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Taxation and Social Protection in the Global South: evidence from Sub-Saharan Africa

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Abstract

In the last thirty years, extreme poverty has significantly reduced, but Sub-Saharan Africa (SSA) has been far behind the other regions of the world. SSA continues to have a much higher share of people who live in extreme conditions compared to the rest of the world along with high inequality.

Increasing the domestic tax capacity is essential for building human capital and strengthening social protection. However, the region's average tax-to-GDP ratio remains below 15 per cent, a threshold which is generally associated with accelerated economic growth.

The dissertation aims to investigate how taxation and social protection policies can reduce poverty and inequality among the countries in the Global South by providing evidence from the SSA area. In the last few decades, a growing body of literature has focused on the distributive consequences of social protection spending in Low-Income Countries (LICs) and Lower-Middle-Income Countries (LMICs). However, because these studies analysed social protection separately from taxation, they could only provide a partial picture of the overall effect of fiscal policy on poverty and inequality.

The three essays in the present dissertation examine how citizens' perceptions of governance might affect tax compliance, what the effects of a Universal Basic Income (UBI) on poverty and inequality are and how previous Basic Income (BI) experiments in the Global North, but also in SSA, can inform governments in the Global South for future implementations. The dissertation applies a mixed-methods approach. The first two essays use different quantitative methods, respectively, a regression analysis and a microsimulation analysis, using secondary data. The third one conducts a qualitative analysis, interviewing different actors involved in the BI experiments in four countries (Finland, the Netherlands, Spain and Uganda).

The first essay analyses the relationship between citizens' perceptions of governance and tax compliance in SSA. The study performs a logistic regression analysis on 32 SSA countries using round seven of the Afrobarometer. Moreover, the research applies binary mediation analysis to investigate the direct and indirect effects of the perception of governance on individual tax compliance with trust in institutions as a mediator. The findings show that tax compliance is positively associated with the perceptions of governance in the selected SSA countries. The direct effect accounts for over 90 per cent of the overall impact of the

governance perception on tax compliance.

The second essay conducts a microsimulation analysis of the effects of different UBI scenarios during crisis and non-crisis times in Uganda and Zambia for the year 2020. Based on the results, it can be argued that, in Uganda, a budget neutral UBI could be slightly more effective than the current social protection system in alleviating poverty and reducing inequality. In Zambia, where the existing social protection programmes are already generous and well-targeted, the same type of UBI does not reduce (but rather increases) poverty and inequality compared to the existing social protection programmes. The analysis shows that more expensive UBI schemes can have a significant impact on poverty and inequality reduction in both countries. However, the third and fourth UBI schemes seem financially unrealistic (Nichelatti, et al. 2024).

The third essay uses a qualitative approach to analyse the planning, policy decisions and implementation-making processes of BI experiments in the Global North and South. The findings reveal both common trends and differences in the four selected countries. The design and duration of the experiments were common restrictions that had a substantial impact on them. The substantial constraints included difficulties in establishing acceptable control groups and enrolling a sufficient number of participants. In addition, there is a clear disparity in the definition of BI, as three of the four experiments used conditional cash benefit arrangements. The characteristics of the experiment, whether voluntary or obligatory, had important ramifications for the planning and implementation processes.

The study shows that citizens' perception of governance is an important factor in understanding tax compliance in SSA. Low-income citizens who have experienced challenges in accessing or receiving government services (including social protection and tax benefits) and who trust government institutions less are more likely to avoid taxes. People demand more transparency and clarity on how the money collected from taxes is used to fight poverty and inequality.

The findings from the microsimulation analysis reveal that the UBI might be effective in reducing extreme poverty and inequality in the SSA. However, this policy requires financial effort from governments and seems to be a controversial topic in both public opinion and politics. BI experiments can provide information to guide governments and policymakers. However, these experiments tend to be changed in their structure and kept short in their duration to justify their implementation. These restrictions can significantly affect the results.

Tiivistelmä

Viimeisten kolmenkymmenen vuoden aikana äärimmäinen köyhyys on vähentynyt merkittävästi, mutta Saharan eteläpuolinen Afrikka on silti jäänyt kauas jälkeen muusta maailmasta. Saharan eteläpuolisessa Afrikassa asuu edelleen huomattavan suuri osuus ihmisistä, jotka elävät äärimmäisissä olosuhteissa verrattuna muuhun maailmaan. Lisäksi eriarvoisuus alueella on korkealla tasolla.

Kansallisen verotuskapasiteetin lisääminen on olennaista inhimillisen pääoman kehittämiseksi ja sosiaaliturvan vahvistamiseksi. Alueen keskimääräinen veroaste suhteessa bruttokansantuotteeseen (BKT) on kuitenkin edelleen alle 15 prosenttia, mikä on raja-arvo, jonka katsotaan yleisesti liittyvän kiihtyvään talouskasvuun.

Tämä väitöskirja tutkii, kuinka verotus- ja sosiaaliturvapolitiikkatoimet voivat vähentää köyhyyttä ja eriarvoisuutta globaalin etelän maissa, keskittyen Saharan eteläpuolisesta Afrikasta saatuun näyttöön. Viime vuosikymmeninä kasvava määrä kirjallisuutta on käsitellyt sosiaaliturvamenojen jakautumiseen liittyviä vaikutuksia matalan tulotason (LICs) ja alemman keskitulotason maissa (LMICs). Nämä tutkimukset ovat kuitenkin tarkastelleet sosiaaliturvaa erillään verotuksesta, mikä on tarjonnut vain osittaisen kuvan veropolitiikkatoimien kokonaisvaikutuksista köyhyyteen ja eriarvoisuuteen.

Tämän väitöskirjan kolme artikkelia käsittelevät seuraavia aiheita: kuinka kansalaisten käsitykset hallinnosta voivat vaikuttaa verovelvollisuuden noudattamiseen, mitkä ovat universaalin perustulon (UBI) vaikutukset köyhyyteen ja eriarvoisuuteen, sekä kuinka globaalin pohjoisen aiempien perustulokokeilujen (BI) oppeja voitaisiin hyödyntää globaalin etelän tulevissa kokeiluissa. Väitöskirjassa sovelletaan laadullisia ja määrällisiä tutkimusmenetelmiä. Kahdessa ensimmäisessä artikkelissa käytetään regressioanalyysiä ja mikrosimulaatioanalyysiä, jotka hyödyntävät sekundääristä dataa. Kolmas artikkeli sisältää laadullisen analyysin, jossa haastatellaan toimijoita, jotka olleet osana neljässä eri maassa (Suomi, Alankomaat, Espanja ja Uganda) toteutetuissa perustulokokeiluissa.

Ensimmäinen artikkeli tarkastelee kansalaisten hallintokäsitysten ja verovelvollisuuden noudattamisen välistä suhdetta Saharan eteläpuolisessa Afrikassa. Tutkimuksessa tehdään logistinen regressioanalyysi 32 Saharan eteläpuolisesta maasta käyttäen Afrobarometrin seitsemättä painosta. Lisäksi tutkimuksessa käytetään kaksiluokkaista mediaatioanalyysiä, jolla selvitetään kansalaisten hallintokäsitysten suorien ja välillisten vaikutusten merkitystä verovelvollisuuden noudattamiseen, kun instituutioihin luotetaan välittäjinä. Tulokset osoittavat, että verovelvollisuuden noudattaminen on positiivisesti yhteydessä kansalaisten käsityksiin hallinnosta valituissa Saharan eteläpuolisen

Afrikan maissa. Suora vaikutus muodostaa yli 90 prosenttia kansalaisten hallintokäsitysten kokonaisvaikutuksesta verovelvollisuuden noudattamiseen.

Toisessa artikkelissa suoritetaan mikrosimulaatioanalyysi vuodelle 2020 eri universaalin perustulon skenaarioiden vaikutuksista kriisiaikoina ja kriisittöminä aikoina Ugandassa ja Sambiassa. Tulosten perusteella Ugandassa budjettineutraali universaali perustulo voisi olla hieman tehokkaampi kuin nykyinen sosiaaliturvajärjestelmä köyhyyden lievittämisessä ja eriarvoisuuden vähentämisessä. Sambiassa, missä nykyiset sosiaaliturvaohjelmat ovat jo anteliaita ja hyvin kohdennettuja, sama universaalin perustulon malli ei vähennä köyhyyttä ja eriarvoisuutta, vaan päinvastoin lisää niitä verrattuna olemassa oleviin ohjelmiin. Analyysi osoittaa, että kalliimmat universaalin perustulon mallit voivat merkittävästi vähentää köyhyyttä ja eriarvoisuutta molemmissa maissa, mutta kolmas ja neljäs universaalin perustulon-malli näyttävät taloudellisesti epärealistisilta (Nichelatti, et al. 2024).

Kolmas artikkeli hyödyntää laadullista lähestymistapaa analysoidessaan perustulokokeilujen suunnittelua, politiikkatoimenpiteitä ja toteutusprosesseja globaalin pohjoisen ja etelän maissa. Tulokset paljastavat sekä yhteneväisiä että eroavia piirteitä neljässä valitussa maassa. Kokeilujen suunnittelu ja kesto olivat yhteisiä rajoituksia, jotka vaikuttivat merkittävästi kokeilujen toteutukseen. Merkittäviä haasteita olivat muun muassa hankaluudet hyväksyttävien verrokkiryhmien perustamisessa ja riittävän osallistujamäärän hankkimisessa. Lisäksi perustulon määritelmissä oli selviä eroja, sillä kolmessa neljästä kokeilusta käytettiin ehdollisia rahansiirtojärjestelmiä. Myös kokeilujen vapaaehtoisuus tai pakollisuus vaikutti merkittävästi niiden suunnittelu- ja toteutusprosesseihin.

Tutkimus osoittaa, että kansalaisten käsityksillä hallinnosta on merkittävä rooli verovelvollisuuden noudattamisen ymmärtämisessä Saharan eteläpuolisessa Afrikassa. Matalatuloiset kansalaiset, jotka ovat kohdanneet haasteita hallituksen palveluiden, kuten sosiaaliturvan ja veroetujen, saamisessa ja joilla on vähäinen luottamus hallitukseen, välttelevät todennäköisemmin verojen maksamista. Kansalaiset vaativat enemmän läpinäkyvyyttä ja selkeyttä siihen, kuinka verovaroja käytetään köyhyyden ja eriarvoisuuden torjumiseksi.

Mikrosimulaatioanalyysin tulokset osoittavat, että universaali perustulo saattaisi olla tehokas keino vähentää äärimmäistä köyhyyttä ja eriarvoisuutta Saharan eteläpuolisessa Afrikassa. Tämä politiikkatoimenpide vaatii kuitenkin hallituksilta taloudellisia ponnisteluja ja on kiistanalainen niin julkisen mielipiteen kuin poliittisen keskustelunkin tasolla. Perustulokokeilut voivat tarjota arvokasta tietoa hallituksille ja päätöksentekijöille. Kokeilujen rakenteita kuitenkin yleensä muokataan ja niitä pidetään kestoltaan lyhyinä kokeilujen toteuttamisen perustelemiseksi. Nämä rajoitukset voivat vaikuttaa tuloksiin merkittävästi.

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Nichelatti, E., Hiilamo, H. & Olavi, K. (submitted) 'How to Implement a Perfect Basic Income Experiment Evidence from four countries'. Journal of European Social Policy.

Nichelatti, E., Rattenhuber, P. and Jouste, M. (2025 [forthcoming]). 'The Potential of Universal Basic Income Schemes to Buffer Shocks'. In M. Jouste, R. Kanbur, J. Pirttilä, and P. Rattenhuber (eds), *Poor Protection: The Role of Taxes and Social Benefits in the Developing World during Crises*. Oxford: Oxford University Press. Reproduced by permission of Oxford University Press. For permission to re-use this material, please visit https://global.oup.com/academic/rights.

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1. Introduction

The motivation behind this research is that social protection (a collection of policies and programmes designed to prevent and reduce poverty and vulnerability) and taxation (fees and financial obligations imposed by a government on its residents) are usually not studied together.The former is fundamental to protecting vulnerable people, preserving and cultivating human capital as well as contributing to economic development, while the latter is crucial to providing effective and efficient services such as social protection policies.

In the last two decades, there has been a growing research interest in studying the distributive consequences of social protection spending in LICs and LMICs with the expansion of social protection programmes. However, these analyses only provide a partial picture of the overall effect of fiscal policy on poverty and inequality because they separate social protection from tax policy. The composition of taxes and sources of revenue are key factors in determining a country's tax revenue levels. LICs and LMICs generally have lower tax revenues compared to high-income countries, resulting in smaller budget allocations for social protection. These countries often face a more limited tax base and heavily rely on a few types of taxes, such as consumption taxes, which are typically regressive. This means that poorer households that spend a higher proportion of their income on consumption, bear a greater tax burden relative to their income. Consequently, the regressive nature of these taxes can undermine the redistributive effects of social spending. Therefore, understanding how tax composition, social spending and tax systems interact is essential for policymakers to develop more equitable and effective fiscal policies which are aimed at reducing poverty and addressing inequality (Bastagli, 2015).

SSA has the highest share of the world population in extreme poverty (35.4 per cent lives on less than USD 2.15 per day) (Tetteh Baah & Lakner, 2023) and 76.3 per cent of the population in sSA does not receive any social protection transfer (72.4 per cent of the population in the fifthquintile, which is the poorest, is not covered by social protection) compared to 50.5 per cent in Latin America, 43.2 per cent in East Asia and the Pacific as well as 23 per cent in South Asia (World Bank, 2024a). Because of the informal economy, SSA countries' social protection schemes have

limited coverage, with workers in the formal economy receiving the most benefits.

Increasing domestic tax capacity is essential for building human capital and strengthening social protection. The region's average tax-to-GDP ratio (this represents the size of tax revenue from government expressed as a percentage of GDP) remains below 15 per cent, which is a threshold typically associated with economic development. According to the latest available data from the World Bank (2024b), 14 SSA countries are above this threshold (Belize, Botswana, Burkina Faso, Cabo Verde, Eswatini, Lesotho, Mauritius, Mozambique, Namibia, Rwanda, Senegal, the Seychelles, South Africa and Zambia). The Asia Pacific and Latin American Caribbean Regions were 18.11 per cent and 17.96 per cent, respectively, in 2021.

SSA presents evident disparities in the tax-to-GDP ratio across countries. Namibia, the Seychelles and South Africa are examples of high-income and upper-middle-income countries with tax rates of approximately 30 per cent. On the other hand, tax rates are substantially lower in LICs, such as Ethiopia, the Democratic Republic of the Congo (DRC) and Chad, which range up to 7 per cent (Okunogbe & Santoro, 2023).

Isbell (2017) shows that tax compliance is negatively correlated with a lack of understanding of how taxes are used. Many Africans have difficulty understanding what taxes they must pay and how their government uses the money from those taxes. Furthermore, there is a general belief that tax officers are corrupt. This perception varies significantly across the continent. More than half of the population in Liberia, Nigeria, Cameroon, Gabon, Benin, Ghana and Sudan believe that most or all tax officials are corrupt. Mauritius, Cape Verde, Botswana, São Tomé and Príncipe as well as Lesotho have the lowest share of population that think tax officials are corrupt.

The COVID-19 crisis exacerbated the weaknesses of many SSA countries in terms of domestic revenue mobilisation and social protection. On the one hand, the pandemic contributed to reducing tax revenue in the region due to economic shocks and business closures (it caused a 15 per cent drop in monthly tax revenues in mid-2020 relative to the prior year). The crisis intensified some existing challenges, such as the need to renew domestic revenue mobilisation efforts, diversify and broaden tax bases as well as strengthen revenue collection infrastructures (Aslam, Delpierre, Gupta, & Rawlings, 2022). On the other hand, SSA countries showed their limits in allocating financial resources to help vulnerable people during the pandemic. Between 2020 and 2021, SSA

governments spent an average of USD 28 per capita, while high-income countries USD 715 in social protection (Gentilini et al., 2022). In general, high-income countries have spent 2.5 per cent of GDP in social protection in the COVID-19 response, while LICs have devoted 1.3 per cent.

The introduction of a UBI (a benefit provided on a regular basis, usually in cash, to all citizens without any conditions) in developing countries might have positive effects on addressing important socio-economic issues such as poverty, inequality and massive unemployment. Due to capacity and resource constraints, administrative expenses and bureaucratic inefficiencies, which are frequently present in these contexts, could be reduced by a universal cash transfer. In addition, cash-based transfers provide recipients with flexibility and autonomy in how they use the money, potentially leading to increased psychological well-being and better labour compatibility (Gentilini, Grosh, Rigolini & Yemstov, 2020).

The dissertation aims to explore the interplay between taxation and social protection policies in poverty[1] and inequality[2], within the Global South, by providing evidence from the SSA region. This research is motivated by the recognition that the effectiveness of social protection and poverty alleviation strategies is deeply influenced by the structure and composition of tax systems. LICs and LMICs often face challenges such as lower tax revenues, narrower tax bases and limited social protection coverage.

The study comprises three essays to address these issues: The first essay examines how citizens' perceptions of governance might influence tax compliance, which is crucial for understanding and improving revenue collection. The second essay analyses the potential impact of implementing a UBI on poverty and inequality, providing insights into how such a policy could function within the existing tax and social protection framework. The third essay evaluates past BI experiments conducted in both the Global North and Global South, offering valuable lessons for designing and implementing future policies in the Global South. By investigating these aspects, the dissertation aims to provide actionable evidence and recommendations for creating more equitable and effective fiscal policies that can enhance poverty reduction and address inequality in SSA and similar contexts.

[1] With the term poverty, we refer to a state or condition under which a person lacks the means of subsistence and the necessary goods for a minimal standard of living.
[2] With the term inequality, we refer to a situation of unequal income distribution across different groups in the same society.

The dissertation applies a mixed method analysis. The first two essays use a quantitative approach, a regression and a microsimulation analysis, respectively, using secondary data. Thethird one conducts a qualitative analysis, interviewing different actors involved in the BI experiments in Finland, the Netherlands, Spain and Uganda.

Several studies (e.g. Besley & Persson, 2014; Burgess& Stern, 1993) assign part of the blame for low levels of tax revenues in developing countries to a culture of widespread non-compliance among citizens. The work dissociates from this line of thinking and proposes a new narrative in which taxpayers' point of view is considered. The research provides evidence on how a negative perception of governance can reduce tax compliance[3]. Citizens perceiving that their government is acting poorly in reducing poverty and inequality might be motivated in not paying taxes. As a second step, this work analyses if a budget neutral UBI[4] can be more effective in alleviating poverty and inequality compared tothe existing social protection system. Universal social protection can resolve some structural problems typical of social protection in LICs and LMICs, such as fragmentation, bureaucracy, coverage limitations, stigma and social exclusion, lack of data sources and the inadequacy of social safety nets. In this optic, UBI can serve for strengthening the social contract in the region.

Universalism has gained popularity as one of the most potential 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 achieve human dignity. Gentilini, Grosh and Yemtsov (2020) argue that, in a UBI system, universality removes the stigma, and exclusionary practices related to needs-based targeting. Because there are no eligibility requirements, everyone is covered. The authors underline that beneficiaries can experience positive psychological and financial effects as they move from a condition of potential eligibility to guaranteed eligibility, which lowers the transaction costs. Furthermore, UBI might be more labour-compatible and might improve political sustainability.

Although, in recent years, there has been a growing interest in investigating the UBI's impact in developing countries, there is still little evidence. Gentilini et al. (2020) published a

[3] With the term tax compliance, we indicate the willingness to pay taxes.
[4] A UBI that requires the same share of GDP already spent by the government in social protection.

comprehensive book on UBI implications integrating different perspectives from economists, social scientists and policymakers. On the one hand, the book provides lessons from past and existing UBI experiments around the world and its role in addressing socio-economic issues. On the other hand, the authors simulate the UBI impact on poverty and compare it with the existing selected social assistance programmes in 10 LICs and LMICs (Brazil, Chile, Haiti, India, Indonesia, Kazakhstan, Mozambique, Nepal, the Russian Federation and South Africa). The study explores financing sources for a UBI, its political economy and what it takes to deliver it.

However, there is no evidence on the role of UBI in mitigating shocks in LMIs and LMICs in SSA. In addition, while quantitative studies on UBI are increasing, qualitative descriptions, evaluations and comparisons on the planning and implementation processes of BI experiments remain scarce (Pinto et al., 2021).

Although evidence on the UBI's role in poverty and inequality reduction is essential in contributing to the current debate, qualitative comparative methods offer valuable insights by adding nuance to the data. Policymakers often prioritise quantitative data, viewing qualitative findings supplementary. However, qualitative analysis can deepen the understanding of UBI interventions to shaping future experiments by revealing complexities that may not emerge from quantitative data alone. The research aims to investigate the policymaking process of different UBI experiments[5] in the Global North and Global South.

The first essay performs a logistic regression analysis on 32 SSA countries, using round seven of the Afrobarometer, to analyse the relationship between citizens' perceptions of governance and tax compliance. In addition, the study performs a binary mediation analysis to decompose the direct and indirect effects of citizens' perceptions of governance on tax compliance using trust in institutions as a mediator (Nichelatti & Hiilamo, 2024).

The second essay applies a microsimulation analysis to examine the impact of four different UBI schemes during crisis and non-crisis times in Zambia and Uganda. The third essay conducts qualitative, semi-structured interviews to analyse the policymaking process and structure of the BI experiments in Finland, the Netherlands, Spain and Uganda.

[5] Smaller-scale pilot studies that are conducted on a group of the relevant population to evaluate the viability, costs and outcomes of UBI adoption on a large scale.

The research provides evidence that the perception of governance significantly influences tax compliance in SSA. Improved governance, reflected in transparency, trust in institutions and the government's ability to deliver social protection services, appears central to fostering tax compliance. When citizens perceive the government as capable and fair, they are more likely to contribute through taxes, which, in turn, strengthens the fiscal base needed to fund social protection programmes like UBI.

The microsimulation analysis conducted on Uganda and Zambia reveals that, while UBI schemes can reduce poverty and inequality, their financial viability is tied directly to the government's social sending allocation and ability to raise revenues through effective tax collection. Improved tax compliance, driven by better governance, could enable SSA countries to design more generous UBI schemes. Moreover, governments interested in implementing a UBI should align their expectation and goals with researchers, ensure the collaboration between bureaucratic entities and government officials as well as give full political support guaranteeing adequate time, budget allocation and a clear delineation of all the UBI structures in order to allow its development.

The present dissertation contributes to the existing literature on the effects of tax and social protection systems in reducing poverty and inequality in the Global South by providing evidence on tax compliance and social protection in the SSA region. The study aims to: (I) increase the understanding of tax compliance in SSA, considering the taxpayers' narrative and suggesting a relationship between the perception of governance and tax compliance; (II) go beyond the straightforward association between citizens' perceptions of governance and individual tax compliance by applying a mediation analysis with trust in institutions as a mediation term; (III) provide evidence on the role of UBI in mitigating crisis shocks in LICs and LMICs; (IV) explore its trade-off between poverty reduction and fiscal sustainability; and (V) generate qualitative evidence on the policymaking cycle of BI experiments in the Global North and South.

The dissertation presents the following structure: In the next section, the study discusses the existing literature on taxation and UBI in the Global South. Thereafter, the methodology section is presented, along with a description of the data used. The penultimate section provides the results of the analysis, and the final section contains the conclusion and discussion.

2. Taxation and UBI in the Global South

This section reports the most recent and relevant studies on the topics covered in the dissertation, showing the existing gap in the literature regarding the combined effects of taxation and social protection in reducing poverty and inequality in SSA.

For the selection of articles, title, abstract and full text of every article were screened. After this, factors such as relevance to the research objectives, quality of content, and contribution to the academic discourse have been considered for the final selection.

The literature review starts by describing the term social contract and its relation to the fiscal sphere. Consequently, the section reports a brief overview of recent research on tax compliancein SSA, followed by two other parts dedicated to the microsimulation methods for simulating the impact of a UBI in Global South countries and the relevance of UBI experiments for futurepolicy decision-making in the same geographic area.

2.1 Social contract and tax compliance

Although many people might argue that the concept of social contract was devised before (in the seventeenth century)I, it is commonly accepted that Thomas Hobbes and John Locke are the fathers of this theory.

According to Hobbes, social order, peace and life protection are made possible by the creation of a social contract. This is the reciprocal ceding of rights to the sovereign in return for protection. The foundation of morality and moral obligation is this agreement. The philosophercharacterises the state of nature without a social contract as one lacking common authority, laws and norms. For Hobbes, moral obligation and the creation of social norms are components of the social contract. It promotes equity and justice by acting as the origin of law, justice, and injustice. Hobbes argues that the only way to address the issues in the natural world is to forge a social contract that would stop conflict and bring about peace (V Sasan, 2021).

According to Locke, there are no hierarchies or power disparities among people in the natural world. From birth, all people have the same rights and capacities. People live in harmony because natural law governs them and teaches them the best moral values. Locke claims that this law states that no one should harm another in life, health, liberty or property because of equality and independence. Despite the absence of civil power, the natural condition is not morally absent; it is pre-political but not pre-moral. Under natural law, which governs human behaviour, people are required to protect others' property, life, liberty and health. While everyone in this state has the right to protect their own life and property, they are all prohibited from violating the rights of others. People are guided by nature's rules as to what is ethically right or evil. In the natural world, people have the right to punish offenders to maintain humankind and safeguard property. Locke believed everyone has the power to uphold natural law and punish violators to keep the peace and stop wrongdoing (V Sasan, 2021).

Gribnau and Frecknall-Hughes (2022) examine the views of key Enlightenment political philosophers on the social contract and its relationship to taxation. While their ideas vary, a common theme is the evolving role of government in balancing authority, liberty and equality. Philosophers like Hobbes emphasise taxes as the cost of security under strong state control, while Locke and others like Montesquieu and Rousseau shift the focus to protecting property, liberty and promoting social justice through taxation. Over time, the justification for taxation moves from simply funding security and property protection to promoting broader equality and social welfare. This shift leads to a growing emphasis on fairer tax systems based on the ability to pay, as part of a more inclusive and just political society.

According to contemporary fiscal contract theorists, citizens consent to pay taxes because they receive public goods in return (Bräutigam, Fjeldstad & Moore, 2008; Umar, Derashid & Ibrahim 2017). This theory refers to the concept of tax morale, which indicates the citizens' willingness to pay taxes.

Prichard (2022) argues that tax morale has different degrees. A citizen who complies with tax laws because they fervently believe that the law must always be followed is not the same as someone who complies with the law in the hopes of receiving large returns. Furthermore, these two viewpoints diverge from that of an individual who is highly tax compliant because they overestimate the likelihood of getting caught evading taxes, worry about the societal consequences

of not paying taxes or are dedicated to fairness and wealth redistribution ideals.

Prichard continues to distinguish between conditional and unconditional tax morale. The former refers to those individuals who maintain the belief that taxpayers should comply with their tax responsibilities due to profound ethics, values, habits or societal norms regarding the duty of citizens to follow government regulations and contribute to the common welfare. By contrast, the latter indicates the belief for which a citizen decides to pay taxes if certain conditions are met. This more conditional view of tax morale better captures the contractual aspect of taxation, underlying the relationship between governments and citizens.

Devarajan and Ianchovichina (2017) provide a highly detailed analysis of the factors that broke the social contract in the Middle East and North Africa (MENA) region and brought about the Arab Spring. The authors explain that the social contract started to deteriorate after an initial boost in social protection, public services and employment in the early 2000s. Public employment slowed and, in some cases, stopped, while the private sector could not absorb thelarge number of young people entering the labour force. In addition, even though the main public services were free and others (energy and water) were subsidised, the quality of these was so poor that people had to pay the private sector to obtain them.

In numerous African nations, inadequate tax administration systems restrict governments' ability to fund their development plans and deliver crucial services such as healthcare, education and infrastructure. (Drummond, Daal, Srivastava, & Oliveira, 2012). Isbell and Olan'g (2021) highlight that a large share of the population in several African countries (Mali, Tunisia, Kenya, Uganda, Gabon, Guinea, Cabo Verde, Lesotho, Sierra Leone, Nigeria and Angola) express concerns about the fairness of their countries' tax responsibilities, with just half believing that taxes are distributed by the government for the benefit of its people. While most Africans express willingness to pay increased taxes to aid youth and national development, a considerable segment struggles to access information on tax responsibilities and spending. In addition, many perceive tax authorities as corrupt and untrustworthy. These perceptions likely influence the level of voluntary citizen support and compliance with the government's tax administration.

In the last few years, recent studies (Weinberg, 2022; Razavi et al., 2020) indicate that the global impact of COVID-19 is undermining the social contract between governments and their citizens in

numerous countries. In the African context, new research (Afrobarometer, 2022; Seydou, 2022; Kodiaga & Nannozi, 2021) shows that the pandemic's impact exacerbates an

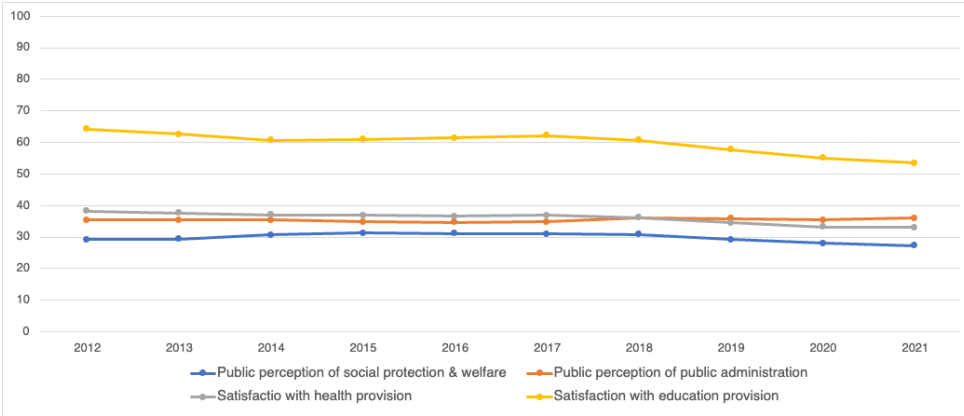
already fragile social contract. Afrobarometer surveys reveal widespread distrust in governments and concerns regarding inadequate assistance, further challenging the integrity of the fiscal social contract. Abumere (2021) exemplifies this breakdown by illustrating Nigeria's situation, where the imposition of lockdowns and business closures required entrepreneurs to fulfil their fiscal obligations without receiving corresponding government support.

In the context of SSA, the study of Ali, Fjeldstad and Sjursen (2014) provides evidence that satisfaction with public service provision might increase tax-compliant attitudes in Kenya, South Africa, Tanzania and Uganda. Jahnke and Weisser (2019) observe that perceived corruption has a negative effect on tax morale, while Boly, Konte and Shimeles (2020) argue that the quality of governance can influence tax morale. Sebele-Mpofu (2020) states that the relationship between tax compliance and quality of governance remains to be studied, especially in developing countries.

Figure 1 shows the public perception of public administration, public perception of social protection and welfare, public satisfaction of health provision and public satisfaction education provision in 48 SSA countries for the period of 2012 to 2021.

Figure 1. Public perception and satisfaction in SSA.
Image containing text, screen, line, diagram

Description automatically generated



Source: author's production using IIIAG governance dataset (Mo Ibrahim Foundation, 2024).

The figure shown hereinabove reports the annual index of four categories of the Mo Ibrahim Foundation's governance index, where 0 indicates the lowest score and 100 the highest. Public perception of social protection and welfare, public perception of public administration and public satisfaction with health provision remain below 40 per cent across all periods. Public satisfaction with education provision remains higher than in the other categories. However, the data reveal a decrease from 2012 to 2021.

The figure above presents a first overview of the general situation concerning the social contract in SSA. It reports a score for the public's perception and satisfaction of the same variables that, according to Devarajan and Ianchovichina (2017), played a key role in breaking the social contract in the MENA region. Public perception of social protection and welfare has the lowest score for all the period, while the other three variables' scores are below 40 per cent.

Despite the social contract theory, part of the literature (e.g. Besley & Persson, 2014; Burgess & Stern, 1993) assigns the blame for tax non-compliance to cultural factors, referring to a culture of not paying taxes among citizens in developing countries. Some scholars (Carsamer & Abbam, 2020; Xin Li, 2010; Torgler & Schneider, 2007) believe that religiosity, ethnicity and culture are determinant aspects of tax evasion. Besley and Persson (2014) state that one possible explanation for why LICs have lower tax revenue levels might be due to a weaker ethic of tax-paying among citizens. Burgess & Stern (1993, p. 799) affirm that "taxation is a strange, unwelcome and sometimes incomprehensible concept to many people in developing countries".

Part of the motivation behind this research is the belief that tax compliance behaviours are influenced by factors far more complex than just socio-demographic ones. The common belief that tax compliance problems in SSA are rooted mainly in cultural, socio-economic or structural issues oversimplifies a more complex situation. While challenges like informality do challenge tax collection, the core issue lies in how citizens perceive and trust their governments. Ultimately, it is the citizens who decide whether they will comply with tax laws.

Simply fixing administrative problems or targeting informality will not automatically lead to higher tax compliance. When citizens see the government as ineffective, corrupt or unresponsive to their needs, they are less likely to feel compelled to pay taxes. To improve tax compliance, governments

must rebuild trust and prove that tax revenues are being used to benefit the public. The relationship between citizens and the state needs to be strengthened so that paying taxes feels like a meaningful contribution to society, not just an obligation.

This dissertation aims to disentangle the complexity of tax compliance, shedding light on the perception of governance that is one of the "least understood but most fundamental dimensions of tax compliance" (Everest-Phillipsand Sandall, 2009, p. 3).

2. 2 UBI

Social protection is a crucial component of the social contract. Cash Transfers (CTs) have the potential to increase citizens' and recipients' adherence to the social contract and, if implemented correctly and transparently, to raise public perceptions of the legitimacy of the government (Grisolia, Dewachter & Holvoet, 2023a).

Although the definition of Universal Basic Income (UBI) consists in various characteristics, such as universal, individual, unconditional, uniform, cash based and frequent (Dewispelaere and Stirton, 2004), it is generally well-known for three key features: universality, unconditionality and being cash-based. A UBI involves cash payments rather than providing goods or services like food, housing or fuel. Second, it is universal, meaning it is not directed at any group based on socioeconomic or demographic factors. It is unconditional, meaning recipients do not need to meet any specific requirements or conditions to receive the payments (Ghatak & Maniquet, 2019). Because of these characteristics, the policy has been and remains intensely debated for its theoretical potential impact in different spheres (Gentilini, Grosh & Yemtsov, 2020).

Universality might eliminate inclusion and exclusion errors and stigma, reduce transaction costs, generate psychological benefits and be more labour-compatible. However, the main concerns regarding this aspect are related to the prohibitive cost of this policy (which stresses the question of how to finance a UBI), political acceptance and lower effectiveness in reducing poverty and inequality compared to targeted programmes (Gentilini, Grosh & Yemtsov, 2020).

Unconditionality might be an efficient way to redistribute the benefits of automation and globalisation, reduce administrative costs, mitigate shocks and systemic risks and not create

"welfare traps" (Colombino, 2019). The main argument against this aspect is that, for many individuals, cash is interpreted as a reward for their effort. Conditions serve as a method to influence behaviour, especially in situations where individuals may lack knowledge or display inconsistent preferences over time as well as in cases where coordination fails (Gentilini, Grosh & Yemtsov, 2020).

Ladhani and Sitter (2019) argue that, despite being widely adopted worldwide, there is still debate on Conditional Cash Transfers' (CCTs) ability to significantly reduce short- and long-term poverty. Preliminary successes have been observed, but CCTs have yet to fully deliver on their promises. Their long-term viability as a social safety net remains in doubt due to ethical issues and constraints, especially with relation to conditionality. The authors emphasise the importance of carefully weighing CCTs in light of the unique socio-political and economic settings they are intended to address as well as the complexity of poverty. The implications for the field of social work and the ethical need to promote fair social assistance programmes are highlighted. Pérez-Muñoz (2017) argues that CCTs can be viewed as a tool to encourage compliance with some universally applicable policies such as schooling and some healthcare measures (e.g. vaccination). By attaching financial incentives to behaviours like school attendance or healthcare participation, CCTs serve as an additional mechanism to reduce non-compliance with these essential public policies.

Following the findings of Bastagli et al. (2019), CCTs have a clear and significant positive impact on expenditures on food and other household items, access to schooling and use of health services. In addition, CCTs can generate positive effects on savings, productive investments, diversification of livelihood strategies and investment in livestock and agricultural inputs. The authors also note that, unlike popular concern, there is no evidence in their research to support the notion that CTs have a negative impact on labour supply and work effort. According to Mankiw (2009), "cash payments increase the welfare of recipients to a greater degree than do transfers-in-kind of equal cash value". However, the main concern regarding the CT modality is related to the other two aspects of the UBI. Several economists worry that a universal and unconditional CT might provoke inflation (Gentilini, Grosh & Yemtsov, 2020).

Some academics (Devarajan 2022; Yang 2019 and Caputo; Pulkka, 2017 and Lewis 2016) argue that the UBI may help to mitigate the effects of massive unemployment due to the development of digital

economies. In recent years, the UBI has increasingly gained interest. In a recent study of Ash and Zimmermann (2020), it has been found that 71 per cent of Europeans, among all age groups, support the idea of a UBI. Nettle et al. (2020) finds that people express much stronger support for UBI, and prefer it to a targeted system, during a crisis and its aftermath than during normal times. In addition, some studies (De Wispelaere & Morales, 2020; Johnson & Roberto, 2020; Weisstanner, 2022) show that the COVID-19 reinvigorated the debate on the UBI.

Leisering (2021) argues that macro events like the Great Depression of 1929 and the global crisis that occurred in 2008 stimulated innovative approaches in social policy. However, the author claims that the international community proposed an adaptation of old ideas as a response to COVID-19, rather than a new departure, even though new forms of poverty and inequality emerged. Although there has been an identification of social problems, such as new poverty dimensions and broader inequality, and a new responsibility by governments to prepare better to future shocks, this has not been followed by a new model of social welfare. No alternative visions for new policies and new social protection models have been formulated.

For Leisering (2021), universal social protection consists in more than providing fundamental social security to vulnerable and poor citizens since it is not just these people who are affected by economic instability and shocks. Including everyone in a social protection system promotes broader support for public welfare initiatives.

In the last few years, the debate on universalism has expanded from the Global North to the Global South. UBI has increasingly gained more attention as a tool for poverty and inequality eradication in developing countries. Lacey (2017) provides a series of arguments for why a UBI might be effective as a development solution in the Global South. A UBI aims to address inequality and facilitate wealth distribution with variations in how it is conceived andimplemented. It can redistribute income in states without a distinct state-owned wealth producer, shifting the emphasis from just dividend returns. Through the direct distribution of payments to every household member rather than depending exclusively on a primary household earner, UBI can promote improved gender equality and subvert the current patriarchal power structures.

However, according to Banerjee, Niehaus and Suri (2019), the research in this context remains limited. In the specific case of SSA, only a few studies have been conducted. Gentilini et al. (2020)

report information on UBI experiments conducted in regions like Kenya, Namibia and Uganda. Furthermore, the authors simulate the impact of different UBI schemes in Mozambique and South Africa. The findings show that, in order to provide a transfer equal to the poverty gap to everyone, it would cost between 7 and 20 per cent of GDP in Mozambique, while a UBI able to eradicate poverty would require between 36 and 48 per cent of GDP. The same type of UBI would be economically prohibitive in South Africa as well. The research simulates that the country should raise direct taxes on the top decile of the population by 17.3 per cent.

Research that carries out a cross-country analysis on this topic and in this area remains scarce. Lustig, Jellema and Martinez Pabon (2023) examine whether giving everyone a BI would be possible and helpful in reducing poverty in twelve SSA countries. Their findings show that only Botswana, Ghana and Zambia could realistically afford it. In order to fund a BI, Ortiz et al. (2018) propose a few financial adjustments, including enhancing tax collection, halting illicit money transfers and managing outstanding debts. However, they also note that it might not be affordable if the basic income is set too high. For low-income countries, the cost of implementing a Universal Basic Income (UBI) is prohibitively high, amounting to 80 per cent of GDP.

Gray Molina and Ortiz-Juarez (2020) calculate the total and per beneficiary amounts of a Temporary Basic Income (TBI) to poor and vulnerable people in several LICs and middle-income countries (MICs). The study identifies three major challenges: administrative targeting and payment, fiscality and funding as well as political economy. The first issue refers to the fact that many individuals in developing countries are not registered and do not have a bank or mobile phone account. Because of this, governments might struggle to provide benefits to those people. The second issue relates to fiscal capacity and financing. Because the TBI is planned to be temporary and short term, options like extra taxes, royalties from natural resources or diverting pension funds are not considered. The third issue explores how political support for or against a TBI will evolve after its implementation and what (and how) will replace it once the emergency ends.

De Wispelaere and Stirton (2004) point out that universal policies generally still have selective effects in practice, and selective measures can sometimes mimic universal outcomes. One category of subjects often excluded from even the most universal schemes is non-citizens. The authors also explain that conditions are frequently added to UBI programmes for political reasons, as policymakers often believe there will not be enough support for fully unconditional measures.

Sometimes, economic arguments are also made in favour of introducing some level of conditionality. However, unconditional schemes are often praised for their efficiency, particularly because they tend to have higher take-up rates. Ultimately, the decision about the level of conditionality in a basic income programme depends largely on which constraint—political or economic—is considered more significant. In addition, determining an adequate UBI level is challenging due to varying definitions of subsistence and dynamic models that adjust the grant based on economic indicators or regular reviews can be efficient in satisfying the recipients' constant needs. This approach can help the grant adapt to changing conditions, but it may not offer the same stability as a fixed amount.

2. 3 Microsimulation analysis of UBI in Global South countries

Microsimulation techniques, especially static microsimulation models, have shown some potential in policy analysis. These models focus on the first round (immediate) effects of a policy, such as determining who will benefit and who will lose from changes in that policy. Microsimulation techniques are frequently used in tax-benefit systems. A microsimulation model usually comprises two parts: a baseline database, which contains economic and sociodemographic data on individual or household units, and a set of accountingrules for determining the effects of policies simulated for each unit (Spielauer, 2010).

According to Torry (2021), microsimulation can provide the important information needed for a UBI scheme. Indeed, this type of analysis can investigate the overall cost of a programme, household losses (particularly for low-income households) throughout the UBI implementation, adjustments to poverty and inequality indices, patterns of redistribution and the number of households that were maintained and had their means-tested payments recalculated. Rigolini et al. (2020) affirm that microsimulation methods are useful to provide evidence on the trade-offs that characterise the UBI, such as coverage, adequacy, costs and financing options. This type of analysis can generate further insights into the comparative impacts and distributional effects of a UBI replacing part of a country's social assistance portfolio.

In the last few years, some studies have used microsimulation techniques to investigate the impact of a UBI on poverty and inequality in countries in the countries in the Global South. Rigolini et al.

(2020) simulate the effects of a UBI in nine Global South countries (Brazil, Chile, Haiti, India, Indonesia, Kazakhstan, Mozambique, Nepal and South Africa) with different income levels and compare it with the existing social protection system (baseline). The results indicate that a budget neutral UBI would be less effective in alleviating poverty and inequality than the baseline in the respective countries. The main reason behind this is that this type of UBI would use the same financial resources as the targeted systems and would spread them to the whole population. This translates in allocating an amount per person potentially insufficient in reducing poverty. A budget neutral UBI reform would take some resources away from the extremely poor and redistribute them to people who are less poor. The results reveal that extreme poverty decreases more at the baseline. This study also shows the cost in order to be able to fully eradicate poverty. According to the results, this UBI would cost 36 and 48 per cent of GDP, respectively, in Mozambique and Nepal. In middle- and high-income countries, this type of UBI would cost between 8 and 22 per cent of GDP.

Caamal-Olvera, Huesca and Llamas (2022) used, for the first time, the microsimulation tax benefit model for Mexico, MEXMOD, to provide a formal comparison of the poverty situation given in four different scenarios, which include a UBI scheme. The results suggest that a UBI of USD 1,668 per month has positive distributive impacts and reduces extreme poverty. Jara and Palacio Ludeña (2024) examine the potential impact of a UBI in Ecuador. The analysis reveals that the UBI would be effective in reducing poverty and inequality. However, this policy is highly costly and requires a significant increase in social spending.

Lustig, Jellema and Martinez Pabon (2023) investigate if universal income floors are fiscally achievable in twelve SSA countries. The findings imply that the necessary tax increase makes a budget neutral UBI - with a benefit equal to the poverty line or poverty gap - infeasible. Shahir et al. (2023) assess the effectiveness of universal benefit, proxy means-tested (PMT) benefit and categorical benefit (CB) in mitigating the poverty impacts of income shocks within a developing economy, with Ethiopia as the case study. The findings indicate that, due to the limited budget in Ethiopia for social assistance, in the COVID-19 scenario, the PMT, CB and UBI show similar levels of poverty reduction. However, in scenarios of larger shocks, such as the hypothetical agricultural shock simulated or increased social protection budgets, the PMT system shows greater efficacy in poverty reduction compared to the UBI.

2.4 UBI pilots

Microsimulation methods are useful to provide evidence on the trade-offs that characterise the UBI, such as coverage, adequacy, costs and financing options. This type of analysis can generate further insights into the comparative impacts and distributional effects of a UBI replacing part of a country's social assistance portfolio (Rigolini et al., 2020). However, BI pilots are crucial for common myths, such as the idea that BI encourages laziness, by offering empirical evidence to the contrary. They also demonstrate non-monetary benefits like improved health and well-being. Furthermore, these experiments serve as practical tests to determine the most effective ways to implement basic income in different regions, countries or cities, guiding policymakers on designed strategies (Standing, 2021).

In recent decades, several pilots have been launched in countries in the Global South that are typically afflicted by high levels of extreme poverty and inequality with social security programmes that often result in being inefficient. Some of the most important BI experiments were developed in India, Kenya and Namibia.

Between 2011 and 2013, a BI pilot was implemented in nine villages in Madhya Pradesh, India.The payment was cash-based, unconditional and done every month. The cash transfer helped households improve their purchasing power, which resulted in a change in the composition of their food basket. As a result, beneficiaries saw an increase in their food sufficiency, with children showing an improvement in their nutrition. Positive effects were observed in health too, with a rise in medication use and accessibility to formal medical care. Families were also engaging in more income-generating activities or output (Davala, 2019).

Kenya is currently hosting a long-term UBI experiment that has been ongoing for 14 years, supported by theinternational nongovernmental organisation GiveDirectly. The experiment covers 6,000 people for 12 years, with a second treatment arm of 11,500 people for two years (Gentilini, Grosh & Yemtsov, 2020). The findings show that those recipients who were receiving long-term transfers experienced a substantial economic expansion, saved more money and made more investments, while labour supply did not fall. Household well-being improved on some common measures like food consumption and depression (GiveDirectly, 2023).

In Namibia, a BI experiment called the Basic Income Grant Pilot (BIG) was launched in 2008 with the intention of convincing the government to extend the scheme to the entire country. The experiment's aim was to provide evidence about the costs, operability and behavioural effects of the BIG (Osterkamp, 2013), and it was conducted in the Otjivero-Omitara area for a period of two years. A benefit of USD 100 per month was provided to around 930 residents below the age of 60. This was financed by private contributions and implemented by nongovernmental organisations (Gentilini, Grosh and Yemtsov, 2020).

The BIG reported significant positive results: women, people with disabilities and elderly people experienced empowerment, economic activity increased, particularly among low-earning households and new businesses were established, and school attendance and performance increased as well as community health and nutrition (Torry, 2021).

Case studies

In 2017, Finland, Netherlands, Spain and Uganda launched a BI experiment for a length of two years (Gentilini, Grosh, & Yemtsov, 2020). Although each experiment had its own differences, they can also present common aspects. Policymakers can study the experiences of other BI experiments and determine whether it is appropriate and feasible to pursue a similar programme for their own countries. Previous experiments may provide important insights on how to strategically implement a BI within social and political policy frameworks.

Table 1 shows the three main characteristics of the UBI hereinabove: length of the experiment, benefit frequency and coverage.

Table 1. Basic Income experiment in Finland, Netherlands, Spain and Uganda

Country	Length	Universal	Unconditional	Cash-based	Benefit frequency	Coverage
Finland	2 years: 2017-19	No	Yes	Yes	€560/month + additional benefits	2,000 randomly selected households with unemployed people with ages between 25 and 58.
Netherlands	2 years: 2017-19	No	No	Yes	€960/month	5,000 individuals

Spain	2 years: 2017-19	No	No	Yes	€100–€1,676/month	The benefit amount varies between €100 and €1,676 per month and is given to a household depending on the household composition.
Uganda	2 years: 2017-19	Yes	Yes	Yes	USD18.25 (adults) or USD 9.13 (children)/month	USD 18.25 for adults; USD 9.13 for children, paid to the mother/caretaker paid via mobile phone.

Source: data from De Wispelaere & Yemtsov (2020); Gentilini, Grosh & Yemtsov, (2020) and Hillamo (2022b).

According to the table hereinabove, only the Ugandan experiment presents all three characteristics of a UBI. Uganda and Finland opted for an unconditional modality. All four experiments were cash based.

One of the main reasons for the selection of these countries is that they ran a two-year BI experiment during the same period, creating a valuable opportunity for comparative analysis. In addition, they present some valuable differences, such us the geographical and political context (ensuring diversity in governance structures and economic conditions), income classification and the institutional setting of the main actor that implemented the BI experiment. Catalonia (Spain) offers a sub-national perspective. This variety enables the study to explore how different political, economic and institutional settings impact the policy chain of BI experiments, from initiation to results interpretation.

3. Methodology

This dissertation applies a mixed-methods analysis to investigate how taxation and social protection affect poverty and inequality in SSA. Firstly, the study performs a logistic regression analysis of 32 SSA countries using round seven of the Afrobarometer to analyse the relationship between citizens' perceptions of governance (the main independent variable) and tax compliance (the dependent variable). Furthermore, it is proposed to conduct a binary mediation analysis using a mediator trust in an institution to observe the direct and indirect effects of the main independent variable on the dependent one.

After this, the dissertation explores the efficiency of a UBI in mitigating crisis shocks in LICs and LMICs in SSA. For the study, Uganda and Zambia have been selected. The research applies a microsimulation analysis using the respective SOUTHMOD models of the two countries. The analysis compares two different scenarios, one with COVID-19 shocks and the other without. In each scenario, four different UBI schemes are simulated. These are compared with each other and the baseline scenario, which includes the existing tax and social protection policies in each country.

Lastly, the dissertation proposes a qualitative approach to examine the policymaking process of BI experiments. For the study, four different BI experiments have been selected, which were implemented in Finland, the Netherlands, Spain and Uganda. The selection of these has been made considering several aspects, such as the length of the experiment, the year in which it started, accessibility to the results of the experiment, the existence of a literature review and the possibility of interviewing different people involved in the experiment.

The research conducts qualitative, semi-structured interviews with different actors that have participated in the BI experiments. A BI experiment typically involves a variety of actors, including politicians, public advocacy organisations, social activists and researchers. This study attempts to look at the BI implementation, management and financing of the experiments from many perspectives, considering the complex web of stakeholders. It is examined how the policy originated (top-down or bottom-up), which key actors managed the experiment's modelling, what structural and practical issues arose during implementation and who and how the results were ultimately interpreted. Each experiment is related to the conditions in the area.

Table 2 reports the main information about the methodology for the three-analysis conducted in this dissertation.

Table 2. Methodology information

Sub-research question	Method	Data	Main limitations	Main findings

Does the perception of governance influence tax compliance in Sub-Saharan Africa?	Logistic regression analysis and binary mediation analysis.	Round seven of Afrobarometer (year 2018).	Impossibility to recognise who must pay taxes and who is exempted. Impossibility to recognise informal workers. Tax revenues can affect government's capacity to deliver public services and govern well.	Citizens' perception of governance has a positive impact on tax compliance. The binary mediation model reveals that almost 90 per cent of the total effect of the main independent variable on the dependent one is direct.

Is UBI an effective tool to mitigate crisis shocks in SSA countries?	Microsimulation analysis. Four different UBI schemes with a different level of generosity.	UGAMOD v2.0: Uganda National Household Survey (UNHS) (2016-17) and MicroZAMOD v 2.6: Zambia's Living Conditions Monitoring Survey (LCMS) (2015).	The analysis is restricted to first-round effects and does notinvestigate second-round effects such as the behavioural or general equilibrium effects. The analysis assumes that: Negative incomes are converted to zero and allocated at least the level of the respective UBI as income to each person. The entire UBI benefit is spent. When spending the UBI and calculating post-fiscal income, it is supposed that households spend it on formal markets and taxed at the standard VAT rate in the respective country. Post-fiscal income, thus household disposable income less indirect tax, is assumed to be at least zero.	In Uganda, a budget-neutral UBI scheme could reduce poverty and inequality more effectively than the existing system. However, the improvements in poverty and inequality are marginal. In contrast, in Zambia, a UBI scheme underperforms compared to the existing system, leading to increases in poverty and inequality indicators, including the Gini index. In both countries, the level of generosity of the UBI benefit significantly influences the impact on poverty and inequality.
Do BI experiments present common patterns in the policymaking structure?	Qualitative s emi-structured interviews.	Data are extracted from 19 interviews.	Most of the participants responded in their non-native language. Most of the interviews were conducted via Zoom and then the records were transformed into text by using the Notta program. The	BI experiments are often scaled down by introducing targeting conditions due to the controversial nature of UBI, concerns over costs and societal implications. High costs were a major challenge for governments in Finland, the Netherlands and Spain, leading to experiments focused primarily on labour supply responses. The short duration of experiments limited the ability to

			collected data were utilized only for this investigation.	fully explore long-term effects and assess UBI's broader potential benefits. The UBI tends to gain attention during crises as a solution to mitigate economic shocks, but political support and public interest tend to fade once the crisis subsides.

Note: Descriptive statics are reported in the appendix (tables A3, A4, A5, A6 and A7)

3. 1 Logistic regression analysis

The study uses Afrobarometer round seven, which consists of a merged dataset that contains information on the political, social and economic aspects as well as socio-demographic information for 32 SSA countries (Benin, Botswana, Burkina Faso, Cabo Verde, Cameroon, Côte d'Ivoire, Eswatini, Gabon, Gambia, Ghana, Guinea, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritius, Mozambique, Namibia, Niger, Nigeria, São Tomé and Príncipe, Senegal, Sierra Leone, South Africa, Sudan, Tanzania, Togo, Uganda, Zambia, Zimbabwe).

However, due to the absence of individual income in the dataset, the analysis builds a proxy means test as an alternative. The proxy is constructed following the work of Justesen and Bjørnskov (2014) as well as Jahnke and Wisser (2019). The proxy variable uses question 8 that asks how often, during the past year, they or anyone in their family has gone without: a) enough food to eat; b) enough clean water for home use; c) medicines or medical treatment; d) enough fuel to cook food; and e) a cash income. The responses are coded on a five-point scale from "never" to "always". We consider that an individual lives in poverty and deprivation when the score is low. In contrast, a low value indicates that an individual lives in materially good conditions in that they do not lack necessities regularly (Nichelatti & Hiilamo, 2024).

As a dependent variable, the study identifies question 38C "For each of the following statements, please tell me whether you disagree or agree: The tax authorities always have the right to make people pay taxes". A value of 1 or 0 has been assigned, where 0 indicates if an individual avoids paying taxes and 1 if they do. For the main independent variable question 26D is used "Here is a list of actions that people sometimes take as citizens when they are dissatisfied with government performance. For each of these, please tell me whether you, personally, have done any of these things during the past year: Refused to pay a tax or fee to government?". This variable assigns 0 to

those who indicated their refusal to pay taxes with their response and 1 to those who do (Nichelatti & Hiilamo, 2024).

The research adds two more additional independent variables that indicate trust in institution and government services performance. The former is constituted by merging questions 43A, Band D, while the latter is constructed with questions 49B, E and M. In addition, the following socio-demographic variables have been included: gender, age, education, employment status, urban or rural area and country.

The variable trust in institutions has a score between 0 and 1, with 0 representing the lowest level of trust and 1 the highest. The respondents were asked how much they trust the President (Q43A), Parliament (Q43B) and the local Government Council (Q43C). The variable government service performance displays a score between 1 and 4, where 1 is the lowest scoreand 4 the highest one. The variable indicates how much an individual struggled to receive a specific service from the government. In question 49B, it was asked the respondents how easy or difficult it was to obtain the services they needed from teachers or school officials, in Q49E to obtain the medical care needed and in Q49M to obtain household services (Nichelatti & Hiilamo, 2024).

After the logistic regression analysis, the study conducts a binary mediation analysis to examine the direct and indirect effects of citizen's perception of governance on tax complianceusing as a mediator trust in institutions.

Although there are limitations, the Afrobarometer represents a reliable source of data. Indeed, previous surveys have been used for similar studies (Ali, Fjeldstad & Sjursen, 2014, Justesen & Bjørnskov, 2014 and Jahnke and Wisser, 2019) on tax compliance with valid and trustworthy results. Although the Afrobarometer is not limited to taxation, it is a viable option because it is the only survey containing homogenised data on economic, political and social aspects in primarily SSA countries.

The analysis aims to examine if the citizen's perception of governance can affect tax compliance in SSA by performing five logistic regression models. Each model includes a different number of dummy variables. The last model executes an interaction between the perception of governance and trust in institutions. The results confirm the existence of how the relationship between citizens'

perception of governance can affect tax compliance.

Multiple tests, including multicollinearity, substantial error, Hosmer-Lemeshow, Pearson chi-square and post-estimation classification results, were performed and successfully passed in order to evaluate the robustness of the methodology. Robust standard error analysis was also performed, and the results showed that the p-values remained almost the same, but the coefficients slightly changed. This emphasises that the effects of the variables and their levels of significance are still the same.

3.2 Microsimulation analysis

The present study uses UGAMOD v2.0 and MicroZAMOD v2.6., which are the respective microsimulation models for Uganda and Zambia. The modelling and underlying assumptions of which the analysis is built on are coherent with the approach taken by Lastunen et al. (2023).

Because the study aims to investigate the UBI role in mitigating crisis shocks, the analysis applies COVID-19 shocks, developed by Lastunen et al. (2021). Following this approach, the models have a scenario with COVID-19 shocks (hereinafter referred to as a "crisis baseline scenario") and another without (hereinafter referred to as a "pre-crisis baseline scenario") per each country. Table 3 reports the monthly amount of each UBI benefit, the share of GDP and share of tax revenue[6] required to finance each UBI scheme[7,8]. The fourth scheme provides a benefit almost 25 times more than the first to all Zambians and nearly 29 times more to all Ugandans but requires a financial contribution 20 times higher in terms of the GDP share in Zambia and 30 times higher in Uganda compared to the first UBI. The first two schemes are the most financial affordable. While the first UBI scheme is fiscally neutral, the second requires doubling the spending in terms of GDP.

Table 3. Simulated UBI schemes

[6] [(N/C)/P]x100=X; N=total annual public expenditure for the UBI in national currency; C= national currency amount per $1; P= country population.
[7] (N/G)x100= X; N= total annual public expenditure for the UBI in national currency; G=total annual public expenditure for social protection in national currency.
[8] Sources used for the calculations: (Zambia Revenue Authority, 2020), (Uganda Revenue Authority, 2021), (World Bank, 2022c), (World Bank, 2022d), (World Bank, 2022e), (ILO, n.d.)

	1st UBI	2nd UBI	3rd UBI	4th UBI
Uganda				
Benefit in NCU per month	1,837	4,887	38,525	77,050
Benefit in USD per month	0.49	1.21	10.36	20.72
Expenditure as share of GDP (%)	0.7	1.71	15	30
Expenditure as share of tax revenue (%)	5	12	107	214
Zambia				
Benefit in NCU per month	11.7	25	151.45	302.90
Benefit in USD per month	0.64	1.36	8.26	16.51
Expenditure as share of GDP (%)	0.8	1.71	10	20
Expenditure as share of tax revenue (%)	4	10	58	106

Notes: The benefit amounts of each UBI scheme are in National Currency (NCU) and US dollar (USD). The national currency of Uganda is the Ugandan shilling (UGX). The national currency of Zambia is the Zambian kwacha (ZMW). The exchange rate of UGX to USD is 3,718.25, and ZMW to USD is 18.344 (World Bank, 2022d).

Although consumption is generally used to calculate poverty and inequality, because UBI will initially impact incomes before it translates to a change in expenditures, the analysis uses income instead of consumption. With income, the study calculates the respective FGT measures for disposable and post-fiscal income, FGT (0) that corresponds to the poverty rate, FGT (1) that indicates the poverty gap and FGT (2) that stays for severity of poverty. In addition, the Gini index is calculated as a measure for inequality.

The analysis applies the International Poverty Line (IPL) at USD 1.90 (2011) to allow a more meaningful comparison of the different scenarios across countries. Furthermore, a per capita equivalence scale is used rather than the nationally equivalence scales (for a discussion on the varieties of equivalence scales used across countries, also see Gasior et al. (2018).

Both baseline datasets have the same population, the weights are modified to account for changes in the population between the time of data collection and the pandemic outbreak, and all the monetary values are subject to a standard uprating factor to reflect inflation. The differences between the two baseline datasets are in terms of income, employment and policies. The pre-crisis baseline scenario mirrors the population and policies in place just before the start of the pandemic, while the crisis distributes GDP shocks at the industry level randomly among workers in each industry, leading to job losses and income reductions at the individual level. The crisis scenario includes COVID-19 related measures like tax exemptions and emergency income support, along with the suspension of current social safety programmes due to lockdowns and social distancing measures (see Lastunen et al. (2023) for further details).

3.3 Qualitative analysis

The present study aims to examine the policy chain process of BI experiments by dissecting and analysing the planning, policy decision and implementation-making process of them. The work identifies four BI experiments implemented in Finland, the Netherlands, Spain and Uganda as case studies. The main reason behind this selection is that all these countries have launched and terminated a BI experiment of a length of two years during the same period.

The analysis adopts a qualitative approach to examine 12 dimensions of the BI policy chain and performs a comparative analysis of the policy decision process of the experiments. The dimensions analysed in the study are the following: initiator of the experiment, source of the funds, planning group, main stakeholders and organisations, steering group, legislation on the experiment, characteristics of the experiment, sampling, target group, methodology, aims of theexperiment, main results and contributions to the UBI debate.

These 12 dimensions were selected to provide for a comprehensive, multi-dimensional analysis of the BI studies, encompassing the whole policy cycle from impact to design. This methodology was based on inductive reasoning on the part of the author and should guarantee the study's ability to offer solid insights on the operation and efficacy of BI studies in various settings.

Given the puzzle of the actors involved in the BI experiment's implementation, heterogeneity in the people interviewed was fundamental. A maximum of five individuals per country, who were actively involved in the planning and implementing of each BI experiment was interviewed. Each participant was identified and assigned into one of five major categories (politicians, civil society, civil servants, experiment designer and experiment conductor) to guarantee variability in the responses and collect data from several perspectives.

The questionnaire had 15 questions, and the average interview time was approximately one hour, with a total of 17 hours. Each potential participant was contacted by email during the period between 8 February and 31 March 2023. Except for those who were in person for the Finnish BI experiment, all the interviews were conducted via Zoom due to the participants' geographical distance. While for the participants involved in the Finnish, Dutch and Ugandan BI experiments the interviews were conducted in English, those of the Catalan experiment were given the option to speak in Spanish.

The participants gave their written approval for the interviews to be recorded. Each interview started with a brief explanation of the study and an assurance that the participant might end it whenever they wanted. Every data extract utilised in this work was anonymised and, if required, it was translated into English.

All the recorded information was transformed into text by using the Notta programme, and the collected data were utilised only for this investigation.

The data were analysed using content analysis, which facilitated the identification of patterns and recurring themes across the interviews. The analysis began with the transcription of all the interviews, followed by an initial stage of familiarisation, where the transcripts were read multiple times to ensure immersion in the data. Coding was then applied to the transcripts, with an initial coding framework developed based on the key topics addressed in the interview guide. This process focused on themes such as the origin of the project, funding sources, structure of the experiments, autonomy of the research teams and their composition or selection as well as the methods used for the interpretation of the results. Open coding was also applied to capture emergent themes that were not initially anticipated, such as the specific political dynamics influencing the implementation of each experiment, including the rise of particular political parties or the impact of economic crises.

The coded data were then used to develop broader themes, which were examined in a comparative context. The key themes included the origin of the Basic Income experiments—whether they were driven by top-down or bottom-up movements—the extent to which political or economic shocks, such as financial crises or the rise of particular political parties, contributed in the experiments' implementation, the aim of the experiments and the degree of autonomy granted to the research teams in evaluating the outcomes. The funding structures were also analysed, focusing on whether the experiments were fully funded by the government or supported by external financial actors. Finally, the analysis considered whether the experiments were conditional or unconditional, and how this impacted both their implementation and the interpretation of the results.

3.4 Strengths and limitations

The dissertation adopts a logistic regression analysis based on previous research (i.e Ali,

Fjeldstad & Sjursen, 2014 and Jahnke & Wisser, 2019) that focused on tax compliance in SSAusing Afrobarometer data. However, the Afrobarometer survey does not distinguish between people that must pay taxes and those that are exempted because their economic situation. Furthermore, it is not possible to recognise informal workers in the survey.

Arvin, Pradhan and Nair (2021) show the importance of tax revenue in strengthening government institutions and its relationship with government expenditure. Following this line of thinking, an additional limitation might be that tax revenue can affect government's capacity to deliver public services and govern well. Moreover, the survey does not contain information on government's ability to collect taxes. As a result, it is not possible to determine the coercive aspect that can influence an individual to pay taxes even though they are not willing to do so. The research considers citizens' perception of governance as a factor developed autonomously and not influenced by external aspects such as social media or others.

The microsimulation models allow you to simulate the impact of existing or contrafactual tax and benefit policies on individual incomes and generate poverty and inequality estimations.

However, the analysis was restricted to first-round effects and does not investigate second-round effects such as behavioural or general equilibrium effects. Furthermore, the analysis makes some assumptions that are described in table 2.

Qualitative semi-structured interviews have been chosen for the analysis. These enable the interviewer to freely address a number of themes related to the participants' experiences.This approach makes it possible to investigate participants' ideas and viewpoints regarding a certain subject. Indeed, the interviewer has more freedom in the semi-structured interviews and can ask the participant for clarification and additional details as well as explore different aspects. According to Dolczewski (2022), during semi-structured interviews, participants select the events they want to discuss, but the researcher chooses how to further investigate the narrative. However, the analysis presents some limitations. Most of the respondents used English (their non-native language) during the interviews. Another limitation might be connected to the way with which the interviews were conducted. Except for the Finnish case, all the participants were interviewed online. The fluency of the interview could depend on the respondents' internet connection. This was the case of two of the respondents for the Ugandan case, in which a weak internet connection made

for a less fluid interview. However, this issue did not significantly compromise the interview, and all the points in the questionnaire were adequately addressed and answered.

4. Results

Does the perception of governance influence tax compliance in Sub-Saharan Africa?

Table 4. Logistic regression models results

Variable	1st model	2nd model	3rd model	4th model	5th model
Perception of governance	0.29***	0.29***	0.29***	0.29***	0.68***
Trust in institutions	0.68***	0.68***	0.73***	0.74***	-
Government service perf.	-0.12***	-0.13***	-0.13***	-0.13***	-0.15***
Wealth indicator	0.08***	0.09***	0.07***	0.07***	0.07***
Age	-	0.00	0.00	0.00	0.00
Gender	-	-0.08**	-0.08**	-0.07**	-0.07**
Urban area	-	-	-0.33***	-0.31***	-0.29***
Country	-	-	0.02***	0.02***	0.02***
Education	-	-	-	0.01*	0.01*
Occupation status	-	-	-	0.00**	0.00**
Constant	1.08***	1.11***	0.99***	0.90***	1.26***

*** *p<0.01,* ** *p<0.05,* * *p<0.* Number of obs 28,891.

All the results reported below are statistically significant and interpreted by assuming that all the other variables are constants (please refer to table 4). The perception of governance, the primary independent variable in the fourth logistic model, shows a coefficient of 0.29 with tax compliance. This means that a positive perception of governance is expected to result in a 0.29increase in the log odds of individual tax compliance. Furthermore, the dependent variable is positively affected by trust in institutions. For every unit of trust in institutions, there is a 0.74 increase in individual tax compliance.

Regarding the government service performance, the log odds of the tax compliance drop by 0.13 as a person's difficulty obtaining government services grows. For the proxy income variable every unit of wealth score added, there should be a 0.07 rise in the log probabilities of individual tax compliance. However, the dependent variable is negatively impacted by the variable that

indicates if an individual lives in an urban area. This means that a reduction of 0.31 in the log odds of the dependent variable is expected with every extra unit of this variable (moving from rural to urban areas). Moreover, the country variable has a 0.02 coefficient[9].

The variable gender has a 0.07 negative coefficient. This implies that the log odds of tax compliance will drop by 0.07 if the person is male rather than female. Education shows a favourable impact on the dependent variable. An increase of 0.01 in the log odds of the dependent variable corresponds for every higher degree of schooling. Employment status shows a coefficient of 0.00.

According to the results in the fifth logistic regression model, those who trust institutions and have a positive perception of governance (interaction term) are 0.65 times more likely to pay taxes. All other variables' coefficients and p-values are very similar.

The binary mediation analysis reveals that the perception of governance has a total effect on tax compliance of 0.98, with its direct effect being 0.46. The indirect effect of perception of governance on tax compliance through trust in institutions is measured at 0.052. All the results demonstrate statistical significance.

Is UBI an effective tool to mitigate crisis shocks in SSA countries?

The microsimulation analysis aims to investigate the impact of a UBI in mitigating shocks and its effects on poverty and inequality. Of the four UBI schemes simulated, the first scheme has welfare estimates similar to the baseline scenario given its budget neutrality. The other three UBI schemes require a more expensive budget for giving their higher benefit.

The results show that the poverty rate and poverty gap in Uganda decrease with all four UBI schemes in both scenarios compared to the respective baseline scenario. The poverty rate reduction is more significant when the generosity of the benefit amount is also significant. Inequality drops withe ach UBI scheme in the pre-crisis and crisis scenarios for both countries.

[9] A similar model without the variable "country" was run to see if any changes occurred. It was noticed that the coefficients decreased slightly, but there was no statistical significance change. Furthermore, the pseudo-R squared decreases.

When looking at the population subgroups, the only group that experiences an increase in poverty rate under the first and second UBI scheme is the elderly, while for the poverty gap, the same subgroup does not register a reduction with the first UBI scheme. This might depend on the fact that the UBI levels in those two schemes are actually less generous than the current old-age payments for the elderly in Uganda.

In Zambia, the poverty rate, poverty gap and inequality register an increase with the first UBI scheme, while they reduce from the second in both scenarios. This means that the first UBI scheme does perform poorer in poverty and inequality reduction than the existing targeted social protection scheme. The fourth UBI scheme has the most significant decrease in all three indicators.

The only sub-group that registers a reduction in the poverty rate (but not in the poverty gap) under the first UBI scheme in the pre-crisis scenario is children (while it does not in the crisisscenario). The elderly is the only sub-groups that experiences an increase in the poverty rate in the second UBI scheme in both scenarios. The same occurs with the poverty gap.

If the two countries are compared, it can be noted that Uganda has experienced a greater overall decline in poverty rates across all UBI schemes than Zambia has compared to the baseline scenarios (pre-crisis and crisis). Because the benefit amount is set exactly at the IPL on the fourth UBI scheme, this fully closes the poverty gap.

In relative terms, the changes in poverty severity index within UBI schemes compared to baseline scenarios are more pronounced than those observed in the poverty gap. This finding emphasises how a UBI programme will affect the disparity between extremely poor and poor people. The poverty severity index shows that inequality among the poorest is reduced or eveneliminated with a UBI.

The fourth UBI scheme stands out for producing the most significant reduction in the poverty rate compared to all other UBI schemes or baselines in both countries. The results indicate that the UBI alone may not be able to significantly change the functioning of social protection systems unless it is implemented with significant financial resources.

The results regarding the poverty gap and severity of poverty are similar to those previously described for the poverty rate. However, the Gini index is slightly lower in the crisis scenario compared to the pre-crisis scenario under the third and fourth UBI schemes in both countries as

well as in the baseline for Zambia. This reduction in inequality in Zambia during the crisis is likely due to the more generous and well-targeted social protection programmes implemented in response to COVID-19, which provided greater support to the poor.

Do BI experiments present common patterns in the policymaking structure?

Initiator of the experiment and source of fundings

Although the UBI has been historically debated in Finland and the Netherlands, the 2008 economic crisis played a significant role in driving the respective national governments to consider this policy. In Spain, the UBI was also brought to the centre of the political discussion after the same crisis. According to NTH2[10] from the Netherlands, the UBI was something already mentioned 60-70 years ago. At that time, in the Netherlands, it was thought that a UBI was impossible and whoever supported it was a lunatic.

According to the qualitative analysis, the BI experiments launched in Finland, Spain and Uganda were the result of a top-down movement, whereas the one in the Netherlands has the characteristics of a bottom-up event. In the case of Finland, the proposal designed by the think tank Tänk in 2014 and commissioned by the Finnish Innovation Fund (SITRA) gained visibility in the Finnish political debates during the electoral rally in the spring of 2015 and influenced Sipilä's government. Despite the composition of the new coalition government, including the Centre Party, the conservative Coalition Party and the True Finns (both opposingBasic Income), the governmental programme declared that a BI pilot study will be conducted. Consequently, the approach was top-down, with the central government taking the lead, whilemunicipal representatives expressed scepticism.

According to Groot, Muffels and Verlaat (2018), there are three primary reasons why the BI experiment gained traction in the Netherlands: A paradigm shift in favour of social investment policies, a developed social discourse surrounding BI and new behavioural insights that offer a distinct viewpoint on the reintegration of marginalised individuals into society. Local politicians started to refer to Article 83 of the Participation Act of 2015, which allows municipalities to conduct two-year experiments with the option to lessen the means-testing of the benefits. Six municipalities (Deventer, Groningen, Nijmegen, Tilburg, Utrecht and Wageningen) decided to

[10] ESP indicates interview participants from Spain, FIN from Finland, NTH from the Netherlands and UGX from Uganda.

conduct such experiments (Hiilamo, 2022b).

Roosma (2022) explains that the strategic avoidance of association with UBI was essential to secure the State Secretary's approval. This was due to the existing differences on UBI endorsement between the two coalitions that were forming the government. While the Social Democrats supported the UBI, the Liberal Conservatives opposed it. Municipalities renamed the experiments as "social assistance experiments", "trust experiments" or "experiments low in regulation".

A comprehensive picture of Spain and the political reason behind the BI experiment is provided by Noguera (2018). The author explains how the economic shocks of 2008 generated the conditions for a discussion on a revised welfare policy in the country. Between 2008 and 2014, the unemployment rate hit a record high of 25 per cent, while the poverty rate increased to more than 22 per cent. The government's choice to implement social and budgetary cuts, the welfareregimes' structure (which is categorised as a Mediterranean welfare regime), a low fiscal capacity and significantly regressive fiscal welfare outcomes contributed to a perfect storm. The economic crisis and the continuous scandals of corruption among the members of the
government and its institutions favoured the rise of the new political party Podemos. This new party, which had the prerogative to break with the old parties, included a UBI in its programme for the 2014 European Parliament election. Podemos brought the BI to the centre of the debate in Spain.

As for Spain and Barcelona, economic and political reasons are behind the BI's emergence.While structural poverty amongst specific groups and economic segregation are persistent in the city, the local council is significantly limited in how to address these socio-economic challenges through the implementation of new policies or the reform of existing ones. Following the rise of Podemos, the new party Barcelona en Comú (BeC) was born and won the local elections in 2015. BeC included several social movements and political parties like Podemos. The project was launched in three of the poorest districts of Barcelona: Nou Barris, Sant Andreu and Sant Martí (García, 2022).

Uganda is the only country where the BI experiment was launched by an external actor and not by the local government. The main reason behind the implementation of the experiment can be found in the words of UGX1 that says "*On the one hand, the strong inequalities and the extremepoverty moved us to take action and try to make a difference. On the other hand, at one point, I saw a lot of jeeps passing by, and they were all driven by white people. [...] I have direct experience in seeing that microfinance projects do not work as wished. Microfinance doesn't work. It was like the golden*

egg in those days, that it was like the silver bullet."

The four countries present some differences regarding the funding source for the BI experiments. On the one hand, Finland and Uganda only used internal funding sources for their pilots, while the Netherlands and Spain accessed external funding. Furthermore, some experiments, like thosein Finland, conducted pre-analyses, which involved executing different microsimulation models before to the experiment's start in order to give the government advice on the ideal benefit level.

The microsimulation approach was useful for justifying the specific benefit amount of the BI experiment. FIN4 explains that this method helped in arguing in favour of the BI, given itsneutral cost.

Planning group, main stakeholders and organisations

In each of the four BI experiments, at least one institution external from the planning group oversaw the analysis of the impact of the cash transfer. In Finland, national research institutions have been in charge in conducting the experiment evaluation, while in Spain a combination ofinternational and national researchers collaborated in the B-MINCOME. In the Ugandan case, the research centre IOB of the University of Antwerp was in charge. According to UGX1, the choice was taken because "the Institute has expertise in monitoring and evaluating cash transfer projects".

With Kela's assistance, the Ministry of Social Affairs in Finland assumed the lead in organising and managing the experiment. The University of Helsinki conducted in-person interviews, Kela supervised surveys, and the State's Economic Research Institute (VATT) led register-based evaluations. In the Netherlands, each municipality had enough autonomy to design their experiment in collaboration with municipal researchers. However, at the national level, the Dutch Ministry of Social Affairs and Employment asked CPB Netherlands Bureau for Economic Policy Analysis to evaluate the six experiments.

In the B-MINCOME project's experiment evaluation, several parties participated: The Young Foundation conducted ethnographic research, IGOP oversaw the study on project implementation procedures and governance, IVALUA carried out quantitative impact and economic evaluations. Furthermore, participants' subjective well-being determinants were assessed by ICTA, and the Real Economy Currency's implementation was evaluated by Novact. For Uganda, IOP was in charge of the analysis, although Eight was primarily in charge of the project for Uganda.

Characteristics of the experiment, sampling and target groups

In terms of participation, the four BI experiments revealed some differences. While in Finland and Uganda, participation was mandatory, it was voluntary in the Netherlands and Spain. This aspect can significantly impact the outcome of the experiment. Required participation can guarantee a more representative sample of the community and mitigate the selection bias and dropouts that the voluntary experiments suffer from. It may also attract volunteers who embrace non-compliance and are reluctant to participate.

In Finland, participants received a benefit of €560, which replaced their existing flat rate unemployment benefit. BI beneficiaries were entitled to keep all the additional income over €300 per month, with no deductions. The BI group experienced less bureaucracy and uncertainty than the normal benefit since they were exempt from fines for declining to participate in job-seeking programmes and were not required to report their incomes to the employment office. Income taxation on BI beneficiaries remained the same, offering a greater incentive to work. The control group consisted of unemployed individuals (Hiilamo, 2022a).

In the Netherlands, three distinct test group types were used in the experiment in addition to a control group: self-management and exemption group, the earning release group and the tailor-made supervision group. The aim of the first group was to prepare participants to re-enter the workforce by teaching them how to be proactive and self-assured. In the second group, participants had lower deductions when they secured employment. In addition, they were taxed at 50 per cent instead of 75 or 100 per cent (but only up to a maximum of about €200 per month). In the third group, participants had more frequent meetings with their caseworker (five to six times per year), and they could decide on the content of the treatment. The participants were randomly assigned to the treatment or control group (Hiilamo, 2022b).

However, it was difficult to reach the required number of participants. NTH4 explains that,in some municipalities, the potential participants were contacted using an official government logo on letters. Because such envelopes were typically associated with bad news, people were not opening the letters. Furthermore, due to language barriers, particularly for people from countries such as Morocco, Turkey, Syria and Somalia, it was difficult to contact people by phone.

In Spain, the study comprised four distinct financial and four active policy approaches. The

financial aspect consisted of two main components: (I) addressing recipients' ability to earn additional income, which could be either non-withdrawable or withdrawable, and (II) imposing behavioural conditions on the cash transfer, including conditional and unconditional options. While the unconditional choice did not mandate participation, participants in the cash modality were required to engage in one of four active policies: (1) employment and training, (2) social entrepreneurship, (3) a room rental programme or (4) community participation (García, 2022).

The participant pool consisted of 1,000 individuals distributed across the treatment groups: 383 in the control group and 144 in the reserve group, meant to substitute for those who were unwilling or unable to participate at the conclusion (Riutort, Laín & Julià, 2023).

ESP3 affirmed that the control group in the B-MINCOME experiment was less than anticipated and that recruiting participants was challenging at least in one location. In Uganda, the experiment registered positive results in the spheres of food security, entrepreneurship and life satisfaction. Regarding the first sphere, the outcomes revealed an increase in the consumed food quantity and diversification throughout all stages (Grisolia, Dewachter & Holvoet, 2023b).

Challenges in the Dutch and Finnish experiments, including limited sample sizes and low response rates, emphasise the importance of robust research methodologies for comprehensiveevaluations and evidence-based policymaking. The nature itself of the experiment represented an issue in some cases like in the B-MINCOME where the outputs reveal a U-shaped relation between well-being and the cash transfer due to the beneficiaries' awareness at the end of the project (ESP5).

Methodology, main results and contributions to the UBI debate

All the experiments employed rigorous research methodologies to evaluate the impact of the pilots. While a predominantly quantitative approach was used, some experiments, such as B-MINCOME and the Busibi pilot, also incorporated a qualitative component. In Finland, a pre-analysis was carried out using microsimulation techniques to assess the potential benefit amounts and combinations for the BI experiment.

The experiments have considerably expanded the understanding of the UBI. The data provide insightful information about the possible societal effects of UBI. However, political objectives and personal opinions frequently impact how the results are interpreted. Diverse interpretations and arguments may result from stakeholders' selective attention on outcomes that conform to their

preconceived notions about UBI. For example, in the Finnish case, the opponents of the UBI affirmed that the experiment failed to increase employment and ignored the positive results on well-being, even though the employment rates in the treatment group de facto were higher, and in some specific groups even statistically significantly higher, than in the control group. It can be said that, despite the use of rigorous methodologies for the analysis and the generation of high-quality results, the debate over UBI remains polarised in politics and public opinion.

UBI remains a sensitive topic among the population. Healthy individuals are reluctant to pay higher taxes for unemployed or immigrant workers. According to ESP4, one of the primary issues is that UBI is not seen as a public social service, such as healthcare or education, and individuals should earn it rather than be granted it automatically. "*Some people will see the UBI as something people did not earn. Indeed, part of the population will blame another part because they haven't worked, and they are lazy. If you go to the doctor, most of the people, they support the public healthcare system. So, then, the idea that UBI is something that supports you. [...] It's a right that you have because you are a citizen*" (ESP4).

The Ugandan Busibi pilot project serves as an example of how UBI projects can proliferate and flourish in underdeveloped nations. Such policies can be implemented even in resource-constrained environments, as the eight villages that make up the Busibi pilot have done. The project started off in a single hamlet. Other developing nations considering implementing UBI can learn a lot from this growth.

5. Discussion

The aim of this dissertation is to investigate the effects of tax and social protection policies on reducing poverty and inequality in the countries in the Global South by providing evidence from the SSA region.

When looking into the results of the logistic regression analysis, we understand that citizens' perception of governance matters for tax compliance. A positive perception of governance has a positive impact on a citizen's willingness to pay taxes. Furthermore, the binary mediation model reveals that almost 90 per cent of the total effect of the main independent variable on the dependent one is direct.

The findings suggest that tax compliance's complexity in SSA might go beyond socio-demographic factors and that the perception of governance is critical to understanding it. Hoy (2022) provides evidence that tax attitudes in developing countries are influenced by progressivity in tax systems and transfers. In this optic, citizens' perception of the tax system's fairness and the government's capacity to redistribute wealth through taxes and social policies might be a determinant of tax compliance.

Collecting taxes might be more difficult if we consider that the public perception of social protection and welfare has remained low for the entire period between 2012 and 2021 (see figure 1 in section 2.1). Individuals might be reluctant to contribute their own money to a government that struggles to provide effective social protection services to the population.

According to the results, poor people who have had difficulty receiving government services and who do not trust institutions are more likely to refuse to pay taxes. Countries with low levels of trust in institutions and poor perceptions of governance should revise their targeting techniques,improve their information campaign, increase access to government services and ensure more transparency in managing money from tax revenues.

Recent crises like COVID-19 have demonstrated how they can erode public trust in the government's efficacy in addressing and alleviating their adverse impacts. SSA countries faced many difficulties in building a response to the pandemic shocks. Gentilini et al. (2022) show that, in general, high-income countries have spent 2.5 per cent of GDP in their social protection COVID-19 response, while LICs have devoted 1.3 per cent. SSA governments spent an average of USD 28 per capita, while high-income countries USD 715 between 2020 and 2021.

Recent Afrobarometer surveys (Isbell, 2017 and Isbell & Olan'g, 2021) reveal that there is widespread distrust in governments and concerns regarding inadequate assistance, thereby further challenging the integrity of the fiscal social contract.

After the economic recession of 2008, some countries looked to universal social protection with hope. The pandemic has reinvigorated this feeling (Ash & Zimmermann, 2020; Nettle, et al. 2021). However, the question remains. Would a UBI be an effective method to mitigate crisis shocks in LICs and LMICs?

The microsimulation results suggest that, in a country like Uganda where the current social security programmes only cover a small portion of the population, a budget neutral UBI scheme may perform better in terms of poverty and inequality reduction compared to the current social protection system. However, poverty reduction is marginal for both the poverty rate and poverty gap as well as for inequality. By contrast, in Zambia, where the existing social protection programmes are more generous and well targeted at the poor, the same type of UBI does not perform better than the existing system. All three poverty indicators and the Gini index reveal an increase with the first UBI scheme.

In both countries, the level of generosity of the UBI benefit significantly influences the impact on poverty and inequality. However, the most effective UBI schemes are also the most financially unrealistic. The fourth UBI, which can eradicate poverty, requires a government expenditure of 30 per cent of GDP in Uganda and 20 per cent of GDP in Zambia.

In LICs, the implementation of social programmes or the capacity to scale them up represents a main challenge. Brown, Ravallion and van de Walle (2018) underline that data gaps, inadequate information systems and a lack of administrative capacity in poor countries represent serious obstacles to the success of targeting programmes. In this context, UBI represents an interesting alternative to targeting mechanisms given its simplicity and capacity to reduce administrative costs (Gentilini, Grosh and Yemtsov, 2020).

Considering the context of LICs with their government expenditure on social protection and level of tax revenues, it is clear that the more generous UBI benefits simulated here cannot be financially sustainable. Even with the less generous UBI schemes, countries should implement several reforms to raise domestic resources and cut spending on existing social protection.

Ortiz et al. (2018) provide various ways to finance a possible UBI, including controlling the current debt, tax reform, eradicating illicit financial flows, reallocating public expenditures (such as energy subsidies) and providing development aid. Nevertheless, not all of the many financing options are long-term sustainable and may have unpredictable effects on poverty and inequality.

However, the second UBI scheme, which requires a government expenditure equal to the regional average, shows some positive results. Indeed, both in Uganda and Zambia, all the poverty

indicators and inequality start to reduce, with all the population sub-groups benefiting from the second UBI scheme (expect the elderlies in Zambia). Although this UBI scheme demands you to double the government expenditure on social protection, new initiatives, at the national and international levels, to increase tax revenue (e.g. e-levy tax or minimum corporate tax) might make it affordable.

The political feasibility of a UBI is crucial and might depend on several factors, including its total cost, financing mechanisms and its interaction with the existing social security programmes. To ensure a comprehensive and practical approach, these aspects must be carefully evaluated and discussed with the various stakeholders which each have distinct interests and incentives.

In this context, BI experiments play a vital role. Small-scale trials allow policymakers to assess the impacts of a UBI across various sectors and gather data on its effects. In addition, qualitative cross-sectional analyses from these experiments provide valuable insights that can inform decision-making and guide the design of future BI initiatives.

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financing options are sustainable in the long term and they may have unpredictable effects on poverty and inequality.

The results from the qualitative analysis show that BI experiments are often redesigned into smaller-scale initiatives by implementing targeting conditions due to the controversial nature of UBI. These decisions are often taken due to concerns about the costs and potential societal implications of adopting a full UBI. The case of Finland teaches us that microsimulation methods are useful tools for simulating and justifying large budgets.

One of the major challenges faced by the governments of Finland, the Netherlands and Spain was the necessity of justifying the high costs of the experiments. Because of this, the pilots focused specifically on the labour supply response. However, in some cases, the emphasis on labour supply dominated the discussion and interpretation of the results, covering other important aspects and outcomes. In addition, the short duration of the experiments emerged as a significant constraint, influencing the results across various spheres. This time constraint may have restricted the exploration of the long-term effects and impended a comprehensive understanding of BI's potential benefits.

UBI seems to gain attention whenever a crisis occurs, representing an appealing option for reducing crisis shocks and boosting the economy. However, this policy frequently loses political support and public interest once the economic shocks have passed. The Catalan experiment represents a suitable example. Indeed, the Parliament just decided against extending the B- MINCOME experiment's second phase. Similar to this, the Finnish experiment was never extended to additional demographic groups.

The four experiments produced several key lessons for the planning of future obligatory experiments that were condensed into three main points. Firstly, the alignment between governmental authorities and researchers overseeing the experiment is critical, ensuring shared perspectives and goals. Secondly, the commitment of bureaucracy is cardinal, necessitating a collaboration between bureaucratic entities and government officials to effectively execute the experiment. Thirdly, adequate time, budget allocation and clear delineation between the planning, implementation, execution and evaluation phases are essential for the success of the experimentation process.

The results present some limitations. As aforementioned, the Afrobarometer survey does notinclude only taxpayers. Moreover, it is not possible to identify who must pay the taxes for their economic situations and who should not because they are exempt.

Because the analysis uses a static microsimulation model, it limits the ex-ante effects of a UBI on inequality and poverty. However, there are additional significant factors to consider when assessing the viability and efficacy of different UBI schemes. Several variables, including theimpact on the government's budget, financial sustainability, the ability to distribute the benefitsuccessfully and

political viability, will determine how feasible a particular UBI programme can be (Gentilini, Grosh and Yemtsov, 2019).

Since social protection is a crucial component of the social contract and CTs are seen as a contract between the state and its citizens, UBI can have the potential to reinforce the social contract. Hoy (2022) provides evidence that progressivity in tax systems and transfers influences tax attitudes. Following his work, the literature in the future can follow this line of thinking, analysing the impact of tax and social protection systems on citizens' perceptions and tax compliance. However, there is no evidence that universal social protection can positively influence tax compliance.

If UBI can positively affect the perception of governance and this transforms into a higher willingness to pay taxes, a UBI might be able, at least in part, to finance itself. In addition, even though understanding the voluntary aspect of tax compliance is fundamental to increasing tax revenue, future policies should always be coordinated, considering the non-voluntarily aspect. Deterrent policies designed to force individuals to pay taxes, such as fines and penalties, and government capacities to track tax evasion are fundamental.

Microsimulation techniques represent the first tool to reproduce results on different dimensions of the UBI, such as financial feasibility and effectiveness in reducing poverty. This method might be important in producing high-quality evidence for future policymaking decisions. The case of Finland teaches that a neutral-budgetary UBI might be easier to advocate for and implement.

BI pilots can play an essential role in producing more sophisticated results on the effects of UBI in the specific spheres where a government might be interested. However, BI experiments seem to occur after a crisis that produces significant negative economic shocks. The political support around them is often fragile and subjected to the conditions of a specific time. This often translates to a short-term UBI of up to two years, with several conditions, such as the caseof Finland and the Netherlands.

The BI experiment in Kenya is the first of its kind because it aims to investigate the long-term effects of the UBI. Indeed, the pilot has been running for 14 years. However, it should be considered that this experiment is mainly coordinated by an external actor and not by the Kenyan government.

The analysis provides evidence on how a UBI might be relevant in strengthening the social contract in the Global South. According to the results, a UBI can effectively reduce poverty and inequality, making it an efficient tool for mitigating future crisis shocks. In addition, a UBI can be relevant for citizens' perceptions of governance and tax compliance. The cases of Finland, the Netherlands, Spain and Uganda give important lessons to future governments on what they should and should not do if they are interested in implementing a BI experiment. In conclusion, the results of this dissertation can serve as a reference point for countries in the Global South for future debates on UBI and its design.

6. Conclusions and policy recommendations

The dissertation collectively highlights the critical intersections between governance, tax compliance and social protection systems in Sub-Saharan Africa (SSA), offering valuable insights into policy design. These three areas are interlinked in such a way that improvements in governance can enhance tax compliance, which in turn strengthens the fiscal capacity needed to fund social protection systems, such as Universal Basic Income (UBI). However, the analysis also underscores the financial and political challenges that SSA countries face in implementingthese policies effectively, particularly in low-incomecontexts.

The first chapter finds that citizens' perception of governance is a crucial determinant of tax compliance in SSA. This finding challenges the traditional view that tax behaviour is mainly influenced by socio-demographic and cultural factors. Instead, the perception of the government's transparency, the fairness of the tax system and its capacity to redistribute wealth through social policies are central to shaping individuals' willingness to pay taxes. In countries where trust in institutions is low, citizens are more likely to resist paying taxes, perceiving the system as corrupt or ineffective in managing public funds.

Governments with poor governance indicators, such as weak institutions or lack of transparency, face significant challenges in raising tax revenue. The article suggests that these governments must revise their tax targeting techniques, improve information campaigns, and increase transparency in how tax revenues are managed. By addressing these governance deficits, governments can build public trust, which is essential for fostering a stronger social contract between the state and its citizens. In this context, improving governance is not only important for compliance but also for enhancing the fiscal capacity needed to fund public services and social protection programmes.

The second chapter focuses on the potential of UBI as a mechanism for improving social protection in SSA, using Uganda and Zambia as case studies. In Uganda, where social security coverage is limited, a budget-neutral UBI scheme performs marginally better than the existing system in terms of poverty and inequality reduction. By contrast, in Zambia, where social protection programmes are more generous and better targeted, the same UBI scheme underperforms, with poverty indicators and the Gini index showing an increase. This divergence illustrates that the effectiveness of UBI is highly context-dependent, and its success relies on the existing social welfare structures.

A critical takeaway from this analysis is the role of the generosity of UBI benefits. In both Uganda and Zambia, more generous UBI schemes—those capable of eradicating poverty—require extremely high government expenditure, reaching up to 30 per cent of GDP in Uganda and 20 per cent in Zambia. This highlights the central challenge of UBI implementation in low-income countries: While it has the potential to improve social protection, the cost of a comprehensive UBI is financially unrealistic without substantial increases in domestic resources.

Reforms are essential to make even less generous UBI schemes feasible. These reforms may include expanding the tax base, improvingtax compliance(whichties back to governance) and cutting inefficient publicexpenditures. The article points out that initiatives such as the e-levy tax or a minimum corporate tax could help generate the necessary revenue to fund UBI, but such measures also require robust governance systems to ensure fair implementation and prevent tax evasion.

The discussion of UBI experiments in countries such as Finland, the Netherlands and Spain highlights important lessons for Global South countries interested in implementing this kind of social protection reform. These experiments often follow economic crises, as UBI tends to gain political momentum during times of economic shocks, such as the global financial crisis of 2008 or the COVID-19 pandemic. However, political support for UBI tends to wane as crises subside, withpilots often beingshort-lived and limited in scope.

This article also highlights the importance of political feasibility in implementing UBI. The success of UBI experiments depends not only on the technical design but also on the alignment of interests between policymakers, researchers and bureaucratic entities. Without sustained political commitment and adequate resources, UBI experiments risk being short-lived, as seen in Finland and Spain. The Kenyan UBI pilot, which has a much longer duration, offers a more promising model for evaluating UBI's long-term effects, although it remains externally funded rather than driven by the national government.

Thefindings of thisdissertationunderscoretheinterconnection of governance, taxcomplianceandsocialprotection systems in SSA. Transparent tax systems, fair redistribution, efficient service delivery and effective social protection system are all essential components for improving citizens perception of governance. In a context like SSA, where many factors may limit the effectiveness of social policies, the UBI can result in an interesting solution given its characteristics.

UBI presents an attractive option for reducing poverty and inequality. However, its financial sustainability remains a significant obstacle to LICs and LMICs. Policymakers must carefully evaluate the trade-offs between the generosity of UBI benefits and the fiscal capacity to sustain them. Reforms aimed at increasing tax revenue, reducing inefficiencies in the current social protection spending as well as improving governance will be critical to making UBI viable in Globa South countries.

Futureresearchshouldfocus on exploringthe long-termeffects of UBI on governance, tax complianceandpoverty and inequality reduction. Long-term UBI experiments can provide valuable data. Furthermore, studies should examine the interaction of complementary policies, such as progressive taxation and small targeted social policies, with the UBI and their impact on reducing poverty and inequality.

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Appendix

Table A 1. List of variables for logit regression model in round 7

Name of the variable	**Question**	**Coding**
Tax	Q38: For each of the following statements, please tell me whether you disagree or agree? - C: The tax authorities always have the right to make people pay taxes.	Tax equals to 0 if the respondent chose option 1or 2 of Q38C. Tax equals to 1 if the respondent chose option 3or 4 or 5 of question Q38C
Opinion on government (opinion_on_gov)	Q26: Here is a list of actions that people sometimes take as citizens when they are dissatisfied with government performance. For each of these, please tell me whether you, personally, have done any of these things during the past year. - D: Refused to pay a tax or fee to government.	Opinion on government equals to 0 if the respondent chose option 1 or 2 or 3 or 4 ofQ26D. Opinion on government equals to 1 if therespondent chose option 0.
Trust in institutions (thrus_in_institutions)	Q43: How much do you trust each of the following, or haven't you heard enough about them to say? - A: The President - B: Parliament - D: Your District Council	Trust in institutions is the arithmetic mean (theaverage) across all the variables.
Government service score (gov_service_score)	Q49: Now I would like to talk to you about experiences that some people have in accessing certain essential government services. - B: How easy or difficult was itto obtain the services you needed from teachers or school officials? - E: How easy or difficult was it to obtain the medical care you needed? - M: How easy or difficult was itto obtain the household service?	The government service score is the arithmetic mean (the average) across all thevariables.

Wealth score (wealth_score)	QA: Over the past year, how often, if ever, have you or anyone in your family: A: Gone without enough food to eat? B: Gone without enough clean water for home use? C: Gone without medicines or medical treatment?	The responds are coded on a five-point scale from "never" to "always". We consider that an individual lives in poverty and deprivation when the score is high, while a low value indicates that an individual lives in materially good conditions, in the sense that they do not lack necessities on a regular basis.
	D: Gone without enough fuel to cook your food? E: Gone without a cash income?	
Occupation status (occupation_status)	Q95A: What is your main occupation?	0. Never had a job 1. Student 2. Housewife / homemaker 3. Agriculture /farming / finishing /forestry 4. Trader / hawker / vendor 5. Retail / shop 6. Unskilled manual worker (e.g., cleaner,laborer, domestic help, unskilled manufacturing worker) 7. Artisan or skilled manual worker (e.g.,trades like electrician, mechanic, machinist or skilled manufacturingworker) 8. Clerical or secretarial 9. Supervisor / Foreman / SeniorManager 10. Security services 11. Mid-level professional (e.g. teacher,nurse) 12. Upper-level professional (e.g., banker/finance, doctor, lawyer, engineer, accountant, professor, senior-level government officer)
Age	Q1: How old are you?	Respondent's age
Gender	Q86A: Your gender	Gender equals to 0 if male and 1 if female.
Urban/rural (urbrur)	Q115: Do you come from a rural or urban area?	Urban/rural equals to 0 if urban and 1 if rural

Education	Q97: What is your highest level of education?	0. No formal schooling 1. Informal schooling 2. Some primary schooling 3. Primary school completed 4. Intermediate school or some secondary school/high school 5. Secondary school/high schoolcompleted 6. Post-secondary qualifications 7. Some university 8. University completed 9. Post-graduate

Table A 2. Descriptive statistics of round 7 of Afrobarometer

Variable	Mean	Median	Minimum	Maximum	Observations
(1) Socio-demographic characteristics and dependent					
Gender	-	1	0	1	28,891
Age	41	35	18	106	28,891
Education	-	4	0	9	28,891
Occupation status	-	3	0	13	28,891
Country	-	-	1	34	28,891
Urban	-	1	0	1	28,891
Wealth	0.65	0	0	4	28,891
Individual tax compliance (dependent)	0.79	[illegible]	[illegible]	1	28,891
(2) Main independent variable					
Perception of governance	0.71	0	0	1	28,891
(3) Other variables					
Trust in institutions	0.51	1	0	1	28,891
Government performance	2	2	1	4	28,891

Table A 3. Descriptive Statistics for UGAMOD

Variable	Obs	Mean	Std. Dev.	Min	Max
Age	74422	20.563	17.984	-1	115
gender (male 1, female 0)	74422	.483	.5	0	1
income from employment	74422	22208.654	186593.9	0	8126784
income from agriculture	74422	9734.015	51775.992	0	856436.5
income self-employment	74422	35564.88	207745.42	0	3578509

Table A 4. Descriptive statistics from MicroZAMOD

Variable	Obs	Mean	Std. Dev.	Min	Max
Age	62879	21.94	17.288	0	90
Gender (male 1, female 0)	62879	.486	.5	0	1
income from employment	62879	339.441	1727.893	0	26210.619
income from agriculture	62879	26.294	622.938	0	87462.039
income self-employment	62879	125.76	620.725	0	15244.63

Table A 5. Economic status distribution (in per cent) from UGAMOD and MicroZAMOD

	UGAMOD	MicroZAMOD
Not applicable	10.95	0.01
Farmer	35.21	26.05
Employer/self	15.08	10.40
Employee	20.23	11.50
Pensioner	1.89	2.02
Unemployed	4.19	10.35
Student	5.95	10.68
Inactive	4.09	19.91
Sick/disabled	2.42	4.15
Other	N/A	4.92
Total	100.00	100.00

Table A 6. Distribution of current status of education (in per cent) from UGAMOD and MicroZAMOD

	UGAMOD	MicroZAMOD
Not specified/applicable	25.06	29.91
Early child./pre-primary	35.48	29.30
Primary	11.63	28.83
Lower and or upper secondary	19.56	7.81
Post-secondary non tertiary and or short cycle tertiary	6.02	3.01
Bachelor or equivalent	2.25	0.91
Master and or equivalent	N/A	0.21
Doctoral or equivalent	N/A	0.02
Total	100.00	100.00

Table A 7. Summary of policies in the models (2020)

	Uganda (baseline)	**Zambia (baseline)**	**Uganda (UBI)**	**Zambia (UBI)**
Cash benefits	Senior citizen grant	Social cash transfer, Supporting women's livelihood, Keeping girls in school, Home grown school feeding programme, Electronic-farmer input support programme, Food security pack Crisis: COVID emergency cash transfer	Universal basic income	Universal basic income

SIC	Employee contribution ,Employer contribution	Employee pension contributions, Employer pension contributions, National health insurance contributions – employer, National health insurance contributions – employee	Employee contribution ,Employer contribution	Employee pension contributions ,Employer pension contributions ,National health insurance contributions – employer, National health insurance contribution s – employee
Direct taxes	Local service tax, Rental income tax, Presumptive income tax, Income tax	Turnover tax, Income tax	Local service tax, Rental income tax, Presumptive income tax, Income tax	Turnover tax, Income tax
Indirect taxes	Value added tax, Excise duty and VAT on selected excise items	Value added tax, Excise duty and VAT on selected excise items	Value added tax, Excise duty and VAT on selected excise items	Value added tax, Excise duty and VAT on selected excise items

Note: SIC=social insurance contributions and VAT= Value Added Tax.

Report on co-authored papers

The effect of citizens' perception of governance on tax compliance: a cross-country analysis study for 32 Sub-Saharan African countries.

As main author I have been in charge of building and running the analysis, interpreting the resultsand writing the first draft of the paper. As a first step, I conducted a literature review to examine the gaps in the literature regarding tax compliance in Sub-Saharan Africa. After this step, I conducted a

systematic review to identify the most effective methodology to adopt for the analysisand given the dataset. The analysis included recording and cleaning the dataset, running differentregression models (with different number of variables) and robustness tests. A first draft of the paper has been presented to the co-author after careful check of all results, methodology and resultsinterpretation.

The paper has been edited in accordance with the comments received by the co-author. In addition,I presented the paper at the annual CSAE conference in Oxford. The paper has been modified according to the feedback and comments received from the audience. Furthermore, the paper has been changed by me after receiving the feedback from the European Journal of Development Research and resubmitted.

The potential of universal basic income schemes to mitigate shocks

As main author I conducted the analysis and wrote the first draft of the paper. The methodology and paper's structure have been agreed with my co-authors. I have been in charge of simulating different Universal Basic Income scenarios using the respective SOUTHMOD models for Ugandaand Zambia, conducting the analysis using STATA and producing results on poverty and inequality at the individual level. I wrote the first draft of the paper and edited it according to my co-author's comments. In addition, the paper was presented by me in the 22nd BIEN Congress andin a seminar at Freiburg University. The paper has been edited after receiving comments on thesetwo events.

The microsimulation analysis has been re-run and improved by my co-authors by using income variable that includes also in-kind transfers. The results have been modified using the new variable.My co-authors also expanded the methodology section, describing in more detail assumptions and limitations present in the methodology, reported the new results and modified the conclusions in accordance with the new outcomes.

How to Implement a Perfect Basic Income Experiment Evidence from four countries

After deciding with my co-authors and scope of the study, the methodology and selecting the case studies, I conducted semi structured interviews of 19 individuals that have been actively involvedin four selected Basic Income experiments. I have been in charge of the analysis of the interviewsand writing the first draft of the paper. After the first draft was completed, the appearance was shared with my co-authors for feedback and comments. The paper has been modified according toco-authors' feedback. Furthermore, I presented the study at the 22nd BIEN Congress. The paper has been edited following the comments received from the audience.



Heikki Hiilamo:



Enrico Nichelatti: