.1 per cent of the total global average share of GDP spent on social protection, while in Africa they receive 0.4 per cent. This contributes to keeping child poverty high, with disparities in poverty reduction across countries and a persistent over-representation of children in poverty when compared to older age groups (ODI and UNICEF 2020). Globally, 1.4 billion children aged 0–15 years lack any form of social protection (ILO 2024).

In the sub-Saharan African (SSA) context, the number of children in extreme poverty increased by 27 million between 2013 and 2022, while the global number was reduced. According to the United Nations Development Programme report on multidimensional poverty (UNDP 2023), more than half of the global child population that is considered poor lives in this region. According to the report the SSA region has the largest share of the population, with a deprivation score of 70–100 per cent.

In 2018 Ghana registered a population of more than 30 million people, of which 38 per cent were aged between 0 and 14 years (World Bank 2025a). Our study aims to examine the effects of a UCB by using microsimulation techniques. Our analysis focuses solely on the first-round effects of UCB and its financial implications, without addressing the policy's political feasibility.

In line with the standards of the ILO to finance universal social protection, no regressive funding sources are used (Ortiz et al. 2018). Instead, we estimate the potential tax revenue loss due to illicit financial flows (IFFs) in Ghana in 2018 and convert the amount into a UCB. As with other alternative financing strategies, such as reallocation of public expenditure or debt restructuring, addressing IFFs is considered a sustainable and equitable approach (Ortiz et al. 2018).

Illicit financial flows continue to pose a significant challenge to economic development and fiscal sustainability in many low- and middle-income countries. Ghana, in particular, has emerged as one of the most affected countries in SSA. According to the 2021 report by Global Financial Integrity, Ghana lost approximately US\$1.78 billion in 2018 alone due to trade mis-invoicing. In 2018 Ghana ranked among the top four developing economies with the highest ratio of trade value gaps to total external trade. The share of trade value gaps relative to Ghana's total trade with global partners was 28.8 per cent in 2018, significantly exceeding the average of 26.4 per cent recorded over the 2009–18 period (GFI 2021). These figures underscore the scale and persistence of IFFs in Ghana and highlight the urgent need for strengthened trade transparency and regulatory oversight.

This study investigates the potential effects of implementing a UCB in Ghana by integrating the GHAMOD tax–benefit microsimulation model with a social accounting matrix (SAM). The SAM database is employed to decompose trade value gaps into import and export components and to estimate the potential tax revenue losses resulting from IFFs, based on Ghana's existing tax policy framework. These estimated revenue losses are then used to simulate a counterfactual scenario in which the forgone tax revenue is reallocated to finance a child benefit scheme.

We create two budget-neutral UCB schemes. The first provides a flat benefit to every household with at least one child, while the second provides a higher benefit to households with four or more children.

The motivation behind this paper can be summarised in three points. First, targeted programmes are generally preferred over universal programmes as they are seen as pragmatic and cost effective, ensuring that limited funds reach the poor (Devereux et al. 2017). Instead of adopting a universal approach, policy makers often focus on improving existing targeted programmes, either horizontally or vertically. However, is this pragmatism still valid in countries with widespread poverty, significant inclusion and exclusion errors in targeting, and a lack of social policies for specific population groups?

Second, studies on universal social protection often focus solely on estimating the financial cost of universal policies without considering potential tax reforms (e.g., Nichelatti et al. 2024; Shahir et al. 2023). The few that do explore tax reforms typically simulate tax rate increases, such as to personal income tax and value added tax (VAT), which primarily burden citizens. This approach inevitably leads to the conclusion that universalism is prohibitively expensive (e.g., Hanna and Olken 2018; Lustig et al. 2023; Rigolini et al. 2019). To challenge this perspective, this paper proposes an alternative: financing universal social policies by generating revenue through stricter taxation of illicit financial practices (following previous studies on this such as Hannah et al. 2023 and Ortega et al. 2020).

Third, examining the relationship between tax composition, social protection, and fiscal systems in low-income countries (LICs) and lower-middle-income countries (LMICs) is essential for developing more equitable and effective policies to address poverty and inequality. Despite growing research on the distributive impact of social protection, studies often overlook its connection to tax policy, leading to an incomplete understanding of fiscal effects on poverty and inequality. Limited tax revenues and reliance on regressive taxes, such as consumption taxes, constrain social protection budgets and disproportionately burden poorer households, reducing the redistributive impact of social spending (Bastagli 2015).

The findings reveal that a UCB, financed through the hypothetical recovery of tax revenues lost to IFFs as trade mis-invoicing, could contribute to modest but meaningful reductions in poverty and

inequality in Ghana. The UCB significantly expands beneficiary coverage and enhances benefit distribution across income quintiles, even though the recovered revenue to total poverty gap ratio is rather modest. Both universal and quasi-universal policy scenarios lower income inequality, poverty gaps, and headcount poverty; the biggest effects are shown in rural households, larger households, and households with children or orphans.

The research aims to contribute to the existing literature by addressing some of these points in the SSA context. In order to do this the study aims to: 1) investigate the potential benefit in reducing IFFs, 2) propose a pragmatic approach for the implementation of UCB, 3) simulate the effects on poverty and inequality of different UCB schemes at the household level, 4) explore the impact of the UCB on different population groups, and 5) compare the effectiveness of the UCB and the existing targeting system in Ghana in reducing poverty and inequality.

2 Literature review

2.1 Illicit financial flows

Illicit financial flows (IFFs) refer to the cross-border movement of capital linked to illegal activity or, more specifically, money that is earned, transferred, or used illegally across borders (Combres et al. 2021). They are inherently challenging to measure and even more difficult to aggregate. Estimating IFFs involves three key challenges. The first is a measurement issue, as the actual value of illicit flows in and out of an economy is never directly observed. Most methods rely on constructed estimates, which inevitably include an unknown margin of error in both magnitude and direction. These estimates are often categorized by flow type and direction and tracked over time. While they may be unbiased if the measurement error is purely random, significant data noise can make it difficult to assess whether observed changes over time are meaningful (Collin 2021). Cobham and Janksy (2020) provide a detailed critical guide on the data, methodologies and, findings in estimating IFFs.

African countries lose on average of US\$88.6 billion per year due to IFFs (3.7 per cent of the continent's total GDP), which includes tax evasion, abusive commercial practices, proceeds from illicit markets, theft and terrorism financing, money laundering, and corruption. Countries with high IFFs spend an average of 25 per cent less on health and 58 per cent less on education (United Nations 2022). For the 2000–12 period, preliminary estimates for gold, cocoa, and other extractive industries show that between Ghana, the USA, and the EU, inward and outward IFFs amounted to US\$8.44 billion (UNCTAD and ECA 2023).

These IFFs constitute a major challenge for development in LICs and LMICs, as domestic resource mobilization is imperative for providing crucial public services. First, although tax revenue as a share of GDP has grown in developing countries, it remains low compared to high-income nations. Limited revenue constrains governments' ability to provide essential public services such as education, healthcare, and infrastructure. Second, IFFs are closely linked to international transactions, leading to unfair competition for local businesses and inefficient resource allocation. Third, wealth concealment is primarily practised by the wealthiest households, further exacerbating inequality. Fourth, perceptions of widespread tax evasion or compliance can influence individual behaviour, potentially creating a cycle of lower or higher tax compliance (Brandt 2022).

The development theory of IFFs argues that these hinder sustainable development by reducing tax revenues, driving capital flight, and discouraging private savings and investment. In SSA these outflows have resulted in substantial tax losses, depriving governments of resources that could have been used for job creation, poverty alleviation, inequality reduction, climate action, and economic growth. Furthermore, the depletion of public funds weakens efforts to mobilize domestic resources, threatening progress toward achieving the United Nations' 17 Sustainable Development Goals (SDGs) by 2030. O'Hare et al. (2014) argue that IFFs may represent a key factor that undermines progress in achieving the Millennium Development Goals in SSA. IFFs negatively affect government revenue and household income, both of which are essential for improving child survival. They reduce funding for healthcare, education, and sanitation, while corruption and weak governance further hinder effective resource allocation.

Hannah et al. (2023) found that government revenue equivalent to Vodafone's taxes made a significant contribution to progress in attaining selected SDGs. The results show that the revenue equivalent to Vodafone's taxes allowed 966,188 people to access clean water and 1,371,972 people to access basic sanitation each year. Over the time period studied, 858,054 children spent an extra year in school and 54,275 children under five years, and 3,655 mothers survived. In just one of these countries, Tanzania, the revenue equivalent to Vodafone's tax contribution allowed 174,121 people to access clean water and 223,586 to access sanitation each year. Furthermore, 187,023 children spent an additional year at school, and 6,569 additional children under five and 625 additional mothers survived.

2.2 Universal child benefit

The ongoing multifaceted crises, characterized by COVID-19, conflict, and climate change, present complex challenges that transcend national borders with long-term, unpredictable consequences. These crises are expected to intensify existing issues, particularly social instability, as well as health and income inequalities (Landin Basterra et al. 2023). Universal social protection is crucial for eradicating poverty, reducing inequalities, and ensuring full, productive employment and decent work. It promotes social inclusion by helping individuals to manage life-cycle risks and serves as a key policy tool for addressing systemic challenges, including climate adaptation and mitigation, demographic shifts, economic and technological transformations, and crisis response. Without strong social protection systems these changes risk increasing vulnerabilities, exacerbating inequalities and poverty, and undermining social and political stability (ILO 2025).

When we talk about universal social protection, UBI is probably the first thing that pops up in our minds. Although UBI initiatives originate in the Global North, there is a progressive enthusiasm in the Global South for considering UBI as a potential solution to poverty and various developmental challenges.

Most OECD countries with UCBs or quasi-universal schemes report lower child poverty rates than those without such programmes. In 15 of these countries UCBs have reduced income poverty in households with children by an average of five percentage points. In Germany and Luxembourg UCBs account for half of the overall poverty reduction effect of cash transfers (ODI and UNICEF 2020).

At the theoretical basis, UBI may produce many positive aspects in several spheres, and some experiments partially reveal them (see Gentilini et al. 2020). However, one of the main concerns of this policy is its financial cost. Ortiz et al. (2018) calculated the potential costs of implementing a UBI as a percentage of GDP across various regions. According to their findings the average cost of implementing a UBI, defined as a transfer equal to 100 per cent of the national poverty line for both adults and children, ranges between 20 and 30 per cent of GDP. Rigolini et al. (2019) found similar results when assessing the GDP share required for the implementation of a UBI aimed at reducing poverty in ten different countries.

The UCB represents a less expensive policy tool for reducing poverty and inequality for a population group with a high risk of exclusion from social protection. According to UNICEF, the cost of a UCB for children aged 0–14 would require a minimum of 2 per cent of GDP in LICs above the average of spending on child benefit packages (ODI and UNICEF 2020). When the cost of a UCB transfer is compared to the cost of a means-tested or poverty-targeted child benefit, a paradox emerges. The marginal cost of implementing the transfer is lowest in LICs, where resources are scarce, but child (and overall) poverty rates are highest. When compared to a benefit targeted exclusively to poor children, the total estimated cost of a UCB, including administration costs, is 1.3 times higher in LICs. In contrast the total cost in upper-middle-income countries is 7.5 times higher.

Most developed countries provide direct child benefits or targeted welfare programmes to support families, aiming to enhance child wellbeing, equity, and social mobility. These transfers expand family budgets, enabling greater access to essential goods and services like food, clothing, and education. Additionally, they may have indirect benefits, such as reducing stress, improving household stability, and increasing employment opportunities, ultimately fostering better child development and future success (Milligan and Stabile 2011). However, Van Lancker and Van Mechelen (2015) found that child benefits that target lower incomes improve poverty reduction, challenging the redistribution paradox. Universal systems achieve the best outcomes due to larger redistributive budgets, while targeting within selective systems enhances poverty reduction through higher benefit levels for low-income families. However, targeting higher-income groups through tax benefits weakens poverty reduction efforts. The most effective approach is ‘targeting within universalism’, which combines broad coverage with generous benefits for low-income families, maximizing impact.

Kosala (2024) found that UCBs lead to closer birth spacing and lower maternal age, improving welfare but reducing average child quality and limiting inequality reduction. While they initially lower female labour supply, long-term effects may boost workforce participation. The author also highlights a positive spillover effect on older households, as younger parents can accumulate more retirement savings and consume more in old age.

A UCB pilot in Kenya, implemented across three counties (Kajiado, Embu, and Kisumu) between 2021 and 2022, showed very positive results. The pilot consisted of a monthly cash transfer of KES800, delivered via mobile money. Complementary services focusing on nutrition, parenting, and disability inclusion contributed to improvements in child wellbeing, household food security, and parenting practices. Beneficiaries reported stronger family relationships and community cohesion. The cash transfers also led to increased household income, enhanced budgeting capacity, and greater food quantity and diversity, particularly for young children. Additionally, the training components were associated with reduced use of violent discipline and improved maternal and child health outcomes, underscoring the programme’s broader developmental impact (Uytterhaegen et al. 2024).

3 Methodology and data

This section outlines the methodological framework and data used to evaluate the poverty and distributional effects of a UCB in Ghana. The analysis assumes the hypothetical recovery of tax revenues lost through trade-related IFFs and explores the potential impact of redirecting these funds into child income support. The section proceeds by detailing the IFF estimates and associated tax revenue losses, the integration of these results into the GHAMOD microsimulation model, the underlying dataset, the design of policy scenarios, and the welfare indicators used in the analysis.

3.1 Estimating tax revenue losses from IFFs

We estimate the scale of IFFs by relying on figures reported by Global Financial Integrity (GFI 2021). GFI derives trade value gaps using bilateral trade data reported by countries to the United Nations. The analysis encompasses 134 developing countries and their trade relationships with 36 developed economies. These gaps reflect discrepancies between a country's reported trade values and the corresponding data reported by its trading partners, suggesting potential trade mis-invoicing. Such discrepancies indicate potential manipulation of trade data, often associated with IFFs. Specifically, GFI estimates that, in 2018, Ghana experienced a total trade-related value gap of US\$1.778 billion.

To evaluate the fiscal implications, we disaggregate the total trade value gap into US\$903.18 million from commodity imports and US\$41.37 million from cocoa and related items exports. The import and cocoa export value gaps were calculated by applying the respective trade shares of imports and cocoa exports to the total trade value gap.^{1,2} Trade gaps related to other export categories are excluded from the analysis as these exports are not subject to taxation under Ghana's current fiscal framework.

The 2019 SAM for Ghana adopts the standard IFPRI Nexus SAM framework, encompassing 42 activity and commodity accounts. It includes five types of production factors: three labour categories, individuals with no formal education or who did not complete primary school, those who completed primary education, those with secondary or tertiary education, and agricultural land and capital. The SAM also disaggregates households into ten representative groups classified by income quintiles and by urban or rural residence. In addition, it features accounts for enterprises, government, three types of taxes, savings–investment, changes in inventories, and the rest of the world.

We estimate the imputed tax revenue losses associated with trade mis-invoicing both in imports and cocoa exports. An effective import tax rate of 7.86 per cent, derived from the 2019 SAM, was applied to the estimated import value gap, while a 10 per cent export tax rate was used for the value gap associated with cocoa exports. The effective import tax rate is calculated as the ratio of total revenue from import duties to the aggregate value of taxable imports. Then the VAT of 15 per cent is imposed

¹ The values are calculated by using (Ghana Statistical Services; Institute for Statistical, Social, and Economic Research; and International Food Policy Research Institute, 2023).

² We do not calculate the export duty rate because most African countries (included Ghana) exempt exports from taxes to promote them.

on taxable imports.³ The total estimated tax revenue gap corresponds to US\$221.20 million. We convert this amount to Ghanaian Cedi (GH¢) using the 2018 mid-exchange rate of GH¢4.8200 per USD. The total cumulative tax revenue gap converted in local currency is GH¢1.066 billion. These estimated revenue losses provide the fiscal basis for simulating two UCB scenarios in the GHAMOD model, as described next.

3.2 GHAMOD model and input dataset

Recent studies have employed SOUTHMOT models to simulate the effects of universal social policies in low- and middle-income countries (Jara and Palacio Ludeña 2024; Nichelatti et al. 2024; Shahir et al. 2023). In this study we use GHAMOD v2.7, the Ghana-specific version of the SOUTHMOT tax–benefit microsimulation model. GHAMOD is built on microdata from the Ghana Living Standards Survey Round 7 (GLSS-7), a nationally representative household survey.

The model enables the assessment of how existing tax and benefit policies affect household income distribution, poverty, and inequality. It also allows the simulation of hypothetical policy reforms and can incorporate exogenous shocks, such as changes in income or prices. However, GHAMOD is a static microsimulation model which captures only first-order effects and excludes behavioural responses or general equilibrium feedback that may result from policy changes.

Table 1 presents the key demographic and income characteristics of the underlying input data. The model's input dataset comprises 59,864 individual observations. The sample is relatively young, with an average age of 25 and a standard deviation of 20, indicating substantial age heterogeneity. Gender is nearly evenly split (48 per cent male), reflecting a balanced sample. Marital status suggests that the majority are single or never married (the mean is 1.57 on a scale from 1 to 5), and a small proportion of respondents are orphans (7 per cent). The urban–rural distribution is also balanced, with 49 per cent residing in urban areas.

Income-related variables exhibit high variation in both coverage and distribution. Employment income, reported by 5,342 individuals, averages GH¢998 with moderate variability. Self-employment income exhibits extreme variation and outliers, with a negative mean (–GH¢4,662) and a standard deviation exceeding GH¢137,000. Agricultural income, reported by 8,191 respondents, also ranges significantly from substantial losses to notable gains. Private transfers are received by nearly 17,337 individuals but are highly unevenly distributed. Investment and rental incomes are less common and generally low in value.

³ Even though we know that Ghana includes some exemptions for VAT on imported goods, decomposing the share of imports by type of goods would be too complex. Therefore, the general 15 per cent VAT rate is applied uniformly, without distinctions.

Table 1: Descriptive statistics of individual-level demographic and income variables (GLSS-7 2018)

Category	Variable	Observations	Mean	Std Dev	Min	Max
Demography	Age	59,864	25	20	0	99
	Gender	59,864	0.48	0.50	0	1
	Marital status	59,864	1.57	0.96	1	5
	Orphan status	59,864	0.07	0.26	0	1
	Location (urban/rural)	59,864	0.49	0.50	0	1
	Occupation	28,459	5.51	1.55	0	9
	Education	59,864	1.67	1.35	0	5
Original income	Private transfer	17,337	115	281	-8	8,333
	Employment income	5,342	998	1,307	0	16,500
	Self-employment income	5,679	-4,662	137,263	-6,167,254	464,928
	Investment income	202	6	8	0	56
	Rental income	435	870	2,911	0	16,450
	Agricultural income	8,191	199	808	-12,551	23,831

Source: Authors' creation based on GHAMOD v2.7.

We make several assumptions regarding household income (both disposable and post-fiscal) and the impact of the UCB on households' indirect tax burden. First, negative original incomes are set to zero, and each person receives at least the equivalent of the respective UCB as income. Second, we assume that the entire UCB is spent rather than saved, converting fully into consumption. Third, when calculating post-fiscal income (defined as disposable income minus indirect tax), we assume that households spend the UCB in formal markets where it is subject to the standard VAT rate of the respective country. Finally, both disposable and post-fiscal income are assumed to be at least zero. The same approach is used by Nichelatti et al. (2024).

3.3 Reform scenarios and static impact estimation

We construct two counterfactual scenarios in addition to the baseline. We define the 2018 system, incorporating the prevailing social and tax policies without any modifications, as our baseline. The choice of 2018 ensures consistency with the reference year of the IFF data. The two hypothetical scenarios include a budget neutral UCB built with the tax revenue gap calculated from IFFs:

1. The first UCB, Scenario 1, provides a monthly benefit of GH¢83.58 for each child under the age of 18 in a household.
2. The second UCB, Scenario 2, consists of a quasi-universal child benefit, which provides a monthly benefit of GH¢65 for each household with four or fewer children and a benefit of GH¢139 for each household with more than four children⁴.

⁴ The decision to provide a different benefit amount with families with four or more children is because the mean of children per household is 3.88 (rounded up to 4).

To assess the implications of different policy schemes, we compute various welfare measures based on the simulated incomes described above. While expenditure is traditionally used to measure poverty and inequality in most developing countries, we rely on income as any UCB first impacts income before influencing expenditure. This approach captures the fundamental mechanisms of the tax–benefit system and the effects of different policy configurations at the income level. For clarity we present the first-round effects of welfare measures based on income, minimizing additional assumptions about the relationship between income and expenditure.

Specifically, we calculate the standard Foster-Greer-Thorbecke (FGT) poverty measures—FGT(0) for the poverty rate (equation 1), FGT(1) for the poverty gap (equation 2)—and the GINI index to assess inequality (equation 3), using both disposable and post-fiscal income.

$$GT(0) = \frac{q}{n} \quad (1)$$

$$FGT(\alpha) = \frac{1}{n} + \sum_{i=1}^q \left(\frac{z - y^i}{z} \right) \quad (2)$$

$$G = \frac{1}{2n^2 \bar{y}} \sum_{i=1}^n \sum_{j=1}^n |y_i - y_j| \quad (3)$$

Welfare measures based on disposable income are discussed in Section 4. While incorporating indirect taxes requires additional assumptions, the core mechanisms remain unchanged, and the overall patterns largely persist unless otherwise noted in Section 4. Consequently, results for welfare measures based on post-fiscal income are presented in the Appendix (Tables A1, A2, and A3). In addition, we replicate the same calculations using consumption (Tables A4, A5, and A6). We choose to calculate our results on income because we are primarily interested in the monetary dynamics related to the UCB. Although we recognize that consumption data might be more accurate in the developing country context, results based on that would require additional assumptions on behaviour dynamics that go beyond this paper.

Poverty is calculated by applying the national poverty line of GH¢146.73 per month (GH¢154.53 for the post-fiscal national poverty line) and the food poverty line of GH¢81.85 per month as defined in GLSS-7 (Ghana Statistical Service 2018). These thresholds are adjusted to reflect price levels in the reference year using the overall consumer price index. As equivalent scale we use the nationally defined scale.

In addition to estimating poverty and inequality measures for the overall population, we compute distributional measures for specific household types: those with children (at least one member aged under 18), with elderly members (at least one person aged 65 or older), and with orphans (a child who has lost one or both parents). We also disaggregate the analysis by area of residence (urban vs. rural) and by household size: two members; three to four members; five to six members; and seven or more members.

4 Results

This section investigates the potential poverty reduction effects of a UCB scheme in Ghana, assuming the hypothetical recovery and reinvestment of tax revenues from IFFs lost to trade mis-invoicing. It examines how channelling these funds into child income support could impact household welfare and

income distribution. Further, the analysis presents estimates of the headcount poverty rate, poverty gap, and GINI coefficient under the baseline scenario and two alternative arrangements of the UCB.

As highlighted in the previous section, the 2021 GFI report reveals significant value gaps in Ghana's international trade. In 2018 alone these gaps amounted to US\$1.778 billion, approximately 3.03 per cent of the country's estimated GDP for that year (World Bank 2025b). If the lost tax revenue were recovered, it could make a substantial contribution to poverty reduction in Ghana. However, the severity of poverty is considerable, and the resources required to eliminate it remain significant.

Table 2 illustrates the overall income shortfall required to lift the poor above the poverty line, the cumulative tax revenue lost due to trade mis-invoicing, and the share of beneficiaries within the total population under both the baseline and UCB scenarios. We calculated aggregate poverty gap statistics using disposable income, equivalized based on the nationally defined equivalence scale, and the national poverty line. The findings reveal that over GH¢18 billion (US\$3.73 billion) is needed to fully eradicate poverty. The lost tax revenue of GH¢1.07 billion could significantly increase the percentage of beneficiaries in Ghana. As shown in Table 2, the proportion of beneficiary households could rise rapidly from the baseline (12.60 per cent) to the UCB scenario (66.63 per cent). Nevertheless, it is important to consider the moderate poverty reducing impact of the hypothetical benefit regime given the relatively low ratio of the cumulative tax revenue gap to the aggregate poverty gap, which stands at 0.06.

Table 2: Cumulative tax revenue gap and aggregate poverty gap in Ghana (2018), in GH¢ billions, along with the percentage of beneficiary households under the baseline and reform scenarios

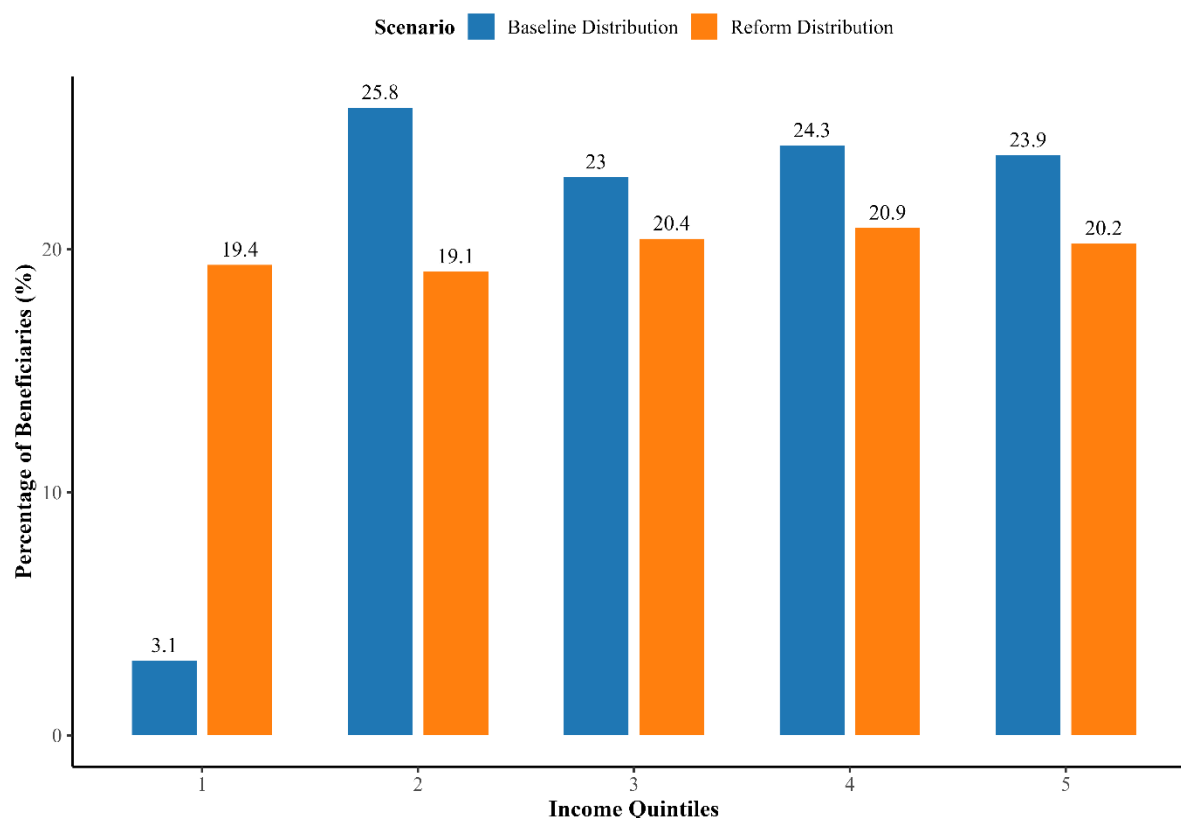
Aggregate poverty gap	Cumulative tax revenue gap	Beneficiary HH percentage (baseline)	Beneficiary HH percentage (reform scenario)
18.77	1.07	12.60	66.63

Source: Authors' creation using GHAMOD v2.7.

The difference in the number of beneficiaries between the baseline system and the two hypothetical scenarios has significant distributional implications. As shown in Figure 1, the existing benefit arrangement is less effective in targeting the poor based on income. In contrast, under the alternative benefit scenarios, the number of beneficiaries is more evenly distributed across income quintiles, as calculated using equivalized disposable income.

This variation in beneficiary distribution stems from differences in targeting methods. In the baseline system benefit recipients are identified based on a combination of disability status, orphanhood, and other indicators, along with poverty status measured by consumption expenditure, while income is largely overlooked. In contrast the counterfactual scenarios provide benefits universally to all children, regardless of poverty status. Notably, households in the lowest income quintile have on average, 3.80 children, which is close to the overall mean (3.88).

Figure 1: Beneficiary distribution by quintile and percentage of beneficiary households⁵



Source: Authors' creation using GHAMOD 2.7.

Table 3 presents headcount poverty rates across various household subgroups for the baseline, two alternative UCB scenarios, and the corresponding changes. All poverty and distributional indexes in this section are calculated using equivalized disposable income and the national absolute poverty line, with figures based on post-fiscal income and consumption expenditure available in the Appendix. The findings in Table 3 highlight the significant extent of income poverty in Ghana. According to the baseline simulation, 51.32 per cent of households are classified as poor. The poverty rate is notably higher among households with children (53.50 per cent), those with members older than 64 years (57.20 per cent), households with orphaned children (54.19 per cent), rural households (63.95 per cent), and households with seven or more members (61.48 per cent). In contrast urban households experience the lowest poverty rates, at 38.97 per cent.

Table 3 also compares poverty reduction under the two scenarios relative to the business-as-usual case. The purely universal benefit scheme (Scenario 1) achieves a slightly greater reduction in poverty than the quasi-universal system, which is based on a simple categorical criterion (Scenario 2). Specifically, Scenario 1 leads to a 0.74 percentage point decrease in overall poverty, compared to a 0.71 percentage point reduction under Scenario 2. The largest declines in poverty are observed among the most vulnerable household subgroups, including those with seven or more members,

⁵ The graph illustrates the percentage distribution of beneficiaries across income quintiles, with each column summing to 100 per cent. The lower shares observed in the upper four quintiles under the alternative scenarios, compared to the baseline, are due to their significantly higher concentration of beneficiaries in the first quintile.

households with orphaned children, and households with children. However, given the persistently high poverty levels in Ghana, both scenarios contribute only modestly to overall poverty reduction.

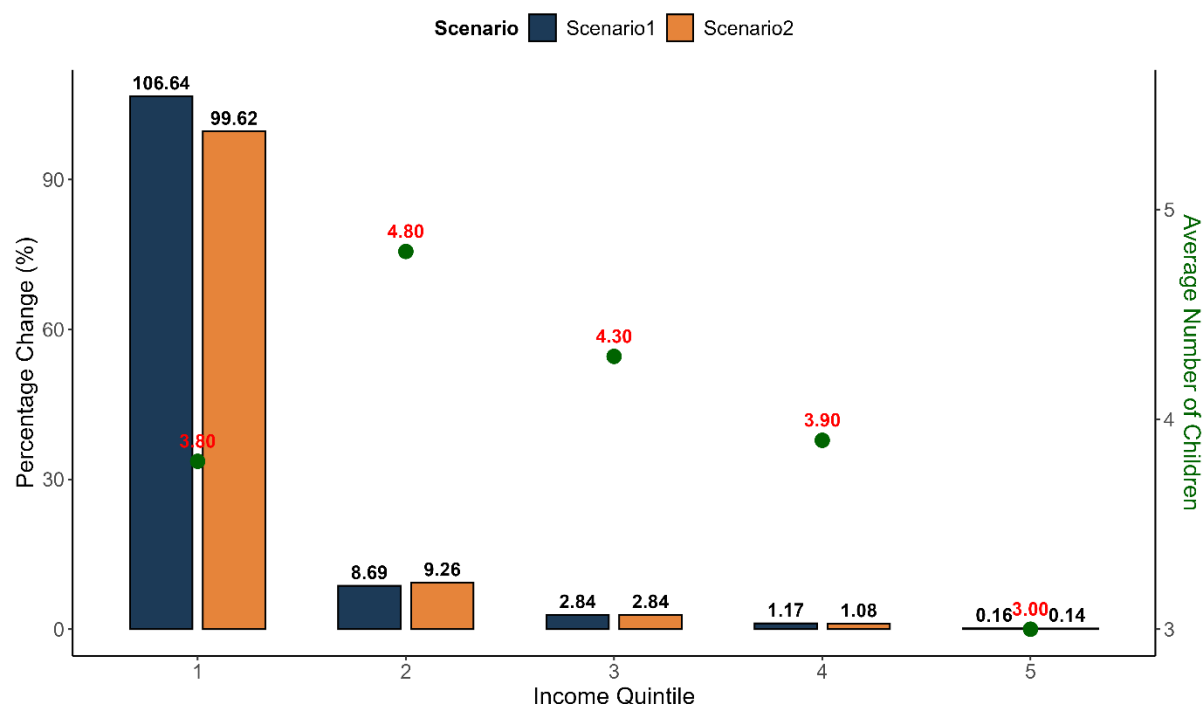
Table 3: Headcount poverty rate and changes across scenarios by household subgroups (disposable income, national poverty line)

Subgroup	Baseline (A)	Scenario 1 (B)	Scenario 2 (C)	Change B-A	Change C-A
Overall	51.32	50.58	50.60	-0.74	-0.71
HH with children	53.50	52.65	52.67	-0.86	-0.83
HH with elderly	57.20	56.96	57.03	-0.24	-0.17
HH with orphan	54.19	53.03	53.17	-1.16	-1.01
Urban HH	38.97	38.32	38.33	-0.65	-0.64
Rural HH	63.95	63.12	63.15	-0.83	-0.79
Two-person HH	43.63	43.37	43.55	-0.26	-0.08
Three/four-person HH	43.83	43.36	43.59	-0.46	-0.23
Five/six-person HH	51.15	50.28	50.44	-0.87	-0.71
Seven+ person HH	61.48	60.41	60.12	-1.07	-1.36

Source: Authors' creation using GHAMOD v2.7.

It is noteworthy that the poverty reduction in Scenario 2, which allocates a higher benefit amount to each child in larger households, is less effective compared to Scenario 1, which distributes an equal benefit per child while maintaining the same overall expenditure. This difference in effectiveness in reducing poverty is primarily driven by the income dynamics in the bottom quintiles and the distribution of the number of children across the income spectrum. Figure 2 illustrates that the increase in disposable income follows a similar trend for both benefit systems, decreasing from the bottom to the top quintiles. A notable disparity is observed only in the first quintile, where income increases by 106.64 per cent in Scenario 1 and 99.62 per cent in Scenario 2. Scenario 2, which is structured based on the number of children, assigns lower benefits to households with fewer than four children and higher benefits to those with four or more children relative to Scenario 1. As a result, Scenario 2 is slightly more effective for households in the second quintile, which have an average of 4.80 children, while the two scenarios are nearly identical for households in the third quintile, where the average number of children is 4.30. Overall, since the average number of children in most quintiles is below four, the per-child benefit in Scenario 1 is significantly higher than in Scenario 2, making it the more effective option for poverty reduction.

Figure 2: Percentage change in disposable income from baseline to scenarios and average numbers of children by quintiles



Source: Authors' creation using HAMOD v2.7.

Table 4 presents an estimate of the poverty gaps across different household subgroups under the baseline and the two policy scenarios. The results indicate that income shortfalls relative to the poverty line remain substantial in Ghana, with an overall poverty gap of 34.86 per cent. Poverty is particularly severe among certain household groups, with the highest gaps observed in rural households (43.99 per cent), households with seven or more members (40.96 per cent), and households with elderly members (38.96 per cent). These findings highlight the disproportionate burden of poverty faced by larger households, the elderly, and those living in rural areas.

To validate the above findings, we estimate headcount poverty rates using alternative income concepts and poverty lines. The Appendix presents poverty rates based on post-fiscal income and consumption expenditure alongside disposable income evaluated against the national food poverty line. Importantly, the food poverty line for Ghana closely aligns with the international poverty threshold of US\$1.90 per day. To avoid redundancy, we therefore do not report results using the US\$1.90 international poverty line.

There is no substantial difference between the poverty rates derived from disposable income (Table 4) and those based on post-fiscal income (Table A1), except that Scenario 2 outperforms Scenario 1. However, as shown in Table A4, the poverty rate significantly decreases when measured using consumption expenditure, and the poverty-reducing effect of the universal child benefit becomes more pronounced. As with post-fiscal income, Scenario 2 proves to be more efficient in this context.

Lastly, Tables A7 and A8 show that using disposable income with either of the two poverty lines considered in this study does not affect the magnitude or trend of poverty reduction under the two hypothetical benefit scenarios. Overall, our findings indicate that Scenario 1 is more effective at

reducing poverty among smaller to medium-sized households, while Scenario 2 leads to greater poverty reduction for rural and larger households.

Table 4: Poverty gaps and changes across scenarios by household subgroups (disposable income, national poverty line)

Subgroup	Baseline (A)	Scenario 1 (B)	Scenario 2 (C)	Change B-A	Change C-A
Overall	34.86	33.38	33.37	-1.48	-1.49
HH with children	35.97	34.25	34.24	-1.72	-1.73
HH with elderly	38.96	37.54	37.40	-1.42	-1.56
HH with orphan	34.75	33.00	32.81	-1.75	-1.94
Urban HH	25.94	24.93	25.15	-1.01	-0.79
Rural HH	43.99	42.03	41.79	-1.96	-2.20
Two-person HH	31.63	31.05	31.38	-0.58	-0.25
Three/four-person HH	30.06	28.88	29.54	-1.18	-0.52
Five/six-person HH	34.16	32.56	32.80	-1.60	-1.36
Seven+ person HH	40.96	38.89	38.04	-2.07	-2.92

Source: Authors' creation using GHAMOD v2.7.

The results indicate that Scenario 1 and Scenario 2 have nearly identical effects on reducing poverty gaps. Scenario 1 reduces the overall poverty gap by 1.48 percentage points, while Scenario 2 achieves a slightly higher reduction of 1.49 percentage points. This small difference suggests that the selected targeted approach based on household size is as effective as a universal benefit scheme in narrowing the poverty gap. Notably, the most significant reductions are observed among households with seven or more members, those in rural areas, and households with orphaned children.

An in-depth analysis of various household subgroups reveals a considerable variation in the effectiveness of the two hypothetical scenarios. Scenario 2 is particularly effective in reducing poverty gaps, especially among vulnerable household categories, large households (those with seven or more members), rural households, and households with orphaned children. In contrast, Scenario 1 leads to a relatively greater reduction in poverty gaps for smaller to medium-sized households and those in urban areas. These findings highlight the superior relative effectiveness of the policy interventions in rural areas, where poverty rates and dependency ratios tend to be higher. Overall, the impact of both scenarios varies significantly across household sizes, with the most pronounced reductions in poverty gaps observed in larger households. This outcome aligns with the design of Scenario 2, which specifically targets households with more children, resulting in a stronger effect on larger families.

Table 5 presents the GINI coefficient for the baseline as well as the two counterfactual scenarios, along with the changes relative to the business-as-usual case. The results highlight a significant level of income inequality in Ghana, with a baseline GINI coefficient of 77.69 per cent. Like the poverty statistics discussed earlier, both UCB scenarios show a reduction in inequality compared to the baseline. However, as with the poverty measures, the GINI also only slightly changes between the two hypothetical scenarios. However, a modest variation emerges when examining different household subgroups. As with the poverty gap analysis, the two hypothetical scenarios exhibit differential impacts across household categories. Specifically, Scenario 2 leads to a more substantial reduction in income inequality for larger households, rural households, and households with orphaned

children. In contrast, Scenario 1 proves more effective for smaller to medium-sized households and those located in urban areas.

Table 5: GINI coefficient and changes across scenarios by household subgroups (disposable income)

Subgroup	Baseline (A)	Scenario 1 (B)	Scenario 2 (C)	Change B-A	Change C-A
Overall	77.69	77.06	77.07	-0.63	-0.62
HH with children	77.63	76.84	76.86	-0.79	-0.78
HH with elderly	73.95	73.18	73.13	-0.77	-0.83
HH with orphan	73.58	72.71	72.64	-0.87	-0.95
Urban HH	76.19	75.80	75.88	-0.39	-0.31
Rural HH	75.64	74.45	74.33	-1.19	-1.30
Two-person HH	70.96	70.72	70.85	-0.23	-0.10
Three/four-person HH	76.25	75.77	76.04	-0.48	-0.21
Five/six-person HH	78.79	78.08	78.20	-0.71	-0.59
Seven+ person HH	75.05	73.88	73.42	-1.17	-1.63

Source: Authors' creation using GHAMOD v2.7.

5 Conclusions

This study examined the feasibility and distributional impact of implementing a UCB in Ghana financed by revenues hypothetically recovered from IFFs. The analysis demonstrates that a UCB can enhance income security and reduce poverty and inequality, particularly among vulnerable groups such as children, large households, and rural populations.

Two policy scenarios were compared: a fully universal child benefit (Scenario 1) and a quasi-universal scheme differentiated by household size (Scenario 2). While both hypothetical arrangements operate under the same budget constraints, Scenario 1 proves slightly more effective in reducing poverty across most income groups due to the higher per-child benefit. Scenario 2, in contrast, better targets larger households, offering more substantial support where child dependency ratios are highest. In addition, at the individual level, the results confirm that the children population group benefits more from both Scenario 1 and Scenario 2 (with the second performing slightly better), followed by women (Tables A9 and A10).

Beyond its redistributive effects the UCB offers structural potential to address systemic exclusion. By extending benefits to all children irrespective of socioeconomic status, the UCB avoids the inefficiencies and errors associated with means-tested programmes, particularly in contexts marked by high levels of informal employment and weak administrative capacity. The mechanism through which the UCB reduces poverty and inequality is grounded in its ability to increase disposable income, particularly in lower-income quintiles, thus narrowing income gaps and enhancing the overall equity of the fiscal system.

Our findings align with a growing body of evidence that highlights the effectiveness of UCBs in reducing child poverty, a central factor that undermines children's wellbeing. In high-income countries

increased investment in UCBs, as part of comprehensive family policy packages, is associated with lower relative child income poverty rates, even when controlling for economic growth, socio-demographic variables, and other redistributive mechanisms (ILO 2024).

To address the financing dilemma of universal social policy, we propose the tackling of IFFs as an alternative approach to avoid placing additional burdens on the population. Conventional approaches often rely on increasing existing taxes, such as income, corporate, or VAT, or introducing new levies on natural resources, financial transactions, or automation. Others suggest eliminating tax-free allowances or taxing UCBs to reduce costs and target support, like a negative income tax model. However, these strategies may impose undue pressure on existing taxpayers, reduce the efficiency of the tax system, increase incentives for tax evasion, and ultimately erode the political legitimacy of universal schemes. Regressive methods, like taxing low-income households or replacing existing benefits, could undermine the UCB redistributive impact (Ortiz et al. 2018).

Although our UCBs have a moderate impact in reducing poverty and inequality, the availability of quality services, such as schools and health services, and of complementary programming could increase the effects of these cash transfers in improving non-monetary outcomes such as education, health status, and nutrition (ODI and UNICEF 2020).

Reducing IFFs requires international coordination. In this regard the Exchange of Information on Request (EOIR) and the Automatic Exchange of Financial Account Information (AEOI) under the Common Reporting Standard represent vital tools to enhance transparency by disclosing legal and beneficial ownership, along with accounting and banking data. Since 2018 five African countries that implement AEOI have transmitted data on 1.93 million financial accounts (valued at EUR363.5 billion) and received data covering 5.80 million accounts (valued at EUR772.3 billion) (OECD 2023). As of December 2022, only five African countries were participating in AEOI, with this number expected to double by 2025 (OECD 2023). Recent empirical evidence from the World Bank suggests that EOIR can boost tax collection from 5 per cent to 19 per cent of GDP (Traore et al. 2023).

Future research should explore the behavioural and long-term impacts of UCBs, such as changes in fertility, labour supply, and human capital accumulation. Moreover, incorporating dynamic microsimulation and general equilibrium models would allow for a fuller understanding of economic feedback effects.

From a policy perspective the findings underscore the potential of alternative financing mechanisms, particularly those targeting illicit capital outflows, for expanding fiscal space in LICs and LMICs. Integrating revenue mobilization with universal benefits could shift prevailing narratives that universalism is unaffordable, especially in Global South countries. Policy makers should consider combining anti-IFF or alternative strategies that do not depend on increasing consumption or income taxes, with inclusive social protection reforms to enhance developmental outcomes in a fiscally sustainable manner. In doing so, countries should take inequality into account to ensure that poverty-reduction policies are both fair and effective.

References

Bastagli, F. (2015). 'Bringing Taxation into Social Protection Analysis and Planning'. ODI Working Paper 421. London: Overseas Development Institute.

- Brandt, K. (2022). 'Illicit Financial Flows and Developing Countries: A Review of Methods and Evidence'. *Journal of Economic Surveys*, 37(3): 789–820. <https://doi.org/10.1111/joes.12518>
- Cobham, A., and P. Janksy (2020). *Estimating Illicit Financial Flows: A Critical Guide to the Data, Methodologies, and Findings*. Oxford: Oxford University Press. <https://doi.org/10.1093/oso/9780198854418.001.0001>
- Collin, M. (2021). 'Illicit Financial Flows: Concepts, Measurement, and Evidence'. The World Bank Research Observer. Washington, DC: World Bank Group. Available at: <http://documents.worldbank.org/curated/en/409341624542914243> (accessed 01 June 2025).
- Combres, J.-L., A. Minea, and P. Sawadogo (2021). 'Do Illicit Financial Flows Hurt Tax Revenues? Evidence from the Developing World'. World Bank Policy Research Working Paper 9781. Washington, DC: World Bank. <https://doi.org/10.1596/1813-9450-9781>
- Devereux, S., E. Masset, R. Sabates-Wheeler, M. Samson, A.-M. Rivas, and D. te Lintelo (2017). 'The Targeting Effectiveness of Social Transfers'. *Journal of Development Effectiveness*, 9(2): 162–211 <https://doi.org/10.1080/19439342.2017.1305981>
- Gentilini, U., M. Grosh, J. Rigolini, and R. Yemtsov (2020). *Exploring Universal Basic Income*. Washington, DC: World Bank. https://doi.org/10.1596/978-1-4648-1458-7_ov
- GFI (Global Financial Integrity) (2021). *Trade-Related Illicit Financial Flows in 134 Developing Countries 2009-2018*. Washington, DC: Global Financial Integrity.
- Ghana Statistical Service (2018). Ghana Living Standards Survey Round 7 (GLSS-7 Poverty Profile Report 2005–2017. Available at: http://www2.statsghana.gov.gh/docfiles/publications/GLSS7/Poverty%20Profile%20Report_2005%20-%202017.pdf (accessed April 2025).
- Ghana Statistical Services, Institute for Statistical, Social, and Economic Research, and International Food Policy Research Institute (IFPRI) (2023). '2019 Social Accounting Matrix for Ghana: A Nexus Project SAM'. *IFPRI Data Paper* August 2023. Available at: <https://cgspace.cgiar.org/server/api/core/bitstreams/90984194-2d7a-4739-b4a4-fac505a3d61b/content> (accessed 25 April 2025).
- Hanna, R., and B. Olken (2018). 'Universal Basic Incomes versus Targeted Transfers: Anti-Poverty Programs in Developing Countries'. *Journal of Economic Perspectives*, 32(4): 201–26. <https://doi.org/10.1257/jep.32.4.201>
- Hannah, E., B. O'Hare, M. Lopez, S. Murray, R. Etter-Phoya, S. Hall, and M. Masiya (2023). 'How Can Corporate Taxes Contribute to sub-Saharan Africa's Sustainable Development Goals (SDGS)? A Case Study of Vodafone'. *Globalization and Health*, 19(17). <https://doi.org/10.1186/s12992-022-00894-6>
- ILO (n.d.). 'World Social Protection Data Dashboard'. Geneva: International Labour Organization. Available at: <https://www.social-protection.org/gimi/WSPDB.action?id=1461> (accessed 25 April 2025).
- ILO (2024). *The Promise of Universal Child Benefits*. Geneva: International Labour Organization. Available at: <https://www.social-protection.org/gimi/Media.action?id=19447> (accessed 10 April 2025).
- ILO (2025). *Universal Social Protection: A Precondition for Accelerating Social Development*. Geneva: International Labour Organization. Available at: https://www.ilo.org/sites/default/files/2025-02/01e_WSSD_Research_brief_RGB_ENG_web.pdf (accessed 15 April 2025).
- Jara, H., and M. Palacio Ludeña (2024). 'Rethinking Social Assistance Amid the COVID-19 Pandemic: Guaranteeing the Right to Income Security in Ecuador'. *Journal of International Development*, 36(3), 1738–64. <https://doi.org/10.1002/jid.3878>
- Kosala, A. (2024). 'Welfare and Economic Implications of Universal Child Benefits'. *Journal of Economic Dynamics and Control*, 167: 104932. <https://doi.org/10.1016/j.jedc.2024.104932>
- Landin Basterra, E., M. Naidoo, D. Calvacanti, N. Silva, S. Williams, S. Lloyd, C. Marin, S.A. Ruesjas, F.A. Rubio, and D. Rasella (2023). 'Social Protection in Global Crises: A Gap Between Evidence and Action'. *BMJ Global Health*, 8(11). <https://doi.org/10.1136/bmjgh-2023-013980>
- Lustig, N., J. Jellema, and V. Martinez Pabon (2023). 'Are Budget Neutral Income Floors Fiscally Viable in Sub-Saharan Africa?'. *Journal of African Economies*, 32(Supplement_2): 202–27. <https://doi.org/10.1093/jae/ejac049>
- Milligan, K., and M. Stabile (2011). 'Do Child Tax Benefits Affect the Well-Being of Children? Evidence from Canadian Child Benefit Expansions'. *American Economic Journal: Economic Policy*, 3(3): 175–205. <https://doi.org/10.1257/pol.3.3.175>
- Nichelatti, E., M. Jouste, and P. Rattenhuber (2024). 'The Potential of Universal Basic Income Schemes to Mitigate Shocks'. WIDER Working Paper 21/2024. Helsinki: UNU-WIDER.

- O'Hare, B., I. Makuta, N. Bar-Zeev, L. Chiwaula, and A. Cobham (2014). 'The Effect of Illicit Financial Flows on Time to Reach the Fourth Millennium Development Goal in sub-Saharan Africa: A Quantitative Analysis'. *Journal of the Royal Society of Medicine*, 107(4): 148–56. <https://doi.org/10.1177/0141076813514575>
- ODI and UNICEF (2020). *Universal Child Benefits: Policy Issues and Options*. London: Overseas Development Institute and New York, NYC: UNICEF.
- OECD (2023). *Tax Transparency in Africa 2023*. Paris: Organization for Economic Cooperation and Development. Available at: <https://web-archiver.oecd.org/tax/transparency/documents/tax-transparency-in-africa-2023.pdf> (accessed 15 April 2025)
- Ortega, B., J. Sanjuán, and A. Casquero (2020). 'Illicit Financial Flows and the Provision of Child and Maternal Health Services in Low- and Middle-income Countries'. *BMC International Health and Human Rights*, 20(15).
- Ortiz, I., C. Behrendt, A. Acuña-Ulate, and N.Q. Anh (2018). 'Universal Basic Income Proposals in Light of ILO Standards: Key Issues and Global Costing'. *SSRN Electronic Journal*. doi:10.2139/ssrn.3208737
- Rigolini, J., N. Lustig, U. Gentilini, E. Monsalve, and S. Quan (2019). 'Comparative Effects of Universal Basic Income: Emerging Issues and Estimates'. In U. Gentilini, M. Grosh, J. Rigolini, and R. Yemtsov (eds), *Exploring Universal Basic Income: A Guide to Navigating Concepts, Evidence, and Practices*. Washington, DC: World Bank. https://doi.org/10.1596/978-1-4648-1458-7_ch4
- Shahir, A., R. Kanbur, J. Pirttilä, and P. Rattenhuber (2023). 'Comparing the Poverty-reduction Efficiency of Targeted Versus Universal Benefits Amid Crises'. WIDER Working Paper 2023/100. Helsinki: UNU-WIDER. <https://doi.org/10.35188/UNU-WIDER/>
- Traore, M., S. Coulibaly, and Y. Arvanitis (2023). 'Cross-border Exchange of Information and Tax Revenue Mobilization in Africa'. Washington, DC: World Bank [Preprint]. <https://doi.org/10.1596/1813-9450-10299>
- UNCTAD and ECA (2023). *Counting the Cost: Defining, Estimating and Disseminating Statistics on Illicit Financial Flows*. UN Trade and Development & UN Economic Commission for Africa. Available at: https://unctad.org/system/files/non-official-document/IFFsInAfrica_Report_20230110_Final_en.pdf (accessed 09 April 2025).
- UNDP (2023). *Unstacking Global Poverty: Data for High-impact Action*. New York, NY: United Nations Development Programme.
- United Nations (2022). *Tackling Illicit Financial Flows in Africa Arising from Taxation and Illegal Commercial Practices*. New York, NY: UN Office of the Special Adviser on Africa. Available at: https://www.un.org/osaa/sites/www.un.org.osaa/files/tackling_iffs_in_tax_reform_and_illegal_commercial_practices_-_nov_2022.pdf (accessed 09 April 2025).
- Uytterhaegen, T., L. Kajula, S. af Hällström, N. Tirivayi, and M. Van Drooghenbroeck (2024). *Qualitative Assessment of the Implementation and Impact of the Pilot Universal Child Benefit Programme in Kenya*. Nairobi: United Nations Children's Fund (UNICEF).
- Van Lancker, W., and N. Van Mechelen (2015). 'Universalism Under Siege? Exploring the Association Between Targeting, Child Benefits and Child Poverty Across 26 Countries'. *Social Science Research*, 50: 60–75. <https://doi.org/10.1016/j.ssresearch.2014.11.012>
- World Bank (2025a). *Indicators – Health*. Washington, DC: World Bank. Available at: <https://data.worldbank.org/indicator> (accessed 4 April 2025).
- World Bank (2025b). *World Development Indicators*. Washington, DC: World Bank. Available at: <https://databank.worldbank.org/source/world-development-indicators#> (accessed 4 April 2025).

Appendix

Table A1: Headcount poverty rate and changes across scenarios by household subgroups (post-fiscal income, national poverty line adjusted for indirect taxes)

Subgroup	Baseline (A)	Scenario 1 (B)	Scenario 2 (C)	Change B-A	Change C-A
Overall	51.54	50.89	50.77	-0.65	-0.77
HH with children	53.67	52.92	52.77	-0.75	-0.90
HH with elderly	57.54	57.18	56.58	-0.36	-0.96
HH with orphan	54.15	53.35	53.39	-0.80	-0.76
Urban HH	39.18	38.69	38.70	-0.49	-0.48
Rural HH	64.19	63.39	63.12	-0.81	-1.08
Two-person HH	44.13	43.96	44.08	-0.18	-0.05
Three/four-person HH	44.16	43.72	43.93	-0.44	-0.23
Five/six-person HH	51.26	50.65	50.77	-0.62	-0.50
Seven+ person HH	61.58	60.52	59.82	-1.06	-1.76

Source: Authors' creation using GHAMOD v2.7.

Table A2: Poverty gaps and changes across scenarios by household subgroups (post-fiscal income, national poverty line adjusted for indirect taxes)

Subgroup	Baseline (A)	Scenario 1 (B)	Scenario 2 (C)	Change B-A	Change C-A
Overall	35.35	33.85	34.05	-1.50	-1.31
HH with children	36.44	34.69	34.92	-1.75	-1.52
HH with elderly	39.27	37.83	37.87	-1.44	-1.40
HH with orphan	35.17	33.40	33.47	-1.77	-1.70
Urban HH	26.39	25.36	25.77	-1.03	-0.63
Rural HH	44.52	42.53	42.52	-1.99	-2.00
Two-person HH	32.32	31.73	32.14	-0.60	-0.18
Three/four-person HH	30.57	29.36	30.19	-1.21	-0.38
Five/six-person HH	34.61	32.98	33.46	-1.63	-1.15
Seven+ person HH	41.36	39.27	38.70	-2.09	-2.67

Source: Authors' creation using GHAMOD v2.7.

Table A3: GINI coefficient and changes across scenarios by household subgroups (post-fiscal income)

Subgroup	Baseline (A)	Scenario 1 (B)	Scenario 2 (C)	Change B-A	Change C-A
Overall	78.08	77.44	77.55	-0.64	-0.54
HH with children	78.03	77.24	77.37	-0.80	-0.67
HH with elderly	74.32	73.55	73.60	-0.77	-0.72
HH with orphan	74.00	73.13	73.18	-0.87	-0.82
Urban HH	76.57	76.17	76.31	-0.39	-0.26
Rural HH	76.14	74.94	75.00	-1.20	-1.14
Two-person HH	71.44	71.20	71.36	-0.24	-0.08
Three/four-person HH	76.63	76.15	76.47	-0.49	-0.16
Five/six-person HH	79.19	78.47	78.69	-0.71	-0.50
Seven+ person HH	75.48	74.31	74.03	-1.17	-1.45

Source: Authors' creation using GHAMOD v2.7.

Table A4: Headcount poverty rate and changes across scenarios by household subgroups (consumption expenditure, national poverty line)

Subgroup	Baseline (A)	Scenario 1 (B)	Scenario 2 (C)	Change B-A	Change C-A
Overall	23.41	22.21	22.08	-1.20	-1.33
HH with children	26.33	24.94	24.78	-1.39	-1.54
HH with elderly	33.13	32.48	31.97	-0.65	-1.16
HH with orphan	29.68	28.29	27.94	-1.39	-1.75
Urban HH	7.63	6.96	6.88	-0.67	-0.74
Rural HH	39.55	37.81	37.63	-1.74	-1.92
Two-person HH	5.48	5.31	5.37	-0.16	-0.11
Three/four-person HH	12.02	11.22	11.59	-0.81	-0.44
Five/six-person HH	21.57	20.02	20.06	-1.55	-1.52
Seven+ person HH	41.73	40.12	39.37	-1.60	-2.36

Source: Authors' creation using GHAMOD v2.7.

Table A5: Poverty gaps and changes across scenarios by household subgroups (consumption expenditure, national poverty line)

Subgroup	Baseline (A)	Scenario 1 (B)	Scenario 2 (C)	Change B-A	Change C-A
Overall	8.43	7.69	7.51	-0.74	-0.92
HH with children	9.51	8.65	8.44	-0.86	-1.07
HH with elderly	13.04	12.10	11.87	-0.94	-1.17
HH with orphan	10.81	9.85	9.56	-0.96	-1.25
Urban HH	1.80	1.58	1.54	-0.22	-0.26
Rural HH	15.21	13.93	13.61	-1.28	-1.60
Two-person HH	1.90	1.83	1.87	-0.06	-0.03
Three/four-person HH	3.55	3.24	3.40	-0.30	-0.15
Five/six-person HH	7.04	6.36	6.39	-0.68	-0.65
Seven+ person HH	16.40	14.96	14.25	-1.44	-2.15

Source: Authors' creation using GHAMOD v2.7.

Table A6: GINI coefficient and changes across scenarios by household subgroups (consumption expenditure)

Subgroup	Baseline (A)	Scenario 1 (B)	Scenario 2 (C)	Change B-A	Change C-A
Overall	41.49	40.90	40.79	-0.59	-0.70
HH with children	39.54	38.90	38.74	-0.64	-0.80
HH with elderly	42.79	42.11	41.93	-0.68	-0.86
HH with orphan	39.73	39.05	38.80	-0.68	-0.93
Urban HH	36.26	35.89	35.88	-0.36	-0.38
Rural HH	40.44	39.56	39.31	-0.87	-1.13
Two-person HH	35.31	35.18	35.25	-0.13	-0.06
Three/four-person HH	36.06	35.70	35.89	-0.36	-0.17
Five/six-person HH	37.56	37.00	37.04	-0.55	-0.52
Seven+ person HH	39.05	38.11	37.61	-0.95	-1.44

Source: Authors' creation using GHAMOD v2.7.

Table A7: Headcount poverty rate and changes across scenarios by household subgroups (disposable income, food poverty line)

Subgroup	Baseline (A)	Scenario 1 (B)	Scenario 2 (C)	Change B-A	Change C-A
Overall	38.85	37.58	37.60	-1.27	-1.25
HH with children	40.37	38.89	38.92	-1.48	-1.45
HH with elderly	44.43	43.54	43.31	-0.89	-1.12
HH with orphan	38.40	37.40	37.43	-1.00	-0.97
Urban HH	28.15	27.43	27.52	-0.72	-0.63
Rural HH	49.80	47.96	47.92	-1.84	-1.88
Two-person HH	33.90	33.49	33.71	-0.42	-0.19
Three/four-person HH	33.04	31.79	32.48	-1.25	-0.56
Five/six-person HH	37.89	36.66	36.72	-1.22	-1.16
Seven+ person HH	46.84	45.09	44.51	-1.75	-2.33

Source: Authors' creation using GHAMOD v2.7.

Table A8: Poverty gaps and changes across scenarios by household subgroups (disposable income, food poverty line)

Subgroup	Baseline (A)	Scenario 1 (B)	Scenario 2 (C)	Change B-A	Change C-A
Overall	26.79	24.78	24.79	-2.02	-2.00
HH with children	27.36	25.02	25.04	-2.34	-2.32
HH with elderly	29.59	27.60	27.43	-1.99	-2.16
HH with orphan	25.92	23.67	23.50	-2.25	-2.43
Urban HH	20.12	18.80	19.14	-1.32	-0.98
Rural HH	33.62	30.89	30.58	-2.73	-3.04
Two-person HH	25.95	25.13	25.60	-0.82	-0.35
Three/four-person HH	23.61	22.01	22.92	-1.60	-0.68
Five/six-person HH	25.95	23.82	24.20	-2.13	-1.75
Seven+ person HH	30.47	27.61	26.48	-2.86	-3.99

Source: Authors' creation using GHAMOD v2.7.

Table A9: Headcount poverty rate and changes across scenarios, individual units of analysis (disposable income, national poverty line)

Subgroup	Baseline (A)	Scenario 1 (B)	Scenario 2 (C)	Change B-A	Change C-A
Overall	58.46	57.94	57.97	-0.52	-0.49
Child	65.87	65.30	65.27	-0.57	-0.60
Elderly	51.39	50.89	50.97	-0.50	-0.42
Orphan	62.59	62.38	62.40	-0.21	-0.19
Male	61.72	61.21	61.25	-0.51	-0.47
Female	56.02	55.53	55.54	-0.49	-0.48

Source: Authors' creation using GHAMOD v2.7.

Table A10: Poverty gaps and changes across scenarios, individual units of analysis (disposable income, national poverty line)

Subgroup	Baseline (A)	Scenario 1 (B)	Scenario 2 (C)	Change B-A	Change C-A
Overall	40.44	39.22	39.22	-1.22	-1.22
Child	46.19	44.68	44.58	-1.51	-1.61
Elderly	34.92	33.92	34.00	-1.01	-0.92
Orphan	43.95	43.20	43.26	-0.75	-0.69
Male	42.20	40.71	40.66	-1.49	-1.54
Female	38.72	37.49	37.47	-1.23	-1.25

Source: Authors' creation using GHAMOD v2.7.