

Final Report

Cost-Benefit Analysis of Government Services to Support MSMEs in Malawi

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Authors & Acknowledgements

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Authors

Bahman Kashi, PhD

Senior CBA Expert, Limestone Analytics

Adjunct Professor of Economics at Queen's University

Lindsay Wallace, MPA, MA

Director of Strategic Operations, Limestone Analytics

Kemal Bagzibagli, Ph.D

Senior Economist, Limestone Analytics

Shannon Davis, MPhil

Project Coordinator, Limestone Analytics

Zachary Robb, BA

Analyst, Limestone Analytics

Henry Chingaibe, Ph.D

Director and Lead Consultant, Institute for Policy Research and Social Empowerment

Blessings Chinsinga, Ph.D

Director at Centre for Social Research (CSR) and Professor at the Department of Political and Administrative Studies, Chancellor College

Brad Wong, Ph.D

Chief Economist, Copenhagen Consensus Center

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Acronyms

ACB	Anti-Corruption Bureau
AFIDEP	African Institute for Development Policy
BCR	Benefit-Cost Ratio
BKMS	Business Keeper Monitoring System
CCB	Chamber of Commerce Bogotá
CCC	Copenhagen Consensus Center
CBA	Cost-Benefit Analysis
CSC	Citizen Service Centre
DA	District Assembly
DDP	District Development Plan
DEAP	Development Effectiveness and Accountability Programme
EDMS	Electronic Document Management Systems
EITC	Earned Income Tax Credit
FROIP	Financial Reporting and Oversight Improve Project
GDP	Gross Domestic Product
GIS	Geographic Information System
GoM	Government of Malawi
GTZ	German Agency for Technical Cooperation
ICT	Information and Communication Technology
IMF	International Monetary Fund
IPMIS	Integrated Performance Management Information System
IRAS	Internal Revenue Authority Singapore
ITAX	Integrated Tax Administration System
LA	Local Authority
LATE	Local Average Treatment Effect
LGAP	Local Government Accountability and Performance
LGRCIS	Local Government Revenue Collection Information System
MCP	Malawi Congress Party
MDA	Ministries, Departments, and Agencies
MEC	Malawi Electoral Committee
MGDS	Malawi Growth and Development Strategy
MP	Member of Parliament
MRA	Malawi Revenue Authority
MSME	Micro, Small, and Medium Enterprise
MTEF	Medium-Term Expenditure Framework
M&E	Monitoring and Evaluation

NDP	National Decentralization Program
NPC	National Planning Commission
PBB	Program Based Budgeting
PFM	Public Financial Management
PSIP	Public Sector Investment Program
P4P	Pay for Performance
RCT	Randomized Controlled Trial
RBM	Results Based Management
SARE	Mexico's Rapid Business Opening System
SSA	Sub-Saharan Africa
TCC	Tax Compliance Cost
TPIN	Tax Payer Identification Number
TRA	Tanzania Revenue Authority
UNDP	United Nations Development Program
USSD	Unstructured Supplementary Service Data

Executive summary

The Malawi Vision 2063 aspires that Malawi will be a preferred destination for inward investment. Leveraging digital technologies to increase the private sector's dynamism, broadening the tax base, and increasing investment in infrastructure, and limiting unnecessary regulatory burdens are crucial to reach that goal. Reducing the high degree of informality in the economy and expanding the narrow tax base are also critical components of achieving this goal.

To support this objective, the National Planning Commission supported research and analysis to answer the following questions:

1. What are the most effective ways to improve implementation in government?
2. How can the public sector be reformed to most effectively improve service delivery?
How can technocratic and political incentives be aligned?
3. What are the context-relevant good practices in instituting and sustaining accountability mechanisms for implementation of development plans and policies?

This report describes the research plan and resulting cost-benefit analysis (CBA) proposed in response to the above questions. The team first prepared a comprehensive research agenda and then reviewed the literature and intervention options on digital solutions, decentralization, public sector capacity development and performance management, and public financial management aspects of the governance. More than twenty potential interventions were identified during this scoping phase.

Subsequent review and consultations noted that many of these interventions had already been initiated in Malawi, ruling them out of scope for the cost-benefit analyses conducted under Malawi Priorities, which focus on forward looking interventions i.e. implementing brand new projects, or, expanding, modifying and improving existing projects. While many of the existing interventions could have been improved, the knowledge on what challenges the existing projects faced, the type of solution to improve them, and the likely benefits from the improvement were hard to identify from stakeholders or absent in the literature.

Facing this information constraint, the team then pivoted towards two interventions that both spoke an aspect of the broader governance challenge and supported Malawi's overall aim of generating wealth through private sector dynamism. The focus of the report is on the formalization of the MSMEs and tax digitization challenges based on a review of Government priorities, consultations with local sectoral experts, and data availability.

The literature review highlights the key barriers and performance gaps that inhibit government institutions' effective and accountable service delivery in Malawi. The report then identifies the interventions that have been implemented in Malawi or other countries

addressing such issues. Finally, the report details two CBA models conducted to quantify the impacts of the following interventions:

1. Free micro, small and medium-sized enterprise (MSME) registration accompanied by a bank information seminar
2. E-filing (inc. payment) and tax nudges facilitating compliance

The first intervention provides MSMEs with free registration and banking seminars, with the expectation that this will lead owners to formalize their businesses and improve their financial practices, savings, access to credit, and benefits from insurance. Formalization increases businesses' financial inclusion that would support them to improve their business practices, get more productive, grow, and benefit from economies of scale. In addition, the potential impact of financial inclusion on businesses' profitability increases their willingness to register, increasing the uptake rate of the intervention.

The CBA findings suggest a benefit-cost ratio (BCR) greater than one, meaning that the net benefits outweigh the net costs of each intervention. The stakeholder analysis of the model also indicates that MSMEs and the Government of Malawi (GoM) are likely to enjoy significant net benefits due to the intervention. In particular, we estimate that MSMEs would expand revenues by 20%, an assumption drawing from a randomized control trial conducted in Malawi. We consider that the intervention would reduce informality and increase local authorities' revenues. The intervention could also improve Malawi's scores in the World Bank Doing Business report, attracting more private investment.

Our second intervention, selected in close collaboration with the Malawi Revenue Authority (MRA), is completing the Malawi Revenue Authority's Msonkho Online system roll-out process to fully replace paper tax filing with electronic filing and payment. The CBA results show that the intervention has a BCR in the range of 5-10, meaning that the net benefits outweigh the net costs of the intervention. Furthermore, the CBA's stakeholder analysis presents that the intervention's net impact on each stakeholder is positive, and that MSMEs enjoy the most significant effect with their tax compliance costs falling by 65% in the long run. The intervention also contains implementing tax nudges to facilitate and enhance tax compliance.

It is essential to highlight that, in addition to high tax compliance costs, the perceived risk of being caught for tax noncompliance, unsatisfactory use of tax revenues by the government, and general unwillingness to pay taxes are among other reasons why people are non-compliant. Our intervention focuses on reducing compliance costs and facilitating payment procedures to improve businesses' efficiency and tax compliance. It is also crucial to note that the intervention does not contain expanding the tax base. Instead, the intervention focuses on increasing tax compliance and revenues, contributing to the generation of the required resources for the GoM to reach its 2063 targets.

1. Introduction and context

The National Planning Commission (NPC), with technical assistance from AFIDEP, and the Copenhagen Consensus Center (CCC) are implementing the Malawi Priorities project across 2020 and 2021. The Project is a research and advocacy exercise to identify the most effective ways to address the nation's challenges using the framework of cost-benefit analysis. The aim is to inform both short and long term development priorities for the country, acknowledging that there are insufficient resources to address all of Malawi's challenges and that maximizing outcomes requires careful, evidence-based consideration of the costs and benefits of all policies.

The starting point of all research questions is the NPC's existing research agenda, structured around the six thematic areas of Sustainable Agriculture, Sustainable Economic Development, Human Capital and Social Development, Sustainable Environment, Demography, Governance, Peace, and Security, and Human Capital and Social Development.

The NPC's research agenda was developed by the Commission in September 2019 after extensive consultation with academics, think tanks, the private sector and government. Consequently, the Commission's research agenda, *prima facie*, contains questions of national importance. As a first step, Malawi Priorities drew questions from the NPC research agenda that could be answered using a cost-benefit methodology. Then, additional research questions were added based on input from NPC, an Academic Advisory Group of leading scholars within Malawi, and existing literature, particularly previous cost-benefit analyses conducted by the Copenhagen Consensus Center. This process of identifying research questions for investigation generated a total of 38 potential research questions across all 6 thematic areas.

The research agenda was validated and prioritized by a Reference Group of 25 prominent, senior stakeholders from government, civil society and the private sector. The outcomes of the Reference Group exercise were used to inform which research questions to prioritize and which interventions to focus on within those 38 potential research questions. The validation process finished in July 2020.

1.1 Research process

In December 2020, the research team began the investigation on the research questions;

- What are the most effective ways to improve implementation in government?
- How can the public sector be reformed to most effectively improve service delivery?
How can technocratic and political incentives be aligned?

- What are the context-relevant good practices in instituting and sustaining accountability mechanisms for implementation of development plans and policies?

The research questions' national priority rankings were 4.6, 4.8, and 4.5 out of 5, respectively.

The research team conducted a comprehensive literature review to understand the sector and identify key barriers and performance gaps that inhibit effective and accountable service delivery by government institutions in Malawi. As part of the initial research process, the team participated in a series of consultations with local government officials, experts, and sector representatives including:

- Happy Kayuni, Professor, Chancellor College, University of Malawi
- Tiyesere Chikapa, Professor, Chancellor College, University of Malawi
- Asiyati Chiweza, Professor, Chancellor College, University of Malawi
- Wazona Ligomeka, Director of Policy Planning & Research, Malawi Revenue Authority

Once the key performance gaps were outlined, the research team explored interventions that have been implemented in Malawi addressing such issues. The sector experts provided valuable insight into what interventions have had the most significant reach, impact, and data availability and helped identify what subset interventions should be included in the feasibility study.

1.2 Sector background

1.2.1 Malawi 2063

As a successor of Vision 2020, Malawi 2063 is an ambitious reform action by the GoM to create "an inclusively wealthy and self-reliant nation". (i) Effective Governance System, (ii) Public Sector Performance, and (iii) *Private Sector Dynamism* are among the seven enablers of the vision directly relevant to this study's research questions. In this context, Malawi 2063 lists the following three items among ten ultimate desired goals:

- Effective governance systems and institutions with strict adherence to the rule of law;
- A high-performing and professional public service;
- A dynamic and vibrant private sector.

Malawi 2063 highlights the crucial role of solid governance and efficient public sector systems and institutions in providing a facilitatory environment for industries. Malawi 2063's "development philosophy" determines institutional mechanisms promoting positive regular interaction among labor, business, and the government as the norm for inclusive participation in the development process. The vision targets Malawi to be among the most preferred investment destinations in Africa by 2063. Therefore, it forces the government to

"put in place conducive policies and legal frameworks, enforce compliance, address infrastructure gaps, address market and coordination failures; and promote innovations" (GoM, 2020, p. 35). It also highlights the significance of not inhibiting the private sector by unnecessary regulation and bureaucracy.

The vision also emphasizes the narrow tax base, non-compliance of taxpayers, and the magnitude of the informal sector as the main factors behind the low level of domestic revenue mobilization. Malawi 2063 targets implementing "measures aimed at broadening the tax base through the enhancement of system-based business and personal registration; and strengthening taxation systems, including provision of digital and online information and mechanisms for tax assessments and remittance" (GoM, 2020, p. 23). The ultimate goals of the implementations are to reduce the costs associated with taxation, improve transparency and tax compliance, and improve efficiency in revenue collection to generate domestic resources vital for meeting the growing infrastructure and other related needs of Malawians.

1.2.2 MSME sector

Like many other countries in the region, Malawi's MSME sector represents a large portion of its total GDP, i.e., 40% (FinScope, 2019). In line with Malawi 2063's pillars and enablers, the GoM had recognized the importance of MSMEs to spur economic growth and designed its Micro, Small, and Medium-sized enterprise Policy 2019 to create a better and productive business environment for MSMEs (GoM, 2019). Within the policy it set out the following definitions for what classifies as a micro, small, and medium enterprise:

Table 1.2: Classification of MSMEs

Classification	Number of Employees	Amount of Turnover	Value of Assets (excluding land & buildings)
Micro	1 - 4	Up to MWK 5,000,000	MWK 5 million
Small	5 - 20	MWK 5,000,001 - 50,000,000	MWK 20 million
Medium	21 - 99	MWK 50,000,001 - 500,000,000	MWK 250 million

Source: GoM (2019)

A recent FinScope MSME survey provided detailed information on the size, scope, and characteristics of the MSME sector in Malawi (FinScope, 2019). The survey contacted over 70,000 households and 15,000 places of business asking questions on firms' size, turnover rates, industry of operation, etc. Table 1.3 breaks down the findings in terms of industry and turnover:

Table 1.3: MSMEs by industry and turnover rates

Industry	Total Number of MSMEs	Percentage Share of Average Turnover	Total Annual Turnover (\$)
Wholesale /Retail	787,756	73.7%	11,656,776,122
Agriculture /Farming	188,88	6.1%	967,085,553
Community & Household	51,181	4.4%	699,737,961
Manufacturing	42,897	9.4%	1,485,163,872
Natural resources & mining	37,931	1.5%	230,021,441
Agro-Processing	15,764	.06%	88,414,218
Business services	9,848	2.3%	355,901,718
Tourism	4,392	1.6%	254,821,984
Construction	3,010	.05%	71,549,734

Source: FinScope (2019)

The survey findings suggested 1,600,739 MSMEs in Malawi in 2019, 89% of which trading informally, i.e., being neither registered nor licensed. As Figure 1.3 presents the decomposition, the majority of MSMEs are very small.

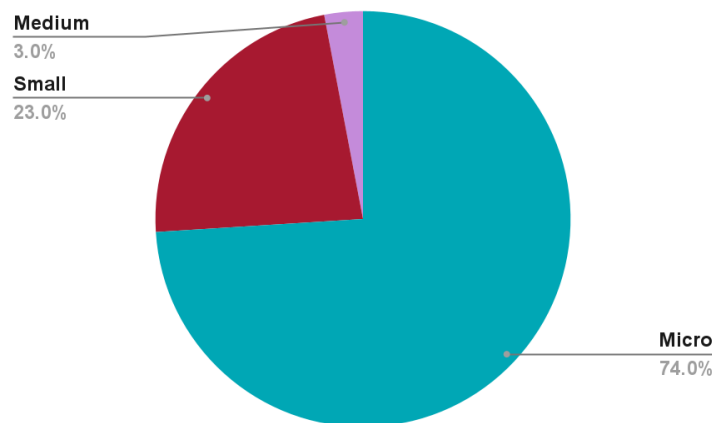


Figure 1.3: Decomposition of MSMEs
(Source of data: FinScope, 2019)

When adding part-time and seasonal employees and entrepreneurs, the sector employed nearly two million (1,825,219) Malawians. In addition, the sector generated approximately USD 15.8 billion in revenues and about USD 6.8 billion in profits in 2019. The value additions by the formal and informal businesses in 2019 were USD 3.6 billion and USD 3.2 billion, respectively. "According to 2019 estimates by the Ministry of Finance, this would equate to an additional 40 per cent of the estimated GDP of USD8.1 billion" (FinScope, 2019, p. 7).

1.3 Framework for analysis

The World Bank (2004) published a series of lessons learned from African states on how to build capacity of state institutions since independence. The book presents a useful analytical framework that conceptualizes the relationship between economic and government performance, called the ‘governance diamond’ (World Bank, 2004, p. 3).

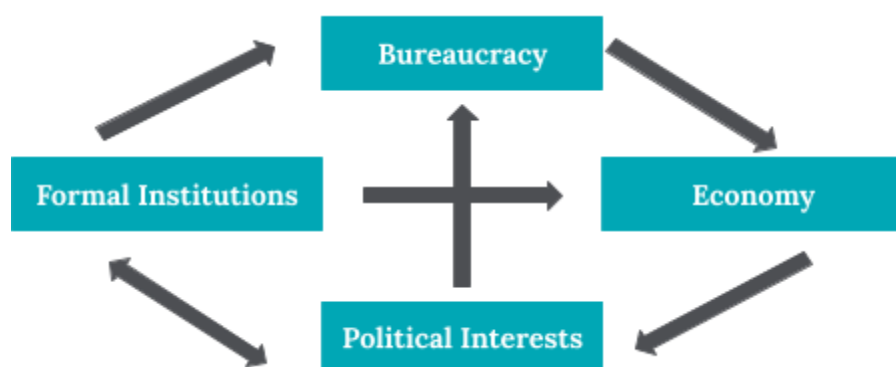


Figure 1.2: Governance diamond, adapted from World Bank (2004)

In the diamond, political interests refer to the social and class structure of society, formal political institutions refer to the constitutional structure (judicial, legislative, and decentralized intergovernmental relationships), bureaucracy refers to public employees and their associated responsibilities for creating policies, regulating economic activity, and delivering services, and economy is society’s productive factors.

This framework forms an interdependent system that shapes the trajectory of government performance. Reforms designed to target one aspect of the diamond should ideally consider the impact and influence of others to be most effective. It also provides insight on why multiple decades of state-building have met with limited success; the author argues that many development actors presumed “the weakness of public administration was managerial and could be remedied in a straightforward manner through a combination of organizational overhaul and financial support to procure the requisite specialist technical advice, training, and hardware,” (World Bank 2004, p. 11).

However, as demonstrated by the diagram, public administrations are embedded in complex systems. Approaching reforms requires understanding of these dynamics and more attention to the demand-side incentives for performance, rather than just the technocratic supply side.

Considering the relevance of the diamond to the research questions of interest and the key challenges and targets identified in Malawi 2063, we categorize the following section of our study according to that framework to identify the key barriers and intervention options.

2. Literature review and intervention selection

The research team has included around twenty different interventions in this review, categorized into the formal institutions, bureaucracy, political interests, and economic aspects of the governance diamond. Each of these interventions effectively mitigates the key barriers and performance gaps impeding successful public service delivery, accountability, transparency, private sector formalization, tax compliance, among others.

As presented in Annex A, the team extensively reviewed the literature and intervention options on digital solutions, decentralization, public sector capacity development and performance management, and public financial management in addition to MSME registration and tax digitization. Given the study's CBA modeling focus, we present the latter's literature review and intervention options in this section. The section concludes by summarizing and prioritizing a subset of these interventions to include in the CBA.

2.1 Key challenges

Malawi faces a wide number of challenges in government accountability, implementation, and service delivery. However, the country is also at an important critical junction, where there is renewed support, public participation, and general good will for the new administration elected in June, 2020. This provides a unique opportunity to establish effective reforms in government.

In this section, we review the key issues broadly summarized in the previous section.

2.1.1 Formal institutions

Many experts have agreed that the GoM often has very good policies, systems, and strategies on paper, but faces numerous challenges in implementing (Academic Advisor consultations, 2020).

A primary example of this dynamic can be seen in Malawi's public financial management (PFM). In a World Bank (2017) review of 10 PFM projects and 77 PFM indicators in Malawi, it was primarily 'form' indicators that were met, rather than 'function' indicators (67% and 38%, respectively). This means that programs promoting PFM often appeared to achieve results because they have requisite formal systems (laws, structures, policies) in place, but that few were actually being implemented well.

This dynamic has also inhibited decentralization efforts. The GoM initiated decentralization reforms after the fall of the one-party state in 1994. This was initially done through the National Decentralization Program (NDP-I), (2000-2004), which focused on legal reforms,

institutional development and capacity-building, developing a democratic culture, fiscal decentralisation, accounting and financial management, the introduction of sector devolution, and establishment of viable local development planning and financing mechanisms at the district level (Hussein, 2012). This was followed by NDP-II (2005–2010), which maintained many of the same reforms as phase one; sector devolution, institutional development and capacity-building, fiscal devolution and financial management, local development planning, and financing mechanisms.

Despite the progression of formal reform strategies, many constraints remained, reducing the effectiveness of the efforts. According to Chinsinga (2008) such constraints included:

- Lack of commitment from the central government to implement decentralization reforms;
- The legislative framework guiding decentralization reforms is unclear regarding the division of labour and functions between the Assembly and Secretariat, undermining their ability to collaborate;
- Failure to establish subdistrict institutions that can act as mechanisms of accountability, representation, participation;
- On-going tensions between key local political actors (councillors, chiefs, and MPs)
- Resistance of decentralized line ministries to operate within the framework of District Assemblies (DAs) since it would result in loss of status, power, and authority;
- Lack of funding, resources, and capacity provided to the DAs in comparison to the duties they are expected to perform.

The poor implementation of decentralization reforms was also cited by the World Bank in their 2019 policy note. It stated that the “government should focus on translating achievements at the central level into more effective local service delivery by building on recent decentralization momentum,” (World Bank, 2019, p. vi). Part of the disconnect between paper and practice stems from issues in the third pillar of the government diamond; political interest. The on-going politicization of the public service, poor incentive structures, and patronage systems all detract from performance accountability.

However, formal institutional gaps also remain. For example, many central government institutions lack transparency, especially around budgets and spending, such as not making the year-end budget audit reports public. As of 2019, the government had yet to take the steps necessary for the 2017 Access to Information Act to come into force. (Freedom House, 2020). In addition, the World Bank (2019) pointed to weak institutions as an underlying factor for fiscal slippages and policy implementation gaps. In particular, poor budget planning, frequent spending overruns, fiscal risks related to state-owned enterprises, and ad hoc expenditures related to short term crises have resulted in persistent deficits, domestic borrowing, and debt.

2.1.2 Bureaucracy

A key barrier to service delivery and accountability of government services in Malawi is the absence of performance monitoring and management systems in the public sector, as well as lack of capacity among civil servants, especially at a district council level (Chipika and Mwanza, 2017).

In the Malawi Growth and Development Strategy (MGDS) II Review (GoM, 2016), there were references to a number of key challenges in government, centered around coordination, monitoring and evaluation, results based management and functionality of sector working groups (SWGs). The report also noted that budget planning is undertaken without consideration to the Public Sector Investment Programme (PSIP) and the MGDS planning process, leading to misalignment between budgets, programs, and national priorities. Furthermore, strategic planning is often conducted without regard to available resources (Chipika and Mwanza, 2017).

These issues are also reflected in the Malawi Public Service Management Policy 2018–2022 (2018), which outlines the following factors as contributing to the deterioration of the civil service performance:

- Inadequate alignment of resources to service delivery requirements and imperatives of the medium term development strategies,
- Political impetus for populist programmes or projects, which are not all in line with the national development agenda and divert resources from priority interventions,
- Siloed working approaches between programs, policies, and projects,
- Inadequate accountability for results,
- Low productivity, lack of capacity, and lack of an integrated performance management system,
- Slow modernization and use of technologies, and
- Deteriorating morale, ethics and professionalism due to low remuneration packages, unattractive conditions of service, poor working environment including inadequate office infrastructure, and political interference, among others.

This is reflected in decentralization efforts as well. Malawi is currently implementing the third MGDS (2017 to 2022), which calls for full devolution of service delivery to local governments. As a result, Malawi's thirty-five Local Authorities (LAs) gained increased responsibility for basic service delivery, but still lack the resources and training to perform these new functions.

Finally, a performance evaluation of the UNDP Development Effectiveness and Accountability Programme (Chipika and Mwanza, 2017) found that there is very little stability of personnel in the public service and limited capacity of staff at local and district levels of government. This was also reflected in academic advisor meetings during the research process. The evaluation recommended that more senior professionals be deployed

to district councils and line ministries to assist with institutionalization of results based management (RBM) principles and practices, as well as monitoring and evaluation (M&E) systems (Chipika and Mwanza, 2017).

2.1.3 Political Interests

Corruption is endemic in Malawi and remains a key barrier to functioning institutions. Civil society leaders have accused the Anti-Corruption Bureau (ACB), which is responsible for investigating corruption, of being ineffective and politically compromised. Several major corruption scandals have shaken the country in recent years, and high-level officials have generally acted with impunity. As mentioned above, politicization and patronage often drives appointment of officials and hinders the effective implementation of government projects, policies, and strategies.

Hussein (2012) also notes that although there were more donor-funded projects implemented through and according to district development plans (DDPs), the political environment is still dominated by traditional authorities, rather than elected officials. There is also poor understanding of decentralization, strong patron-client relationships, poor service delivery, inadequate coordination, and lack of monitoring and evaluation.

2.1.4 Economy

Malawi's economy is based on low-income smallholder agriculture production. Since 1980, Malawi's growth has fallen behind the sub-Saharan Africa (SSA) average, with weak and volatile growth due to a high dependence on rainfed agriculture. Malawi has been undergoing structural change but the rate of job creation in non-farm sectors has been slow. The economy is also limited by a challenging business environment which has undermined efforts to develop the private sector (World Bank, 2018).

Historically, economic growth has been inhibited by macroeconomic instability, leading to high inflation and interest rates and limiting public and private investment (World Bank, 2019). As a landlocked country, Malawi also has high transportation costs and small markets. Together, these issues present many challenges for the government while limiting their revenue base and supply of qualified civil servants.

The Malawi Vision 2063 aspires that Malawi will be a preferred destination for inward investment. Leveraging digital technologies to increase the private sector's dynamism, broadening the tax base, and increasing investment in infrastructure, and limiting unnecessary regulatory burdens are crucial to reach that goal. Reducing the high degree of informality in the economy and expanding the narrow tax base are also critical components of achieving this goal.

The GoM would like to increase formality for four main reasons;

1. To broaden the tax base and increase revenues,
2. Increase the government's ability to target policies to assist these firms,

3. To increase trust in the state¹,
4. To improve firm performance, thus increasing economic growth.

In order to determine the best method to induce formality, it is necessary to understand why firms do not register. The FinScope (2019) survey asked its sample of informal firms in Malawi and found the following answers:

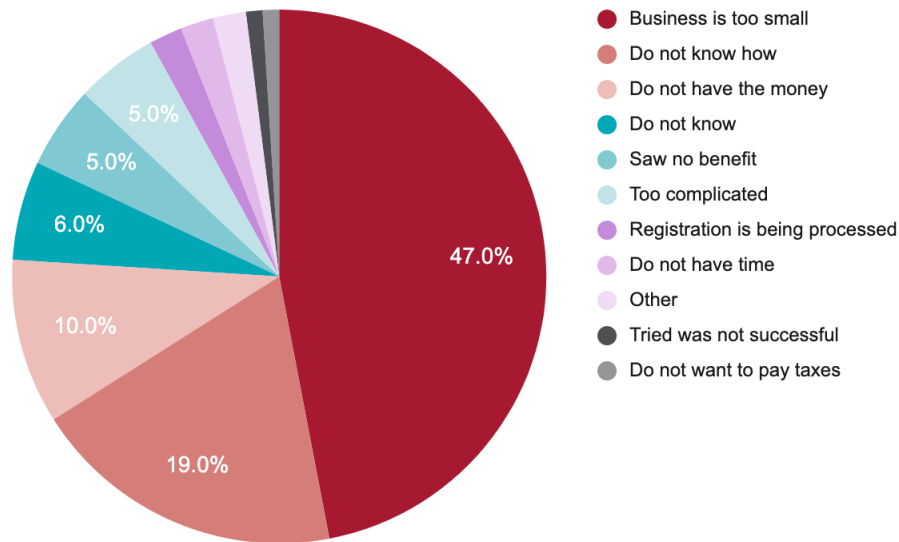


Figure 2.1: Firms' Informality Reasons

The responses highlight the significance of simplifying and facilitating the registration processes, promoting the benefits of formalization, and increasing businesses' financial inclusion that would support them to grow.

¹ See Del Mel et al. (2012).

2.1.5 Summary of key challenges

A summary of the key challenges is outlined in Table 2.1.

Table 2.1: Summary of key challenges

Framework	Key challenges in Malawi
Formal Institutions	<ul style="list-style-type: none"> • Disconnect between policy and practice (poor implementation of policies and strategies) ex. IFMIS • Decentralization efforts inhibited by unclear legislative frameworks, centralized budgeting processes, lack of resources at local level • Poor fiscal transparency • Poor information management systems • Narrow tax base and limited revenue collections
Bureaucracy	<ul style="list-style-type: none"> • Increased local service delivery without sufficient resourcing • Low capacity of personnel and lack of knowledge sharing • Lack of incentive for good performance/sanctions for misspending
Political Interests	<ul style="list-style-type: none"> • Politicization of government positions • Patronage and clientelism • Politicization of parastatals and extra-governmental bodies (ACB, MEC) • Endemic corruption and elite capture of wealth
Economy	<ul style="list-style-type: none"> • Slow economic growth, lack of a diversified economy limits funds • Uncoordinated donor landscape • Informal private sector

2.2 Intervention options

In light of these challenges, there are a wide range of intervention options that aim to increase the effectiveness of government implementation and service delivery by bringing solutions to the key challenges summarized in the previous section. These include human resource management interventions (pay structures, training, recruiting), management reforms, improving public sector capacity, improving public financial management, digitizing essential government services and processes, formalizing MSMEs, and tax instruments facilitating compliance. Given the study's CBA modeling focus, we present the evidence for MSME registration and tax compliance instruments in this section. Annex A contains the review of all the other interventions and their summary of impact evaluations.

2.2.1 Formalization of MSMEs

Free business registration

Offering free/ facilitated business registration is a popular method to increase formalization rates. Registering a business is the first step in formalization, which increases

compliance with the law and provides the government with some information about the enterprise. As cited below, the studies examining the effect of firm registration on formalization have become quite persuasive. Although they find that on its own, business registration does little to increase performance or even formalization rates when it is mixed with complementary services such as increased access to advertising, credit, insurance, or government assistance programs, there is a significant increase in both.

Campos et al. (2019) found that by offering free registration, they could increase the registration rates in Malawi by up to 75%. When they combined this free registration with a bank information seminar, the uptake rate increased to 85%. However, when the firms received an offer to register for Tax Payer Identification Number (TPIN), the rate dropped to 69%. The study also found that the effect of registration on firms' revenues was not significant, and it was only when the firm attended the bank session that they saw a 20% increase in revenues. The group that participated in the bank seminars reported borrowing \$92 more than the control group after two weeks. They also found that the treatment did not affect city council registration rates.

Benhassine et al. (2016) conducted an RCT in Benin examining whether offering supplementary services alongside registration increased formalization. This status is similar to the business registration in Malawi but requires tax registration (with one year of tax exemption after registering). The experiment tested four treatment groups. The first group received in-person visits by enumerators who explained the new status, discussed the potential benefits of formalization, and offered assistance with the forms if needed. In addition to the treatment received by group one, the second group obtained free business training and support for opening a bank account if they formalized. The third group built on the second by also offering tax mediation services. The final treatment group received leaflets and a verbal explanation to determine if information alone had any impact.

The study found that the personalized visits to firms explaining the benefits induced 9.6% of informal firms to register, adding supplementary business training and tax mediation increased this to 16.3%, and the leaflets caused no change. The impact of the treatment on firms' performance was negligible. Other than the increased access to business training and lower taxes paid due to the exemption, these firms were not more likely to have bank accounts, have higher profits, or hire additional workers.

In a randomized control trial conducted in Sri Lanka, Del Mel et al. (2013) found that offering reimbursement of the registration fee did not affect registration. Only when firms received 1-2 months of the median firm's profit as an incentive were they 1/5th more likely to register. In a follow-up survey two years after the intervention, they found that firms assigned to the treatment group made 44.8% more profits than firms in the control group. This result was statistically significant at 10% level of significance, but when the study accounted for a few high-performing firms, the results became statistically insignificant.

Overall, the studies' findings highlight the significance of combining supportive services to registration to increase businesses' willingness to get formal. As we discuss in the following parts of the subsection, these additional services should target improving businesses' financial practices, savings, access to credit, and benefits from insurance to get more productive, grow, and benefit from economies of scale.

Tax compliance and trust in government

The effect of formalization on tax compliance is ambiguous. Boly (2020) found for Vietnam that formalization increases the likelihood of paying taxes by 20%, with a 93% increase in the amount of taxes paid. It is important to note that formalization is not merely registering the business but also registering for a tax identification number. In Malawi, Campos et al. (2019) found that the effect of offering free business registration on taxes paid was negligible, with the treatment and control group paying the same amount of tax. This finding included the treatment group assisted in receiving their TPIN. Thus, while merely registering the firm may not have any immediate effect on the amount of tax they pay, there is some evidence suggesting that it may increase the likelihood of paying tax in the long run.

Increasing the amount of formalization may also affect the attitudes towards the government. Del Mel et al. (2013) found that offering payments to firms to register with the local governments led to increased formalization and that these firms exhibited more trust in the state. The Campos study found that there were no increases in confidence in the state after registering

Business profitability

Econometric studies have tried to determine the effect of formalization on firm performance. While their results are not enough to determine an actual causal effect, they provide insights on potential upper and lower bounds.

Fajnzylber et al. (2009) conducted a study using firm-level data from Mexico to determine the firm characteristics of participation in credit markets, access to training, and tax payments. They used propensity score matching to estimate a counterfactual and found that firms who formalized (had access to formal credit sources) were 22-73% more profitable than firms who did not.

McKenzie and Sakho (2010) used a survey of micro and small firms in Bolivia to determine the effect that formality had on performance. In order to remove the self-selection bias, they used distance from the registration office as an instrument to predict formality. The study found that tax registration increased profits for mid-sized firms only. The authors observed lower profits for both the marginal smaller and larger firms.

Financial inclusion on firms' performance

Lack of access to traditional financial services due to the high level of informality is a significant barrier to the growth of MSMEs in developing countries. Dupas and Robinson (2008) conducted an RCT of 185 micro-sized enterprises in Kenya to test the impact of increased access to formal financial services on the levels of investment expenditure. They selected 185 poor daily income earners (market vendors) and assigned them to the treatment or control group. The treatment group was offered a chance to register for a bank account for free. The control group was not provided any assistance but could still sign up for a bank account if they wanted. The results were mixed. Men who received the free account saw no change in levels of investment or savings. Women who obtained the free account saw an increase in investment expenditure by 42%. There was also evidence that the treatment group did not have to liquidate working capital in response to household health shocks.

Schaner (2016) measured the effect of offering high temporary interest rates for couples in Kenya. The study involved randomizing interest rates for newly opened bank accounts. The interest rates were significantly higher than the market rate to induce short-term savings. Schaner found that the group that received the highest temporary rate (20%) were more likely to become entrepreneurs and saw an increase in profits of \$7 and total working capital of \$33 after 2.5 years (this increased to \$8 in profits after 3.5 years). The group that received the lowest interest rate saw no increase in profits or working capital.

Financial education

There is some evidence to suggest that increased financial education affects the formalization of MSMEs. However, most studies on the effects of financial education on formalization have resulted in small and mainly insignificant effects (see Cole et al., 2011; McKenzie and Woodruff, 2014; Karlan et al., 2014).

Karlan and Valdivia (2011) aimed to measure the marginal effect of adding business training to a Peruvian group lending program for female micro entrepreneurs. They conducted an RCT providing randomized loanees into treatment and control groups by working with a local micro-finance institution. The treatment group received weekly business training for up to two years, and the control group received the loan and the standard micro-finance meetings. The study suggested mixed results. They saw no change in any business outcomes in their preferred specifications, but when they used a difference in differences model, they observed a 15% increase in revenues. They also find that financial education leads to no significant change in formal business registration.

Studies have shown that providing more personalized training, like goal setting and counseling, leads to higher rates of formalization and performance by firms (Carpena et al., 2017). A study conducted in Colombia found that firms who participated in a workshop run by the Chamber of Commerce in Bogota (CCB) were no more likely to register than firms

that did not. Only when they had personalized meetings with a CCB agent were firms 5.5% more likely to formalize (Galiani et al., 2017). While personalized training may lead to better outcomes for those who receive it, it is significantly more expensive to run and thus more challenging to scale.

Kaiser and Menkhoff (2018) conducted an RCT of 1,200 informal firms in Uganda, testing whether active learning methods led to higher formalization rates as opposed to traditional methods. They found that firms assigned to the active learning group were 7.7% more likely to register their business than the conventional learning group. This active learning group also had higher levels of savings and investment spending. As defined in the study, active learning methods provide an excellent middle ground between the cheap and ineffective traditional learning methods and the expensive personalized training.

Business registration reforms

Reducing the number of entry regulations may be an effective way to increase the amount of formalization. In a cross-country study using firm registration data and the World Bank's Ease of Doing Business Report, Klapper and Love (2016) examined how business reforms and the magnitude of registration reforms affect new firm registrations. They found that reforms that reduced procedures by 40% or reduced the number of days or costs by 50% - 60% led to significant new registrants. They also found that countries with weaker business environments required relatively more robust reforms to induce registration.

Bruhn (2008) exploited variation in the timing of deployment of Mexico's Rapid Business Opening System (SARE). SARE was designed to reduce the number of procedures and regulations required to register a business. When implemented, SARE decreased the average number of days, processes, and office visits, falling from 30.1 to 1.4, from 7.9 to 2.7, and from 4.2 to 1, respectively. They found that the implementation of this program led to an increase in the number of registered firms by 5%. However, they noted that this was not from unregistered firms but former wage workers opening businesses.

The World Bank Doing Business 2020 report ranked Malawi 109th out of 190 economies. As Figure 2.2 presents, Malawi's 'starting a business' score is slightly below the SSA average, ranked 153rd in the global list. The report also contained business reforms in Malawi since 2008. Table 2.2 displays a select list relevant to our study.

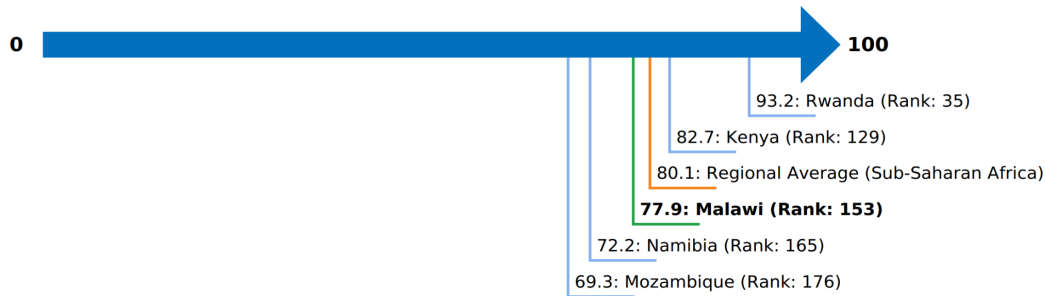


Figure 2.2: Doing Business 2020 Starting a Business Score

Source: (World Bank, 2020b)

Table 2.2: Select Business Reforms in Malawi

Report Year	Reforms
2018	<p>✘ Starting a Business: Malawi made starting a business more expensive by increasing the cost of registering a business with the Registrar General.</p> <p>✓ Getting Credit: Malawi strengthened access to credit by adopting a new law that establishes clear priority rules inside and outside bankruptcy procedures. Malawi improved access to credit information by establishing a new credit bureau.</p>
2017	<p>✓ Starting a Business: Malawi made starting a business easier by eliminating the legal requirement to use a company seal and making it optional for entrepreneurs.</p> <p>✓ Getting Credit: Malawi strengthened access to credit by adopting a new law on secured transactions that implements a functional secured transactions system and establishes a centralized, notice-based, online collateral registry.</p>
2015	<p>✓ Starting a Business: Malawi made starting a business easier by streamlining company name search and registration and by eliminating the requirement for inspection of company premises before issuance of a business license.</p>
2012	<p>✓ Getting Credit: Malawi improved its credit information system by passing a new law allowing the creation of a private credit bureau.</p>

Note: ✓ = Doing Business reform making it easier to do business. ✘ = Change making it more difficult to do business.

Source: World Bank Doing Business 2020 report.

The Doing Business reforms suggest that Malawi has consistently implemented changes making it easier to do business, except for the recent increase in the cost of registering an enterprise with the Registrar General. Therefore, our free registration intervention provides an opportunity for the GoM to increase Malawi's score in the following Doing Business report after the intervention's successful implementation.

2.2.2 Tax instruments facilitating compliance

It is essential to highlight that, in addition to high tax compliance costs, the perceived risk of being caught for tax noncompliance, unsatisfactory use of tax revenues by the government, and general unwillingness to pay taxes are among other reasons why people are non-compliant.

As highlighted earlier in Figure 2.1, the FinScope (2019) MSME survey findings show that businesses being too small, lacking knowledge and finance are the primary reasons for the informality in Malawi. We believe that it is reasonable to generalize this conclusion to other underdeveloped economies where the informal sector is significant. This part of the report describes various instruments tested by many countries to facilitate tax compliance and increase taxpayers' knowledge of the means and importance of being compliant.

ICT implementation

The potential for information and communication technologies (ICTs) to improve tax compliance in developing countries has received significant attention from researchers. The idea is that by implementing these ICT's effectively, they will reduce tax compliance costs (TCCs) and increase trust in the administration.

Developed and developing nations have widely adopted E-filing software to decrease compliance costs associated with tax filing. A 2013 study of the effect of South Africa's new e-filing system found that it was associated with a decrease in TCC of 22% for firms with only one employee (Yilmaz and Coolidge, 2013). While this seems quite promising, the study also found that e-filing was associated with higher TCC's in Ukraine and Nepal. This increase in TCC was due to the legal requirement of double filing (handing in both paper and electronic copies) and/or complicated filing processes.

Kochanova et al. (2016) used cross-country data from 198 countries to examine the effect of implementing e-government systems on a government's capacity to collect taxes through the lowering of TCC. They found that implementing an e-filing system containing an e-payment option led to a decrease in the TCC by around 12% in the first year of implementation, 17% by the end of the first year, and 39% by the end of the second. The results for systems without an e-payment option were statistically insignificant for the first five years. The e-filing system also reduced the average time required to prepare and pay taxes. The observed reductions were 5%, 10%, and 16%, respectively, in the year of implementation through to the following two years. On the firm level, the reduction in TCC was consistent with similar levels as the country-level estimates. The study also found that e-filing reduces the probability of paying bribes to tax officials by 5%. The effect of e-procurement systems did not yield any significant results. The authors hypothesized that this was due to the lack of automation that e-procurement systems provided. It is necessary to note the significance of transparent and efficient procurement systems on MSMEs' growth and tax compliance. As our study discusses in Annex A4, automation of

public financial management and procurement systems are essential components of efficient, transparent, and accountable government implementation practices.

The effect that e-filing has on TCC for individuals is less apparent. Few studies exist in developing countries that examine this issue, and the few that do fail to find any significant effect. Ibrahim (2013, 2014) surveyed to estimate the compliance costs for personal income tax filers in Malaysia. Although the studies observed e-filing leading to a 2-8% decrease in TCC and a 26% decrease in compliance time, the findings were statistically insignificant. When examining the distribution of these reductions, the author found that it was solely due to the decline by low-income users, while higher-income individuals saw no increase. Klun (2011) calculated the effect that e-filing had on compliance costs for individuals in Slovenia. Using survey data from 2007, he found no significant change in compliance costs for e-filers.

A study by South Korea's National Tax Service (NTS) estimated that the implementation of South Korea's e-filing system saved KRW 116 billion (US\$100 million) in 2006 (NTS, 2011). They also forecasted how increased participation rates would affect savings and found that by the year 2013, it would save KRW 250 billion. The 2013 Korean budget reports expenditure of KRW 341.5 trillion; thus, the implementation of the e-filing software resulted in savings of .07% of the government's total spending. However, this figure is dependent on usage rates, and Korea has one of the highest e-filing rates of any country, with over 90% of Koreans filing their taxes online, compared to the OECD average of 73.5% (OECD, 2019).

Bird and Oldman (2000) examined the impact of Singapore's new e-filing system and found that it was not associated with any reduction in the expenditure at the Inland Revenue Authority of Singapore (IRAS). Instead, they found that the new system reduced the amount of time spent "paper pushing", allowing resources to be reallocated to the audit department, which grew from 20 employees in 1993 to 200 in 1997 while the total employees at the IRAS remained relatively constant. Thus, while there were no reported administrative savings, the e-filing system increased the ability for the IRAS to audit taxpayers, potentially increasing their overall revenue.

Schuppan (2009) examined the impact of three different ICT systems on tax collection rates, corruption, and transparency. He first analyzed Ghana Community Network Services Limited, which converted all customs affairs regarding imports and exports of goods to an online system. He found that the introduction of the software led to an increase in the tax and duty revenues by 50%. He then examined Tanzania's Integrated Tax Administration System (ITAX). ITAX was designed in collaboration with the German Agency for Technical Cooperation to create a single integrated system that would better facilitate data exchange between citizens and the public administration. He found that the implementation of the software increased transparency and tax revenue while also decreasing the processing time and possibility of fraud. Finally, he examined Kenya's Business Keeper Monitoring System (BKMS). BKMS was designed to fight corruption by creating an easier, more anonymous

way to file corruption offense reports. The implementation led to increased reports, with around 67% of all whistle-blowers using the new system. While no causal analysis has been conducted examining the impact of this system on corruption measures, the system is generally held in high regard, with there being plans to expand the system for the use of other African countries.

Chatama (2013) examined the effect of ICT implementation in Tanzania on tax revenues collected. In 2001 the Large Taxpayer Department of the Tanzania Revenue Authority (TRA) implemented an ICT system for facilitating maintenance and timely access/ processing of returns to remove postal delays; minimize operational costs; curb cheating, and plug revenue loss. The TRA reported that the revenue collections increased from TZS 204,397.5 million in 2001/2002 (23% of contribution to revenue share) to TZS 1,605,751.2 million in 2008/2009 (41% of contribution to revenue share). While the researcher admitted that other factors in the economy likely contributed to the rise, they pointed out that increased revenue would not be reflected in collections without a good tax administration.

A recent brief by McCluskey and Huang (2019) also analyzed the impact of implementing an ICT system in Tanzania. In 2012 the Government of Tanzania, in conjunction with the World Bank and the Danish International Development Agency, developed the Local Government Revenue Collection Information System (LGRICIS) to address the challenges of revenue collection, budgeting, internal audits, and general issues around transparency and accountability for local councils. LGRICIS is an information system designed for local councils to increase revenue collection. The system supports local councils' revenue collection with taxpayer identification, invoicing, receipting, defaulter identification, and facilitating online payments through a single gateway. It also utilizes Geographic Information Systems (GIS) to support the entire chain of revenue collection. While no causal analysis is performed, they find that after the implementation, property tax revenues increased.

Field experiment in Malawi

A field experiment conducted as part of the Local Government Accountability and Performance (LGAP) activity of USAID's Mission in Malawi assessed the effectiveness of two different approaches to tax compliance. The study involved approximately 23,000 market vendors who worked in open-air markets in eight different districts within Malawi. While the bottom-up approach focussed on increasing the vendors' willingness to pay taxes, the top-down method targeted improving the governments' ability to collect taxes (USAID, 2020). The study involved approximately 23,000 market vendors who worked in open-air markets in eight different districts within Malawi.

The bottom-up approach was a combination of four complementary interventions designed to increase vendors' willingness to pay taxes voluntarily. The interventions were;

1. Implementing new market committee elections,

2. Facilitating meetings between vendors, the market committee, and the local government,
3. Jump-start service delivery through immediate infrastructure improvements,
4. Increase transparency in tax systems by implementing SMS revenue reporting and grievance reporting systems.

The top-down approach involved a bundle of four interventions;

1. A mobile-based market fee system,
2. Implementing a system to count market vendor numbers accurately,
3. Using the vendor numbers to generate revenue targets and forecasts,
4. Introducing an incentive program for tax collectors.

The bottom-up and top-down interventions led to, respectively, a 10.8% and 7.9% increase in the likelihood that vendors could produce a tax receipt from the past seven days. The markets which received both sets of interventions saw no increase in tax compliance. The bottom-up interventions were also associated with increases in trust toward the government, satisfaction with government services, and increased tax morale but did not affect the amount of revenues that reached the district government. The top-down interventions were associated with increased tax collectors' efforts and higher tax revenues for local governments (although they cannot eliminate the possibility that there were pre-existing differences in revenue collection between treatment groups in the baseline). Important to note that the study does not recommend implementing both as the groups that received both were significantly worse in almost all outcome variables.

Nudges

A large amount of literature has developed around implementing tax nudges to increase tax compliance in developing countries. These nudges take the form of a simple message designed to remind non-filers of the importance of paying taxes and the consequences of not paying. These nudges have been particularly effective in decreasing the number of non-filers and nil-filers.

Kettle et al. (2016) conducted an RCT of 43,000 Guatemalan taxpayers that used reminders to promote tax compliance. The study used five different letters to determine the most effective type of message. The first letter was a simple reminder of when the tax deadline was, and the remaining four were behavioral letters containing the website to declare at, a short call to action, and then a deterrent message. They found that the best performing letters were (i) the letter framing non-declaration as a deliberate choice, rather than an oversight, (ii) the social norms message (designed to nudge people to join the status quo), and (iii) the deterrence message. The CBA of the optimal social norms and deliberate choice letters resulted in a BCR of 35.

Santoro et al. (2020) conducted an RCT implementing these nudges in Eswatini. The experiment involved sending over 20,000 letters to both non and nil-filers, containing various types of messages. Similar to the Kettle et al. (2016) study, the results suggested that deterrence messages had the most significant impact on a firm's likelihood to pay tax (3.9%). Individuals were slightly more likely to file if they received the compliance cost letter (1.8%) than the deterrence letter (1.7%). The study also found that these nudges were more effective in rural areas, with the deterrence letter leading to a 4.7% increase in filing rates. The authors conducted a CBA and found a BCR of 11.

A similar experiment in Rwanda aimed to measure the effect that communication medium had on tax compliance. Working with the Rwandan Revenue Agency, Mascagni and Nell (2021) implemented these nudges using email, letters, and SMS messaging. The contents of these letters varied, with each letter being either a simple reminder of the tax deadline, a deterrence message warning the recipient of the potential penalties of not paying their taxes, and a public service message highlighting how tax dollars were spent on public services. They found that firms responded the most to the simple reminder message. This effect was also the highest when the message was sent through email as opposed to traditional letters. For individuals, they found that SMS messages were just as effective as letters had been in previous studies. These results demonstrate the efficiency of using electronic methods for contacting non-filers. Electronic means have higher receipt rates and lower implementation costs, thus are an excellent option for governments with smaller budgets.

Tax Education

Tax education and tax knowledge have been identified as critical components of tax compliance. As the literature on tax nudges suggests, simple reminders of the filing deadline increase the probability of filing. As a result, governments have begun to shift their focus to interventions that affect knowledge more substantially. This is typically done through taxpayer educational programs.

Mascagni et al. (2019) used the Rwandan Revenue Agency's annual tax information program to examine the effect of education on tax knowledge and compliance. Although they could not randomize the program's attendance, they could use a difference in differences model to examine the program's effect. They randomly assigned 275 individuals to private coaching sessions to see if a more personalized approach led to better results. Due to the program, the likelihood to declare increased by 9.4%, the probability of nil-filing decreased by 15.8%, and taxes paid increased in log terms of 1.146. On the other hand, the individual coaching sessions led the likelihood to file increase by 9.9%, the probability to nil-file decrease by 22.9%, and the log of taxes paid to increase by 1.547. Similar to the literature on financial education and firm performance, we observe that a more personalized approach to tax education leads to better results.

2.2.3 Summary of impact evaluation evidence

As mentioned earlier, we summarize in Annex A, i.e., Table A.1, the evidence on the impact of interventions on the governance framework's broad aspects. In Tables 2.3 and 2.4 below, we focus on specific areas of private sector formalization and improving tax compliance and present the summary of various interventions and their impacts on the challenges.

MSME registration

Table 2.3 presents interventions applied to the challenge of MSME registration in various countries together with their impact evaluations.

Table 2.3: Summary of Impact Evaluation Evidence - MSME Registration

Intervention	Location	Impact
Free business registration (Campos et al., 2019)	Malawi	<ul style="list-style-type: none"> • Access to free business registration services led to an increase in registration of 75%, 69% when offered with free TPIN registration, and 85% when offered with a bank information seminar • Only the group who attended bank information seminar had an increase in profits • No evidence of increased tax payments
Free business registration (Del Mel et al., 2012)	Sri Lanka	<ul style="list-style-type: none"> • Reimbursement of direct cost of business registration had no effect on formalization • Payments of around one-half to one months of the median firms profits leads to the registration of one-fifth of firms • Higher profits for firms who register (but this is largely due to a few firms which grew rapidly) • Formalized firms express more trust in the state
Free business registration (Benhassine et al., 2016)	Benin	<ul style="list-style-type: none"> • Personalized visits explaining the benefits of registration and formalization led to a 9.6% increase in registration, 16.3% when business support training and a tax mediator were added, and no change when leaflets were provided • No change in firm performance for any of the treatment groups
Financial education (Karlan and Valdivia, 2011)	Peru	<ul style="list-style-type: none"> • Business education had no impact on earnings when using preferred specifications, but saw an increase of 15% in revenues when using a difference in differences model
Financial education (Galiani et al., 2017)	Colombia	<ul style="list-style-type: none"> • Seminar with CCB had no significant impact on firms formalization rates • Individual meetings with CCB agents led to a 5.5% increase in formalization
Financial education through active learning (Kesier and Menkhoff, 2018)	Uganda	<ul style="list-style-type: none"> • Active learning methods led to an increase of formalization of 7.7% over traditional educational methods • Active learning led to an increase in investments and savings
Access to bank accounts (Dupas and Robinson, 2008)	Kenya	<ul style="list-style-type: none"> • Access to bank accounts led to an increase of investment expenditure by 42% for women, no difference for men

		<ul style="list-style-type: none"> Reduced the amount of working capital liquidation to pay for health shocks
Higher interest rates (Schaner, 2016)	Kenya	<ul style="list-style-type: none"> Higher interest rates increased working capital by \$33 USD, and profits by \$7 USD 2.5 years after rates returned to normal levels Access to a bank account had no significant effect on business profits or working capital rates
Business registration reforms (Bruhn, 2008)	Mexico	<ul style="list-style-type: none"> Reforms that drastically reduce the days, procedures and visits to government officers caused an increase in the number of registered firms by 5%
Business registration reforms (Klapper and Love, 2016)	Cross-country	<ul style="list-style-type: none"> Reforms that reduce the amount of procedures, costs, and days by less than 40%, 50% and 60%, respectively, have no effect on registration rates Countries with weaker business environments require relatively larger reforms

Tax instruments

Table 2.4 summarizes the impact evaluation evidence of interventions targeting tax-related challenges.

Table 2.4: Summary of Impact Evaluation Evidence - Tax Facilities

Intervention	Location	Impact
Tax reminders (Kettle et al., 2016)	Guatemala	<ul style="list-style-type: none"> All letters received led to an increase in likelihood to file The letter framing not paying taxes as a deliberate choice led to the largest increase 7% in likelihood to file and an increase of taxes collected of \$25 USD Estimate BCR of this program using the preferred letter is 35
Tax reminders (Santoro et al., 2020)	Eswatini	<ul style="list-style-type: none"> Deterrence messages to firms were most effective leading to a 3.9% increase in likelihood to file A compliance cost letter was most effective for individuals leading to a 1.8% increase in likelihood to file Nudges were more effective in rural areas BCR of 11
Tax reminders (Mascagni et al., 2017)	Rwanda	<ul style="list-style-type: none"> A simple reminder message informing the recipient of the tax deadline was most effective Messages sent through SMS and e-mail are effective substitutes to traditional letters
E-filing implementation (NTS, 2011)	Korea	<ul style="list-style-type: none"> Implementation of e-filing system led to a KRW 116 billion reduction in administrative costs, and KRW 300 billion in tax compliance costs Four factors contributed to success, clear and urgent goals, leadership that actively encouraged increase use, increasing users through publicity and incentives, and a developed IT environment
E-filing implementation	South Africa Ukraine Nepal	<ul style="list-style-type: none"> E-filing systems led to a decrease in compliance costs for South Africa but led to increases for Nepal and Ukraine

(Yilmaz and Coolidge, 2013)		<ul style="list-style-type: none"> Any successful e-filing system must remove the need for paper filing
E-government system implementation (Kochanova et al., 2016)	Cross-country data covering 198 countries	<ul style="list-style-type: none"> E-government systems led to a decrease in TCC by 12% in the first year of implementation and up to 39% after two years E-government systems also decreased the probability of paying a bribe by 5% E-procurement systems are not as effective as e-filing systems due to the inherent subjectivity of bids
E-filing system implementation (Mallick, 2021)	India	<ul style="list-style-type: none"> E-filing system alone does not lead to any increase in tax revenues collected Informal sectors and the ability to avoid using ICT systems for payments hinder the effectiveness of e-filing systems Successful ICT software must be complemented with proper administrative quality and gubernatorial quality
ICT systems on tax collection rates, corruption, and transparency (Schuppan, 2009)	Ghana	<ul style="list-style-type: none"> All customs affairs regarding imports and exports of goods were converted to an online system The introduction of the software led to an increase in the tax and duty revenues by 50%
	Tanzania	<ul style="list-style-type: none"> Better facilitated data exchange between citizens and the public administration Increased transparency and tax revenue while also decreasing the processing time and possibility of fraud
	Kenya	<ul style="list-style-type: none"> Designed to fight corruption by creating an easier, more anonymous way to file corruption offense reports Increased reports, with around 67% of all whistle-blowers using the new system
ICT implementations to tax system (Chatama, 2013; McCluskey and Huang, 2019)	Tanzania	<ul style="list-style-type: none"> Revenue collections increased from TZS 204,397.5 million in 2001/2002 (23% of contribution to revenue share) to TZS 1,605,751.2 million in 2008/2009 (41% of contribution to revenue share) Supporting local councils' revenue collection with taxpayer identification, invoicing, receipting, defaulter identification, and facilitating online payments through a single gateway Utilization of Geographic Information Systems (GIS) to support the entire chain of revenue collection Higher property tax revenues
Taxpayer education (Chetty and Saez, 2013)	USA	<ul style="list-style-type: none"> 2 minute sessions led to no significant increase in EITC amounts or labour supply The advice of tax professionals is likely to be stronger than simple information
Taxpayer education (Mascagni et al., 2017)	Rwanda	<ul style="list-style-type: none"> Tax education programme led to a 9.4% increase of the likelihood to file, a 15.8% decrease in the probability of nil-filing, and an increase in log of taxes paid by 1.146 Individual coaching sessions led to a 9.9% increase of the likelihood to file, a 22.9% decrease in the probability of nil-filing, and an increase in log of taxes paid by 1.547 Similar to financial education personal sessions lead to better understanding and results

Bottom-up and top-down policies (USAID, 2020)

Malawi

- A bottom-up approach of increasing vendors voluntary willingness to pay taxes led to a 10% increase in the likelihood that a vendor could produce a tax receipt
- A top-down approach of increasing the government's ability to collect taxes led to an increased the likelihood that a vendor could produce a tax receipt by 7.9%
- When implemented together the effect of these interventions were muted, any implementation should be of either the bottom-up or top-down not both

2.3 Key barriers and interventions

Table 2.5 summarizes the possible interventions identified for the critical challenges of government implementation in Malawi. Although we outlined above the impact evaluation evidence on the private sector formalization and tax compliance separately, we present the selected interventions from the areas as part of the relevant categories of our analysis framework.

Table 2.5: Summary of barriers in Malawi and potential intervention options

Framework	Key Barrier	Possible interventions
Formal Institutions	Fiscal transparency	<ul style="list-style-type: none"> • Improve accounting records and bank reconciliations to maximize utility of IFMIS • Publish auditor general's report, strengthen key capacity and functions of key players (ombudsman, auditor general) and ensure they are separate from executive • Increase formal audits of government programs
	Narrow tax base and limited revenue collections	<ul style="list-style-type: none"> • Digitize tax collection and replace paper filing with e-filing • Improve public awareness of tax compliance • Formalize the MSME sector • Increase MSMEs participation in public procurements
	Information management	<ul style="list-style-type: none"> • Improve information management system through Electronic Document Management System (EDMS)
Bureaucracy	Low capacity of personnel and lack of knowledge sharing	<ul style="list-style-type: none"> • Provide training for new systems - train local civil service leaders alongside officials • Strengthen M&E and performance monitoring/rewards • Improve incentive and sanctioning structure based on performance against strategic plans
Political Interests	Patronage and clientelism	<ul style="list-style-type: none"> • Performance management and M&E structure that rewards performance and sanctions for wasted public resources • Central examination system for entry into public service • Strengthen the role, capacity, and independence of the Anti-Corruption Bureau • Separate parastatals from the state so that they are not used as "cash cows," or reduce the politicization of parastatals
Economy	Slow growth, macro instability, informal private sector,	<ul style="list-style-type: none"> • Diversified economy, increased industrialization • Economic policies to stabilize inflation and improve business environment

dependence on
smallholder
agriculture

- Investment in infrastructure
- Increase per capita income
- Formalize the MSME sector
- Increase MSMEs participation in public procurements

2.4 Selection criteria

The research team used a number of criteria to screen and select a subset of interventions to include in the feasibility analysis. These criteria have been applied to other CCC pre-feasibility research projects as well.

Sector expert priority: The intervention is identified by sector experts as important and relevant to local context. Experts can provide input through several channels: the Reference Group questionnaire, inferences from the NPC research agenda, the academic advisory group, and during individual interviews.

High benefit-cost ratio or cost-effectiveness in similar previous research: – The purpose of the Malawi Priorities project is ultimately to identify interventions of outsized benefits relative to costs. Input into this factor is determined from the economics literature, particularly previous research conducted by the Copenhagen Consensus Center. In the Center’s experience BCRs above 15 are among the highest across all interventions. Due consideration is given to contextual differences between previous research and the current situation in Malawi in determining the effect of this criterion.

Addresses a problem of sufficient size – some interventions could be considered highly effective but only address a small percentage of a given problem, limiting the overall net benefits of the approach. To avoid focusing on solutions that are too small, each intervention must have the potential to address a problem that is significant.

Significant gap in current levels of intervention coverage – all analysis conducted in Malawi Priorities focuses on marginal benefits and costs. Therefore if an intervention already has high coverage rates, then additional resources provided towards that intervention are unlikely to be effective, or will suffer from the ‘small-size’ problem.

Availability of crucial data or credible knowledge of impact – due to time and resource constraints, all analyzes conducted by Malawi Priorities are based on secondary data. No primary research is conducted, such as field experiments or trials. Therefore, each intervention is constrained by the availability of data. In many cases, one key constraint is knowledge concerning the impact of a given intervention. It is typical to formally deal with uncertainty via sensitivity analyzes. However, in some cases the uncertainty is so great that it precludes even researching the intervention at all.

2.5 Final selection

In order to identify the final subset of interventions to include in the feasibility analysis, we apply the selection criteria to each of the intervention options we outlined above in this section and present the findings in Table 2.6.

Table 2.6: Selection of final interventions for inclusion in CBA

Intervention	Sector Expert Priority	High BCR or cost-effectiveness	Sufficient size	Gap in current coverage	Availability of data	Overall
Tax digitization and nudges	High	High	Yes	Yes	Yes	Yes
MSME registration	High	High	Yes	Yes	Yes	Yes
EDMS	High	High	Yes	No	Yes	No
Civil service centers	High	High	Yes	No	Yes	No
Training and M&E	Medium	Medium	Yes	Yes	No	No
Performance Measurement	Medium	Yes	Yes	Yes	Yes	No
Increased auditing	Medium	Medium	Yes	Yes	Yes	No
IFMIS support	Medium	Low	Yes	Yes	No	No

The interventions that were chosen for inclusion in the pre-feasibility study include:

- Free micro, small and medium-sized enterprise (MSME) registration accompanied by a bank information seminar
- E-filing and tax nudges facilitating compliance

3. Cost-benefit analysis methodology

CBA provides a way to assess which intervention options will result in the greatest impact at the most efficient cost, allowing policy makers and program managers to make informed decisions regarding their program models.

This section summarizes the methodology for the CBA of the following interventions;

1. Free micro, small and medium-sized enterprise (MSME) registration accompanied by a bank information seminar
2. E-filing and tax nudges facilitating compliance

3.1 Intervention 1 - Free MSME registration and banking seminar

3.1.1 Intervention 1 - General summary

Governments worldwide target simplifying the formal registration procedure for businesses as a tool for reducing informality, accounting for 30-40% of total economic activity in the poorest countries (Campos et al., 2019). Campos et al. (2019) listed expanding the tax base; expanding the rule of law through establishing formality as the norm; facilitating firms' access to formal markets; and obtaining information about the private sector to develop better policies and targeting of programs as the governments' main reasons to bring firms to formal status.

Considering the significant magnitude of the informal private sector in Malawi, our first intervention targets providing MSMEs with free registration and banking seminars, expecting to formalize the businesses and improve their financial practices, savings, access to credit, and benefits from insurance.

The primary beneficiaries of the intervention are the MSMEs and the GoM.

The direct benefits include:

- B1 - Increased business revenues

The cost items are:

- C1 - Intervention implementation cost
- C2 - Increased business production costs

The transfers consist of:

- T1 - Increased municipality license revenues

The methodology for calculating the benefit stream of the intervention mainly follows the randomized control trial (RCT) by Campos et al. (2019) and the MSME survey by FinScope (2019). The model considers the former's findings on the impact of the treatment similar to our intervention on businesses' revenues and the firms' uptake rates of the treatment. In addition, we test the model's sensitivity to the likelihood of crowding-out effect on the estimated revenue increases. The model also utilizes FinScope's (2019) survey findings on the informal MSME sector's aggregate revenues. Finally, the analysis takes a conservative view on the benefit stream's inputs and considers a transition period for the assumed incremental impacts to reach maturity.

3.1.2 Intervention 1 - Benefits, costs, and stakeholders

Intervention	Impact	Stakeholders	
		MSMEs	GoM
1. Free SME Registration and Banking Seminar	B1 - Increased business revenues	✓	
	C1 - Intervention implementation cost		✓
	C2 - Increased business production costs	✓	
	T1 - Increased municipality license revenues	✓-	✓+

3.1.3 Intervention 1 - Model specification

B1 - Increased business revenues

FinScope Malawi MSME 2019 survey (FinScope, 2019), conducted between March-May 2019, estimated that Malawi's MSME sector generated USD 15.8 billion worth of revenues in 2019. The survey also measured the value addition of the sector as USD 6.8 billion. The study highlighted that the total profit generated by the unregistered businesses was equal to 47% of the MSME sector's contribution to gross domestic product (GDP), i.e., USD 3.2 billion. The findings indicate the magnitude of the sector's informality and the loss of significant contribution to the Malawian economy. Due to the lack of information in the survey on the aggregate revenues generated by the informal MSMEs, our analysis assumes that the same ratio of 47% is valid for the revenues and estimates the revenues generated by unregistered enterprises as USD 7.44 billion, i.e., 47% of USD 15.8 billion. Given that the estimates were from 2019, we accumulate the figures to 2021 using the GDP deflator and the exchange rate of 745 MWK per USD.

Campos et al. (2019) conducted a randomized control trial (RCT) to estimate the impact of making it easier for firms to formalize in Malawi. The study randomly allocated 3,002 MSMEs into a control group and the following treatment groups:

1. A group offered assistance for costless business registration;
2. A group offered assistance with costless business registration as well as (separate)

- tax registration;
3. A group offered assistance with costless business registration, along with information sessions at a bank that ended with an offer of opening a business bank account.

According to the follow-up surveys of the World Bank intervention in the period 2013-2015,² the third treatment group, which contains our intervention's features, observed an average of 20% and 15% increases in their sales and profits, respectively. "The mechanism for the large effects of this targeted intervention was increased access to formal financial services through business bank accounts, better financial practices, savings, credit and business insurance" (Campos et al., 2019, p. ii).

The treatment groups' take-up rates also highlighted the positive impact of the banking information session and opening a bank account. The study showed that while the take-up rate was 85% in the third treatment group, 75% and 69% were in groups 1 and 2, respectively. In addition, Campos et al. (2019) showed that the take-up rate of the bank information sessions was 72%, and 89% of the business owners who participated in the sessions opened bank accounts in their business's name. Considering our intervention's focus on revenue increases due to financial inclusion by the banking seminars, we assume a 50%³ take-up rate in the maturity of the intervention. Furthermore, to have a conservative view in our analysis by considering the Campos et al. (2019) study's small sample size relative to the number of unregistered firms in Malawi, we assume 25% for the initial firm participation rate, which would gradually increase to 50% over the first five years of the implementation and stay constant throughout the project.

Additionally, considering that Campos et al. (2019) detected an average of 20% increase in businesses' revenues, we follow a moderate approach and assume that our intervention would lead the revenues to increase in real terms by 4% annually until reaching the maturity rate of 20% in five years, supposed to be constant afterward. We test the model's sensitivity to the assumptions of firm participation rate and the real annual increase in revenues in maturity of the project.

From an economic point of view, the increased revenues/profits enjoyed by a subset of firms reported by Campos et al. (2019) may not all be incremental. Some of these increases may be transferred away from firms that were not in the program. Therefore, when applied at the national level, the crowding-out effect can reduce the expected increase in average figures. To bring this likelihood into our analysis, we conduct a sensitivity analysis on a critical variable of crowding-out rate, assumed to be 0% in the base case scenario.

² The interventions took place in 2012 and four follow-up surveys were conducted until 2015.

³ Approximately equal to 85% x 72% x 89%.

Timeframe(s)

Benefits accrue year 2022-2041

Inputs	Dimensions	Estimate	Unit	Source of verification	
Π	Informal MSME sector total revenues in 2019	-	7.44	USD billion	FinScope (2019)
p^i	Assumed initial firm participation rate	-	25	%	Authors' assumption based on Campos et al. (2019)
p^a	Assumed annual increase in firm participation before maturity	-	5	%	Authors' assumption
p^m	Expected firm participation rate in maturity	-	50	%	Authors' assumption based on Campos et al. (2019)
n	Number of periods to reach maturity in revenue increase	-	5	Years	Authors' assumption
π^m	Annual real increase in revenues in maturity	-	20	%	Campos et al. (2019)
c	Crowding-out effect on increased profit	-	0	%	Authors' assumption
DEF_t	GDP price deflator index in year t	Time	See the model	#	World Bank WDI ⁴
X	Exchange rate of MWK per USD	-	745	MWK	CCC

Calculation

Benefit:

$$B1_t = \Pi \times \frac{DEF_{2021}}{DEF_{2019}} \times X \times \dots$$

$$\dots [p_{t-4} \times r_{2026} + (p_{t-3} - p_{t-4}) \times r_{2025} + (p_{t-2} - p_{t-3}) \times r_{2024} + (p_{t-1} - p_{t-2}) \times r_{2023} + (p_t - p_{t-1}) \times r_{2022}]$$

Where:

$$p_t = p^i \quad \text{when } t = 2022$$

$$p_t = \text{if}(p_{t-1} < p^m, p_{t-1} + p^a, p_{t-1}) \quad \text{when } t > 2022$$

$$r_t = 0\% \quad \text{when } t=2022$$

$$r_t = \text{if}(r_{t-1} < \pi^m, r_{t-1} + \pi^m/n, r_{t-1}) \quad \text{when } t>2022$$

⁴ World Development Indicators.

C1 - Intervention implementation cost

FinScope (2019) survey results indicated 1,600,739 MSMEs in Malawi in 2019, owned by 1,141,784 individuals. The study also determined that 89% of the MSMEs were neither registered nor licensed.

Campos et al. (2019) calculated the all-in cost of business registration intervention as USD 22 per registration offered and about USD 27 per registration offer accepted. We follow the study and apply the cost figures, respectively, to the total number of informal MSMEs and those assumed to take up our intervention's registration offer.

Campos et al. (2019) calculated the bank information session and business registration assistance costs at an average of USD 27 per firm registered. However, the firms were registered by sending out enumerators and then taking the applications to the Registrar's Office in Blantyre. Our intervention is to render the application process free at the Mlambe Centers, where the Registrar already has a representative. The costs of conducting the intervention, without the enumerator's travel expenses, was USD 22. We follow the study and apply the cost estimate to the total number of informal MSMEs assumed to take up our intervention's registration offer. Considering that Campos et al. (2019) study was conducted in 2012, we have accumulated the cost estimate to 2021 by converting USD to MWK with the 2012 average exchange rate of MWK per USD and using the GDP deflators in those years.

Additionally, since there was no marketing factor in Campos et al. (2019), we considered the cost of sending two short message service (SMS) text messages to all MSME owners quarterly throughout the intervention period. We assume that the text messages would be sent to all MSME owners to promote their registration and/or municipality license compliance.

Timeframe(s)

Costs accrue year 2021-2041

Inputs	Dimensions	Estimate	Unit	Source of verification	
E	Number of MSMEs	-	1,600,739	#	FinScope (2019)
O	Number of MSME owners	-	1,141,784	#	
u	% of unregistered MSMEs	-	89	%	
p^i	Assumed initial firm participation rate	-	25	%	Authors' assumption based on Campos et al. (2019)
p^a	Assumed annual increase in firm participation before maturity	-	5	%	
p^m	Expected firm participation rate in maturity	-	50	%	
C	Cost of registration and bank information session, per firm	-	22	USD	Campos et al. (2019)

M	Cost of an SMS	-	0.076 ⁵	USD	BudgetSMS.net ⁶
n	Number of SMS text messages, per firm per year	-	8	#	Authors' assumption
DEF_t	GDP price deflator index in year t	Time	See the model	#	World Bank WDI
X_{2012}	Exchange rate of MWK per USD in 2012	-	248	MWK	Exchangerates.org.uk ⁷
X_{2021}	Exchange rate of MWK per USD, base year	-	745	MWK	CCC

Calculation

$$\text{Cost: } C1_t = C_t^{reg.} + C_t^{mar.}$$

$$C_t^{reg.} = E \times u \times F_t \times C \times X_{2012} \times \frac{DEF_{2021}}{DEF_{2012}}$$

$$\text{Where: } p_t = p^i \quad F_t = E \times u \times (p_t - p_{t-1}) \quad \begin{array}{l} \text{when } t = 2022 \\ \text{when } t > 2022 \end{array}$$

$$p_t = \text{if}(p_{t-1} < p^m, p_{t-1} + p^a, p_{t-1})$$

$$C_t^{mar.} = O \times M \times X_{2021} \times n$$

C2 - Increased business production costs

FinScope (2019) measured total expenditures of the MSME sector in 2019 as USD 9 billion, equivalent to 57% of the aggregate revenues in the same year. Therefore, to account for MSMEs' cost of additional production due to the intervention, we apply the ratio to the revenue projections measured in B1 of the model.

Timeframe(s)

Costs accrue year 2022-2041

Inputs	Dimensions	Estimate	Unit	Source of verification	
$B1_t$	Increased business revenues estimated in the first benefit stream of the model	Time	See the model	USD	Authors' calculation
c	Share of total MSME expenditures in aggregate revenues	-	57	%	FinScope (2019)

Calculation

$$\text{Cost: } C_{2t} = c \times B1_t$$

⁵ Converted from the average of € 0.047 and € 0.078 on May 31, 2021.

⁶ https://www.budgetsms.net/sms-gateway-pricing/mw/malawi/#all_pricing

⁷ <https://www.exchangerates.org.uk/USD-MWK-spot-exchange-rates-history-2012.html>

T1 - Increased municipality license revenues

In addition to the registration fees paid to the Department of the Registrar General, firms in Malawi have to pay license fees to the particular municipalities in which they operate. Thus, although the intervention offers free registration to MSMEs, the registered enterprises will need to pay license fees. From an economic standpoint, we analyze these expected revenue earnings by the local authorities as a transfer in the economy.

GoM Business Licensing Regulations 2014 determines the license application, obtainment, and renewal fees as listed below. FinScope (2019) disaggregated the MSMEs as 78% (12%) being in urban (rural) areas. Considering the MSMEs' total number, rate of informality, location, and the take-up rates in Campos et al. (2019), we estimate the increase in one-off and recurring municipal license revenues. We assume that license fees in the base period will be constant in real terms throughout the project period.

Timeframe(s)					
Costs accrue year 2022-2041					
Inputs		Dimensions	Estimate	Unit	Source of verification
F^a	License application fee	-	1,000	MWK	GoM (2014)
$F^{c,m}$	License obtainment fee in city or municipal councils	-	30,000	MWK	
F^t	License obtainment fee in town councils	-	20,000	MWK	
F^y	Yearly license fees	-	7,500	MWK	
E	Number of MSMEs	-	1,600,739	#	FinScope (2019)
u	% of unregistered MSMEs	-	89	%	
l^u	Location of MSMEs - urban	-	78	%	
l^r	Location of MSMEs - rural	-	12	%	
p^i	Assumed initial firm participation rate	-	25	%	Authors' assumption based on Campos et al. (2019)
p^a	Assumed annual increase in firm participation before maturity	-	5	%	Authors' assumption
p^m	Expected firm participation rate in maturity	-	50	%	Campos et al. (2019)
Calculation					
Transfer:	$T1_t = L_t^{app. \& opp.} + L_t^{yearly}$				
Where:	$L_t^{app. \& opp.} = P_t \times (F^a + l^u \times F^{c,m} + l^r \times F^t) \quad L_t^{yearly} = F^y \times \sum_t P_t$				

$$P_t = E \times u \times (p_t - p_{t-1})$$

$$p_t = p^i \quad \text{when } t = 2021$$

$$p_t = if(p_{t-1} < p^m, p_{t-1} + p^a, p_{t-1}) \quad \text{when } t > 2021$$

3.1.4 Intervention 1 - Timing

Timeframe (Flag)

The intervention is assumed to last the lifetime of the CBA, which is currently set to 20 years. The intervention is assumed to take effect in the first period.

Inputs		Dimensions	Unit
Y_0	Start year	2021	Year
$\#Imp^B$	Intervention 1 implementation beginning year	2021	Year
$\#Imp^L$	Intervention 1 implementation length	20	Years
Calculation			
Periods:	t is a time index corresponding to the number of complete years elapsed since the start year $Y_t = Y_0 + t$		
Flags:	$F1Imp_t = if(Y_t \geq \#Imp^B, if(Y_t < (\#Imp^B + \#Imp^L), 1, 0), 0)$		

3.2. Intervention 2 - E-filing and tax nudges facilitating compliance

3.2.1 Intervention 2 - General summary

We highlighted earlier that Malawi 2063 emphasizes the narrow tax base, non-compliance of taxpayers, and the magnitude of the informal sector as the main factors behind the low level of domestic revenue mobilization. Additionally, we cited from the Vision that the enhancement of system-based business and personal registration; and strengthening taxation systems, including the provision of digital and online information and mechanisms for tax assessments and remittance are the measures aimed at broadening the tax base. We also highlighted the ultimate goals of these implementations as reducing the costs associated with taxation, improving transparency and tax compliance, and improving efficiency in revenue collection to generate domestic resources.

Our second intervention is mainly completing the Malawi Revenue Authority's Msonkho Online system reform to replace paper tax filing with electronic filing and payment. The research team's consultations with MRA revealed that the Msonkho Online project is at 71% completion rate. The development phase is at 93%, while the implementation stage is at 25%. Currently, MRA does not have an online filing system for domestic taxes. All transactions are manual. However, MRA has an e-payment system. 85% of taxes are collected through e-payments. Of the remaining 15%, manual payments are mainly by the Government (the big part) and small taxpayers. MRA plans to roll out Msonkho Online by the end of 2021 fully. Our intervention's e-filing and payment aspect focuses on completing the Malawi Revenue Authority's Msonkho Online system roll-out process to replace paper tax filing with electronic filing and payment fully. The intervention also contains implementing tax nudges to facilitate and enhance tax compliance.

The primary beneficiaries of the intervention are the registered MSMEs, large enterprises, and the GoM.

The direct benefits include:

- B1A - Tax compliance cost savings by MSMEs
- B1B - Tax compliance cost savings by large enterprises
- B2 - Administrative cost savings

The cost items are:

- C1 - Cost of tax nudges
- C2 - Cost of ICT Improvements

The analysis estimates the benefit streams by mainly considering the findings of Ali (2018) regarding the impact of regulatory improvements on firms' tax compliance. The methodology also contains estimates by the MRA of the incremental administrative cost savings due to the e-filing and payment system. Similar to the analysis of the first

intervention, we take a conservative view on the timing of tax compliance cost savings by the enterprises reaching maturity. Additionally, note that the model does not include a transfer of taxes as the focus of the intervention is on the registered enterprises. In other words, we assume that the businesses would pay their taxes in the without-intervention scenario; thus, no incremental tax payments would emerge due to the intervention.

3.2.2 Intervention 2 - Benefits, costs, and stakeholders

Intervention	Impact	Stakeholders		
		MSMEs	Large Enterprises	GoM
2. E-filing and Tax Nudges Facilitating Compliance	B1A - Tax compliance cost savings by MSMEs	✓		
	B1B - Tax compliance cost savings by large enterprises		✓	
	B2 - Administrative cost savings			✓
	C1 - Cost of tax nudges			✓
	C2 - Cost of ICT improvements			✓

3.2.3 Intervention 2 - Model specification

B1 - Tax compliance costs savings

Ali (2018) cited World Bank Enterprise Surveys in 2014-2016, which estimated the annual staff time spent in a typical firm in SSA on tax-related government regulations as 1.3 months on average. Ali (2018) also showed that the average staff time for Malawi is approximately one month. Ali (2018) claimed that the compliance cost would be 26% more for medium-sized firms. The author described the difference in the cost estimates by emphasizing larger firms' potential to utilize their economies of scale advantages to absorb compliance costs thanks to their high turnover and their ability to hire specialized staff to deal with such regulations. The study's empirical analysis of seventeen countries, including Malawi, suggested that "(i)ncreasing regulatory quality by one unit is associated with lower compliance costs by about 64 per cent" (Ali, 2018, p. 20.)

FinScope (2019) survey identified 1,600,739 MSMEs in Malawi in 2019. The study also determined that 11% of the MSMEs were registered. It is essential to note that "[a]bout three in four enterprises (74 percent) are micro enterprises, 23 percent are small enterprises and only 3 percent are medium enterprises" (FinScope, 2019, p. 7). Additionally, according to MRA records, there are 516 registered large enterprises in Malawi. Therefore, we consider the formal MSMEs and the large enterprises as the targeted beneficiaries of the intervention. We also assume that the legal businesses comply with their tax

obligations and bear the compliance cost in the with- and without-intervention scenarios.

On the one hand, it might be reasonable to suppose that the efficiency and transparency of the electronic filing and payment system would likely attract some of the informal, i.e., non-filer, firms. On the other hand, one might also consider the implementation of the MSME registration intervention of our study and consider adding the assumed firm participation rates to that of the registered MSMEs. We believe that these approaches would cause an overestimation of the benefits due to two reasons. First, as mentioned earlier, there are multiple possible reasons why people are non-compliant. Therefore, it would be challenging to assume a rate of compliance of non-filers due to a more efficient filing and payment system only. Although Ali (2018) revealed that 55% of the unregistered enterprises in their sample pay their city council or market fees, we prefer not to take the risk of overestimating the intervention's benefits by considering this evidence for informal firms' potential tax compliance to the central government due to the intervention. Second, it is crucial to note the uncertainty of implementing alternative interventions and take all options into account mutually exclusively.

Our intervention follows Santoro et al. (2020), Mascagni and Nell (2020), and USAID (2020) and contains e-filing (inc. payment) and tax nudges instruments to facilitate tax compliance in Malawi. Specifically, the information and communication technologies (ICT) aspects of the intervention focus on completing MRA's Msonkho Online system to replace paper-filing with e-filing and payment fully. We, therefore, consider the intervention as a significant improvement in regulatory quality and base our compliance cost savings for corporate taxpayers on the findings of Ali (2018). However, to have a conservative view in our estimations, we assume that the intervention will lead to a gradual increase in compliance costs savings from 45% to 65% over the first five implementation years of the intervention. We also assume that the annual cost savings will stay constant at the maturity rate afterward.

To convert the staff-time estimates by Ali (2018) for tax compliance into monetary cost savings by the MSMEs and large enterprises, we use CCC's average income projections for Malawi's urban and rural regions. We then apply the average earnings to the FinScope (2019) survey's finding that most MSMEs (78.3%) are in rural areas. We consider that all large enterprises are located in urban regions. Moreover, we follow Ali (2018) and use 1 and 1.26 months for large and smaller enterprises' tax compliance staff times, respectively.

Yilmaz and Coolidge (2013) investigated the electronic filing's (e-filing) impact on small and medium-sized businesses' total tax compliance costs in developing countries. The authors observed that 32% of South African firms signed up for the e-filing system. Given that our intervention considers entirely replacing paper filing with e-filing in Malawi, we assume that this transition will occur in three years and increase the participation rate of MSMEs by 32% annually until reaching 100% in the fourth implementation year of the intervention. We assume that all large enterprises will participate from the intervention's first implementation year.

Literature on estimating the impact of e-filing on individual taxpayers provides mixed findings. Klun (2011) found that online tax filing in Slovenia did not reduce compliance costs for personal income taxpayers. The author also cited similar results from Germany and

Canada. Ibrahim (2013, 2014) investigated the effect of e-filing on Malaysian personal income taxpayers. The study found e-filing consumed three hours less than manual filing, the difference being statistically insignificant.

In this context, it is also essential to consider most personal income taxpayers being subject to an exact withholding tax system, known as pay as you earn (PAYE), which does not require salaried taxpayers to file an income tax return annually. Instead, filing tax returns is more common for income on interest, dividends, and capital gains. Considering the mixed conclusions in the literature and the fact that individuals' cost of compliance for tax payments requiring annual filing is negligible relative to corporates' tax obligations, we believe it is reasonable to focus on the intervention's impact on the cost savings by the latter only. We also consider that the sensitivity analysis conducted on the compliance cost savings assumptions would indirectly account for any potential compliance cost savings by individual taxpayers not estimated in the base-case scenario.

Timeframe(s)					
Benefits accrue year 2022-2041					
Inputs	Dimensions	Estimate	Unit	Source of verification	
T	Staff time spent in a typical (large) firm on tax compliance	-	1	month	
s	Extra staff time on tax compliance in medium-sized firms	-	26	%	Ali (2018)
c^i	Initial reduction in compliance cost due to intervention	-	45	%	
c^a	Assumed annual reduction in compliance costs before maturity	-	5	%	Authors' Assumption
c^m	Expected reduction in compliance costs in maturity	-	65	%	Ali (2018)
Y^u	Average monthly income per employee - urban	-	80,053	MWK	CCC
Y^r	Average monthly income per employee - rural	-	24,258	MWK	
L^u	Share of MSMEs in urban regions	-	21.7	%	
L^r	Share of MSMEs in rural regions	-	78.3	%	
E	Number of MSMEs	-	1,600,739	#	FinScope (2019)
r	Percent of formal MSMEs	-	11	%	
L	Number of formal large enterprises	-	516	#	
p^i	Expected initial participation rate of MSMEs	-	32	%	Authors' assumption based on Yilmaz and Coolidge (2013)
p^a	Assumed annual increase in firm participation rate of MSMEs before maturity	-	32	%	
p^m	Expected participation rate of MSMEs in maturity	-	100	%	MRA
Calculation					
Benefit:	$B1A_t = E \times r \times T \times (1 + s) \times (Y^u \times L^u + Y^r \times L^r) \times \dots$				

$$\dots [p_{t-4} \times c_{2026} + (p_{t-3} - p_{t-4}) \times c_{2025} + (p_{t-2} - p_{t-3}) \times c_{2024} + (p_{t-1} - p_{t-2}) \times c_{2023} + (p_t - p_{t-1}) \times c_{2022}]$$

$$B1B_t = L \times T \times Y^u \times c_t$$

$$p_t = 0\%$$

$$p_t = p^i$$

$$p_t = \text{if}(p_{t-1} + p^a < p^m, p_{t-1} + p^a, p^m)$$

when $t = 2021$

when $t = 2022$

when $t > 2022$

Where:

$$c_t = 0\%$$

$$c_t = c^i$$

$$c_t = \text{if}(c_{t-1} < c^m, c_{t-1} + c^a, c^m)$$

when $t = 2021$

when $t = 2022$

when $t > 2022$

B2 - Administrative cost savings

The team interviewed the MRA officials and obtained their estimates of administrative cost savings due to completion and full-capacity implementation of the Msonkho Online system in the context of our intervention. MRA officials considered the facilities the interface would combine from various institutions easing data matching, reducing expenditures due to the shift from manual filing to automation such as moving filing officers to other functions lacking personnel, and easy access to quality data for decision making in their estimates of the administrative cost savings resulting from the intervention. We use the cost forecasts as time-varying inputs in the analysis and apply a multiplier to test the model's sensitivity to the fluctuations in the estimates.

Timeframe(s)

Costs accrue year 2022-2041

Inputs	Dimensions	Estimate	Unit	Source of verification
S_t	Incremental benefits from ICT Implementation	Time	2,570 (long run value)	MWK million MRA
m	Sensitivity factor for the expected administrative cost savings	-	0	% Authors' assumption

Calculation

Benefit:

$$B2_t = S_t \times (1 + m)$$

C1 - Cost of tax nudges

Following Mascagni and Nell (2021) and references therein, our intervention targets sending SMS reminders to all MSMEs in the first five implementation years. We consider FinScope (2019) estimates for the total number of MSMEs owners and USD 0.076 as the average cost

of an SMS to calculate the cost stream. We assume the estimates to be constant in real terms. We take that two text messages would be sent to the registered MSMEs' owners quarterly. We also consider that the nudges would be sent throughout the project period to promote firms' tax compliance.

Timeframe(s)					
Costs accrue year 2022-2026					
Inputs	Dimensions	Estimate	Unit	Source of verification	
O	Number of MSME owners	-	1,141,784	#	FinScope (2019)
r	Percent of formal firms	-	11	%	
L	Number of large enterprises	-	516	#	MRA
M	Cost of an SMS	-	0.076 ⁸	USD	BudgetSMS.net ⁹
n	Number of SMS text messages, per firm per year	-	8	#	Authors' assumption
X	Exchange rate of MWK per USD	-	745	MWK	CCC
Calculation					
Cost:	$C1_t = (O \times r + L) \times M \times n \times X$				

⁸ Converted from the average of € 0.047 and € 0.078 on May 31, 2021.

⁹ https://www.budgetsms.net/sms-gateway-pricing/mw/malawi/#all_pricing

C2 - Cost of ICT improvements

The team also obtained MRA officials' estimates for the incremental capital and operating expenditures for completing the Msonkho Online system. We use the cost forecasts as time-varying inputs in the analysis, assumed to be in real terms. Cost estimates contain MRA's payments to the project contractor for completing the software development phase and rolling out the system and the operational expenditures assumed to cover the license renewals and maintenance of the system throughout the intervention period.

Timeframe(s)					
Costs accrue year 2021-2041					
Inputs		Dimensions	Estimate	Unit	Source of verification
C_t	Incremental improvement expenditures	Time	See the model	MWK million	MRA
Calculation					
Cost:			$C2_t = C_t$		

3.2.3 Intervention 2 - Timing

Timeframe (Flag)

The intervention is assumed to last the lifetime of the CBA, which is currently set to 20 years. The intervention is assumed to take effect in the first period.

Inputs		Dimensions	Unit
Y_0	Start year	2021	Year
$\#Imp^B$	Intervention 1 implementation beginning year	2021	Year
$\#Imp^L$	Intervention 1 implementation length	20	Years
Calculation			
Periods:	t is a time index corresponding to the number of complete years elapsed since the start year $Y_t = Y_0 + t$		
Flags:	$FlImp_t = if(Y_t \geq \#Imp^B, if(Y_t < (\#Imp^B + \#Imp^L), 1, 0), 0)$		

4. Conclusion and discussion

In this study, we analyzed the following research questions on the government implementation in Malawi using the governance diamond framework proposed by World Bank (2004, conceptualizing the crucial relationship among formal institutions, bureaucracy, political interests, and economy).

- What are the most effective ways to improve implementation in government?
- How can the public sector be reformed to most effectively improve service delivery? How can technocratic and political incentives be aligned?
- What are the context-relevant good practices in instituting and sustaining accountability mechanisms for implementation of development plans and policies?

We first presented a comprehensive literature review to understand the sector and identify key barriers and performance gaps that inhibit government institutions' effective and accountable service delivery in Malawi. We then identified numerous interventions implemented in Malawi or other countries addressing several challenges identified for each component of the governance diamond framework. Finally, the report detailed two CBA models conducted to quantify the impacts of the following interventions:

1. Free micro, small and medium-sized enterprise (MSME) registration accompanied by a bank information seminar
2. E-filing and tax nudges facilitating compliance

The research team selected the interventions by applying various criteria to several possible intervention options identified by an extensive literature review and consultations with local sectoral experts. The report identified the challenges of the informal private sector and narrow tax base affecting government implementation from various aspects. As emphasized in Malawi 2063, the GoM targets Malawi to be among the most preferred investment destinations in Africa by 2063. Not inhibiting the private sector by unnecessary regulation and bureaucracy, increasing the sector's dynamism by the maximum utilization of digital facilities, broadening the tax base, and allocating the tax returns to the country's vital infrastructure and other needs are crucial to reach that ultimate goal.

As shown in Table 4.1, both interventions suggest expected BCRs above one, even when the highest discount rate of 14% is used. This suggests that each of the two interventions could yield positive results on their own while being somewhat cost-effective. The BCR for business registration is insensitive to discount rates, mainly because the intervention is assumed to generate additional annual business production costs proportional to the increase in revenues every year. In other words, the vast majority of costs are incurred simultaneously with benefits, rendering the discount rate relatively insignificant.

Table 4.1: Interventions Benefit-Cost Ratios

Intervention	Benefit-Cost Ratio		
	5% Discount Rate	8% Discount Rate	14% Discount Rate
Free MSME registration and baking seminar¹⁰	1.731	1.728	1.722
E-filing and Tax Nudges Facilitating Compliance	7.3	6.9	6.2

Figures 4.1 and 4.2 display the interventions' cost and benefit flows over time.

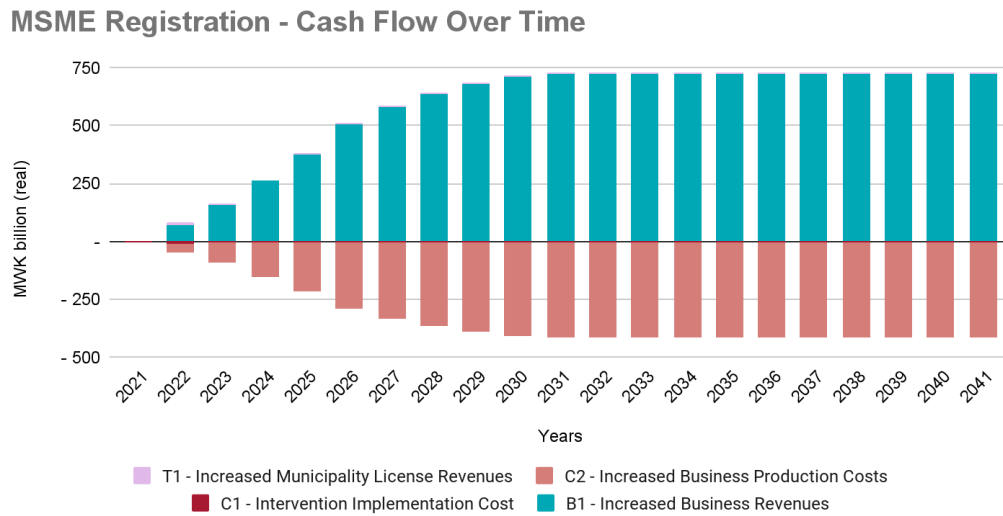


Figure 4.1: Intervention 1 - Benefit and Cost Streams

¹⁰ The BCR calculation of the model takes the transfer stream into account as the present value of the "increased municipality license revenues" is included in both the numerator (benefit) and denominator (cost) in the BCR ratio.

E-filing and Tax Nudges - Cash Flow Over Time

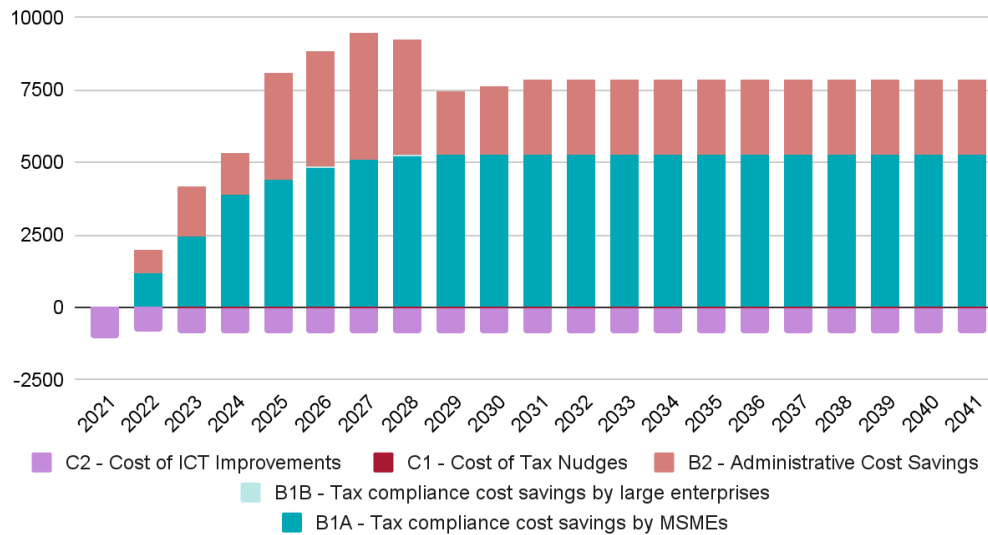


Figure 4.2: Intervention 2 - Benefit and Cost Streams

The first intervention provides MSMEs with free registration and banking seminars, with the expectation that this will lead owners to formalize their businesses and improve their financial practices, savings, access to credit, and benefits from insurance. Formalization increases businesses' financial inclusion that would support them to improve their business practices, get more productive, grow, and benefit from economies of scale. In addition, the potential impact of financial inclusion on businesses' profitability increases their willingness to register, increasing the uptake rate of the intervention.

The CBA findings suggest a benefit-cost ratio (BCR) greater than one, meaning that the net benefits outweigh the net costs of each intervention. The stakeholder analysis of the model also indicates that MSMEs and the GoM are likely to enjoy significant net benefits due to the intervention. We consider that the intervention would reduce informality and increase local authorities' revenues. The intervention could also improve Malawi's scores in the World Bank Doing Business report, attracting more private investment.

Our second intervention, selected in close collaboration with the Malawi Revenue Authority (MRA), is completing the Malawi Revenue Authority's Msonkho Online system roll-out process to fully replace paper tax filing with electronic filing and payment. The CBA results show that the intervention has a BCR in the range of 5-10, meaning that the net benefits outweigh the net costs of the intervention. Furthermore, the CBA's stakeholder analysis presents that the intervention's net impact on each stakeholder is positive, and that MSMEs enjoy the most significant effect. The intervention also contains implementing tax nudges to facilitate and enhance tax compliance.

It is essential to highlight that, in addition to high tax compliance costs, the perceived risk of being caught for tax noncompliance, unsatisfactory use of tax revenues by the government, and general unwillingness to pay taxes are among other reasons why people are non-compliant. Our intervention focuses on reducing compliance costs and facilitating payment procedures to improve businesses' efficiency and tax compliance. It is also crucial to note that the intervention does not contain expanding the tax base. Instead, the intervention focuses on increasing tax compliance and revenues, contributing to the generation of the required resources for the GoM to reach its 2063 targets.

4.1 Stakeholder analysis

Figures 4.3 and 4.4 present the findings of the stakeholder analyses, measuring the net impact of the interventions on each stakeholder in 2021 terms.

The analyses suggest that;

- All stakeholders in both interventions enjoy net economic benefits.
- MSMEs gain significant benefits in the first intervention net of their incremental production and municipality license expenditures.
- GoM is the leading gainer of the second intervention emerging from administrative cost savings, considerably outweighing the aggregate cost of intervention.

MSME Registration - Stakeholder Analysis



Figure 4.3: Intervention 1 - Net Impact on Each Stakeholder

E-filing and Tax Nudges - Stakeholder Analysis

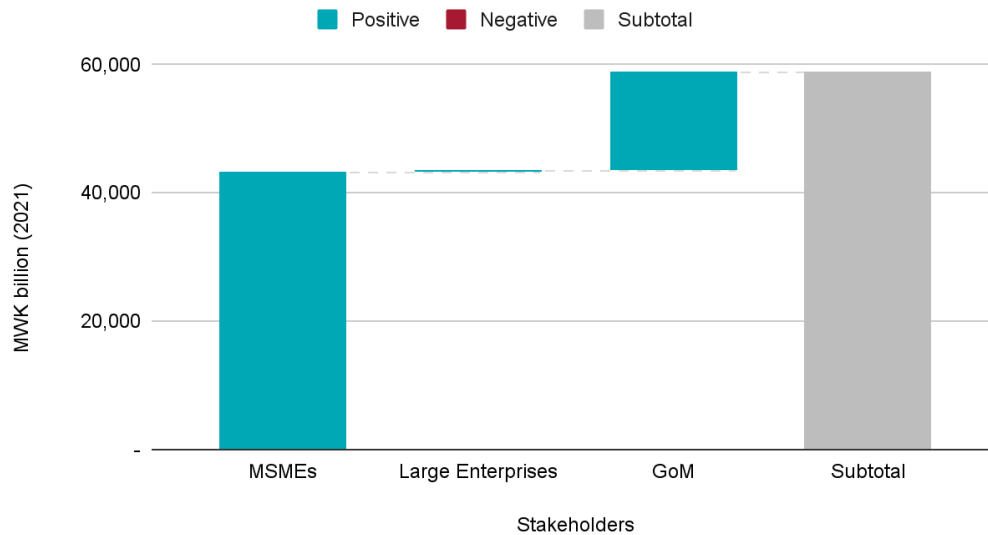


Figure 4.4: Intervention 2 - Net Impact on Each Stakeholder

4.2 Sensitivity analysis

In order to identify which assumptions are the most critical to the success of each intervention, the team has conducted some basic sensitivity analyses. Figures 4.5 and 4.6 report the lowest and highest BCRs obtained when alternative input values are assumed for the key parameters in the models. Tables 4.2 and 4.3 display the alternative values used for the critical parameters in the sensitivity analysis.

The results show that the models do not display any significant sensitivity to the key assumptions made for both interventions. All the alternative values used for the key parameters suggest BCRs close to that in the base case scenario. Alternative critical values suggest BCRs in the ranges of 1-5 and 5-10 for the first and second interventions, respectively. Therefore, we conclude that the models are not sensitive to the key parameters.

MSME Registration - Sensitivity Analysis

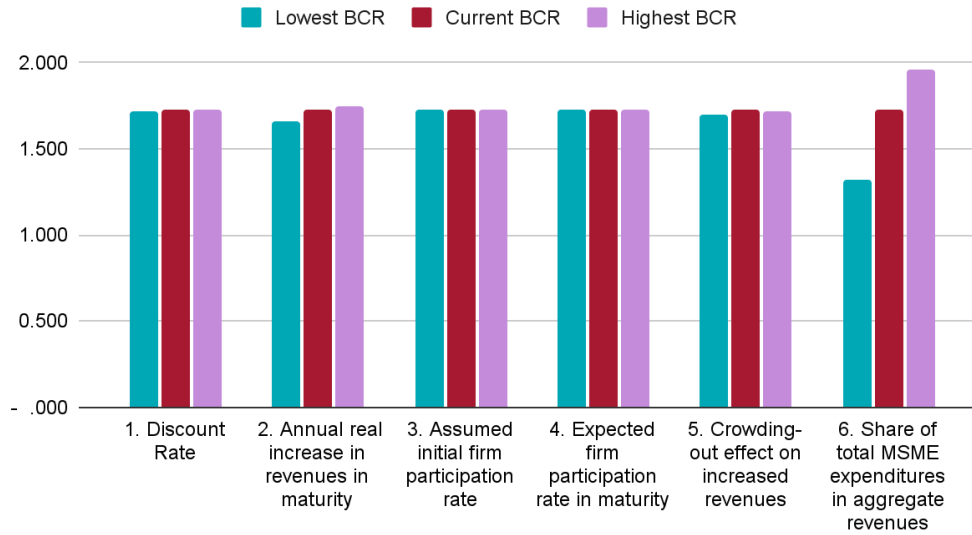


Figure 4.5: Intervention 1 - Lowest and Highest BCRs with Alternative Input Values

Table 4.2: Sensitivity Analysis of the MSME Registration Intervention

Scenario	Critical Item	BCR @ 8%
Annual Real Increase in Revenues in Maturity		
Current	20%	1.728
Alternative 1	5%	1.658
Alternative 2	10%	1.703
Alternative 3	50%	1.744
Assumed Initial Firm Participation Rate		
Current	25%	1.728
Alternative 1	10%	1.727
Alternative 2	50%	1.729
Alternative 3	85%	1.730
Expected firm participation rate in maturity		
Current	50%	1.728
Alternative 1	30%	1.727
Alternative 2	65%	1.728
Alternative 3	100%	1.727
Crowding-out Effect on Increased Revenues		
Current	0%	1.728
Alternative 1	20%	1.722
Alternative 2	30%	1.717
Alternative 3	50%	1.703
Share of Total MSME Expenditures in Aggregate Revenues		
Current	57%	1.728
Alternative 1	50%	1.963
Alternative 2	65%	1.521
Alternative 3	75%	1.322

E-filing and Tax Nudges - Sensitivity Analysis

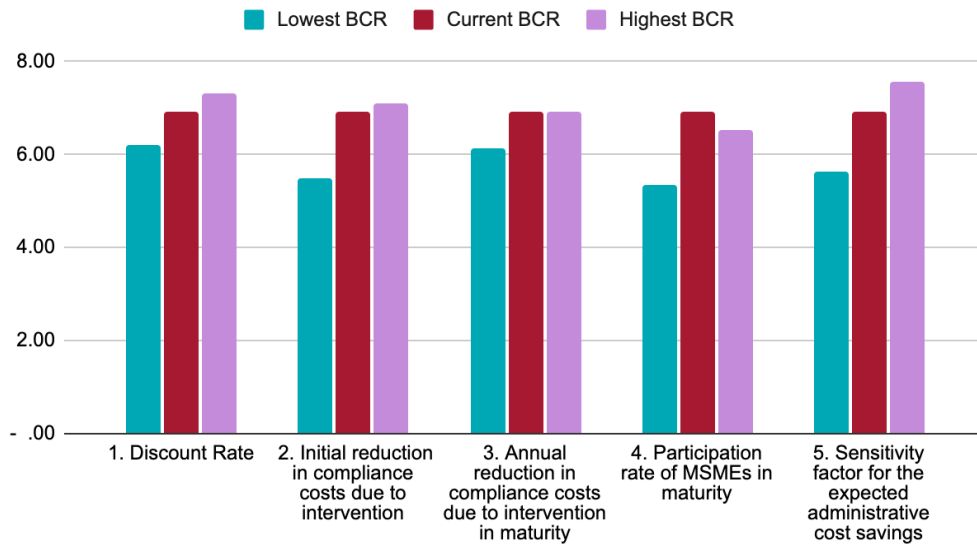


Figure 4.6: Intervention 2 - Lowest and Highest BCRs with Alternative Input Values

Table 4.2: Sensitivity Analysis of the Tax Compliance Intervention

Scenario	Critical Item	BCR @ 8%
Initial Reduction in Compliance Costs Due to Intervention		
Current	45%	6.9
Alternative 1	25%	5.5
Alternative 2	35%	6.2
Alternative 3	55%	7.1
Annual Reduction in Compliance Costs Due to Intervention in Maturity		
Current	65%	6.9
Alternative 1	50%	6.1
Alternative 2	75%	6.9
Alternative 3	85%	6.9
Participation rate of MSMEs in maturity		
Current	100%	6.9
Alternative 1	60%	5.3
Alternative 2	75%	6.0
Alternative 3	90%	6.5
Sensitivity factor for the expected administrative cost savings		
Current	0%	6.9
Alternative 1	-50%	5.6
Alternative 2	-25%	6.3
Alternative 3	25%	7.6

4.3 Limitations

It is essential to highlight the differences between the first intervention and the reference studies used in the model estimations. The studies seek out and contact the firms directly. The proposed intervention intends to use mass SMS for advertising the new policy. Hence, it may not be as effective at reaching the intended targets. The Campos et al. (2019) study used enumerators to walk firms through the registration process at their place of business. Our intervention requires firms to go to the Mlambe Centers to register, imposing additional costs on the registrants, possibly leading to less participation. However, our sensitivity analysis findings suggest that the base case conclusion is not sensitive to either the businesses' assumed initial or ultimate participation rate. In this context, our model suffers from the limitation of not accounting for MSMEs' transportation and time cost to the Mlambe Centers for registration. Given the enterprises' significant benefits from the intervention and the sensitivity analysis findings that the model is not sensitive to

increasing the rise in enterprises' revenues due to intervention from 20% to 50% annually, we consider this omitted incremental cost as negligible, not changing the main conclusions on the BCR and stakeholder analysis.

It is also important to note with the second intervention that our study could not include the large corporate and individual taxpayers due to data limitations. Had more detailed data been available, we could measure expected tax compliance cost savings due to the intervention and include those economic gains as benefit streams. We could also examine the net impact of the intervention on those stakeholders.

5. References

African Development Bank, 2020. "Malawi Economic Outlook." African Development Bank - Building Today, a Better Africa Tomorrow, African Development Bank Group, www.afdb.org/en/countries/southern-africa/malawi/malawi-economic-outlook

Ali, M. (2018). *Regulatory Burdens in Tax Administration and Firms' Compliance Costs in Africa*, International Centre for Tax and Development, Working paper 78, May 2018. https://opendocs.ids.ac.uk/opendocs/bitstream/handle/20.500.12413/13772/ICTD_WP78.pdf

Andrews, M., 2010. How Far Have Public Financial Management Reforms Come in Africa?. SSRN Electronic Journal. 10.2139/ssrn.1724741.

Baldwin, K., Muyengwa, S. and Mvukiyehe, E., 2017. Reforming village-level governance via horizontal pressure: evidence from an experiment in Zimbabwe. The World Bank.

Banerjee, A., Duflo, E., Imbert, C., Mathew, S. and Pande, R., 2015. Can e-governance reduce capture of public programs? Experimental evidence from a financial reform of India's employment guarantee. economics.mit.edu/files/10557 .

Bird, Richard M.; Oldman, Oliver. 2000. Improving Taxpayer Service and Facilitating Compliance in Singapore. PREM Notes; No. 48. World Bank, Washington, DC. © World Bank. <https://openknowledge.worldbank.org/handle/10986/11406>

Boly, A., 2020. The Effects of Formalization on Small and Medium-Sized Enterprise Tax Payments: Panel Evidence from Vietnam. *Asian Development Review*, 37(1), pp.140-158. <https://www.adb.org/sites/default/files/publication/575101/adr-vol37no1-6-formalization-sme-tax-payments.pdf>

Booth, D., Cammack, D., Harrigan, J., Kanyongolo, E., Mataure, M. and Ngwira, N., 2006. Drivers of change and development in Malawi. The World Bank. Available at <https://openknowledge.worldbank.org/bitstream/handle/10986/11406/multi0page.pdf?sequence=1>

Bridges, K. and Woolcock, M., 2017. How (not) to fix problems that matter: assessing and responding to Malawi's history of institutional reform. The World Bank. Available at SSRN: <https://ssrn.com/abstract=3092439>

Bruhn, M., 2008. License to sell: the effect of business registration reform on entrepreneurial activity in Mexico. The World Bank. Available at <https://openknowledge.worldbank.org/bitstream/handle/10986/6596/wps4538.pdf?sequence=1&isAllo>

Campos, F., Goldstein, M., & McKenzie, D. 2019. Impacts of formal business registration in Malawi. Impact Evaluation Report 96. Available at <https://www.3ieimpact.org/sites/default/files/2019-04/IE96-Business-Registration-Malawi.pdf>

Cangiano, M., Gelb, A. and Goodwin-Groen, R., 2019. Public financial management and the digitalization of payments. Center for Global Development. Available at <https://pfmkin.org/sites/default/files/2020-01/140.%20Public-financial-management-and-digitalization-payments.pdf-%20ODI.pdf>

Carpena, F., Cole, S., Shapiro, J. and Zia, B., 2019. The ABCs of financial education: experimental evidence on attitudes, behavior, and cognitive biases. *Management Science*, 65(1), pp.346-369. Available at <https://doi.org/10.1287/mnsc.2017.2819>.

Centre, UNESCO World Heritage. "Lake Malawi National Park." UNESCO World Heritage Centre, whc.unesco.org/en/list/289/.

Centre for Global Development, 2015. Rwanda's Pay-for-Performance Scheme for Health Services. millionsaved.cgdev.org/case-studies/rwandas-pay-for-performance-scheme-for-health-services

Chetty, R. and Saez, E., 2013. Teaching the tax code: Earnings responses to an experiment with EITC recipients. *American Economic Journal: Applied Economics*, 5(1), pp.1-31. https://www.nber.org/system/files/working_papers/w14836/w14836.pdf

Chatama, Y.J., 2013. The impact of ICT on taxation: The case of large taxpayer department of Tanzania revenue authority. *Developing Country Studies*, 3(2), pp.91-100.

Chiweza, A. L., 2008, 'The Challenges of Promoting Legal Empowerment in Developing Countries: Women's Land Ownership and Inheritance Rights in Malawi', in *Rights and Legal Empowerment in Eradicating Poverty*, D. Banik (ed.), pp. 201-216

Chinsinga, B. 2008. Decentralisation and Poverty Reduction in Malawi – A Critical Appraisal. In Crawford G. & Hartmann C. (Eds.), *Decentralisation in Africa: A Pathway out of Poverty and Conflict?* (pp. 73-106). Amsterdam: Amsterdam University Press. doi:10.2307/j.ctt46msxc.5

Cole, S., Sampson, T. and Zia, B., 2011. Prices or knowledge? What drives demand for financial services in emerging markets?. *The journal of finance*, 66(6), pp.1933-1967.

Daub et al. 2020. Digital public services: How to achieve fast transformation at scale. McKinsey & Company <https://www.mckinsey.com/industries/public-and-social-sector/our-insights/digital-public-services-how-to-achieve-fast-transformation-at-scale>

De Mel, S., McKenzie, D. and Woodruff, C., 2013. The demand for, and consequences of, formalization among informal firms in Sri Lanka. *American Economic Journal: Applied Economics*, 5(2), pp.122-50.

De Vries, G.J., 2010. Small retailers in Brazil: Are formal firms really more productive?. *The Journal of Development Studies*, 46(8), pp.1345-1366.

Dilmegani, C., Bengi Korkmaz, and Martin Lundqvist. 2014. Public-sector digitization: The trillion-dollar challenge. McKinsey & Company, 2014.

<https://www.mckinsey.com/business-functions/mckinsey-digital/our-insights/public-sector-digitization-the-trillion-dollar-challenge>

Fajnzylber, P., Maloney, W.F. and Montes-Rojas, G.V., 2011. Does formality improve micro-firm performance? Evidence from the Brazilian SIMPLES program. *Journal of Development Economics*, 94(2), pp.262-276.

Fajnzylber, P., Maloney, W.F. and Montes-Rojas, G.V., 2009. Releasing constraints to growth or pushing on a string? Policies and performance of Mexican micro-firms. *The Journal of Development Studies*, 45(7), pp.1027-1047.

FinScope, 2019. Malawi Micro, Small and Medium Enterprise (MSME) Survey 2019. FinScope.

<https://imanidevelopment.com/wp-content/uploads/2020/07/Finscope-MSME-2019-survey-Full-Report.pdf>

Freedom House, 2020. Freedom in the World 2020: Malawi.

<https://freedomhouse.org/country/malawi/freedom-world/2020>

Galiani, S., Meléndez, M. and Ahumada, C.N., 2017. On the effect of the costs of operating formally: New experimental evidence. *Labour Economics*, 45, pp.143-157. ISSN 0927-5371.

<https://doi.org/10.1016/j.labeco.2016.11.011.t>

GoM, 2014. Business Licensing Regulations 2014. GoM

http://www.mccci.org/index.php?option=com_phocadownload&view=category&download=37:business-licencing-regulations&id=8:malawi-business-laws-and-regulations&Itemid=166

GoM. 2019. Micro and Small Enterprise Policy Statement. GoM

<https://cepa.org.mw/Library/government-publications/Micro%20and%20Small%20Enterprise%20Policy%20Statement.pdf>

GoM, 2020. Malawi 2063. National Planning Commission. Malawi.

Grossman, G., Michelitch, K. and Santamaria, M., 2017. Texting complaints to politicians: Name personalization and politicians' encouragement in citizen mobilization. *Comparative Political Studies*, 50(10), pp.1325-1357. <https://doi.org/10.1177/0010414016666862>

GSDRC, 2009. Helpdesk Research Report: Governance in Malawi.

Humphreys and Weinstein, 2012. Policing Politicians: Citizen Empowerment and Political Accountability in Uganda Preliminary Analysis

Hussein, M. 2012. Decentralisation and Management Reforms on the Death Bed? Obstacles Facing Malawi's District Councils, *Africa Review*, 4:1, 33-47

Ie3 Impact Evaluation Brief, 2017. Do incentives improve tax collectors' performance and increase tax collection in Pakistan?

Ibrahim, I., 2014. The compliance time costs of Malaysian personal income tax system: E-filers vs. manual-filers. *Procedia-Social and Behavioral Sciences*, 164, pp.522-527.

Ibrahim, I. B. 2013. Electronic filing of personal income tax returns in Malaysia: determinants and compliance costs (Doctoral dissertation, Curtin University).

Johnson, J. 2017. Cost-effectiveness and cost-benefit analysis of governance and anti-corruption activities U4 Issue December 2014 No 10

Kanyongolo, 2006. Malawi Justice Sector and the Rule of Law: A Discussion Paper. Open Society Foundation.

Klun, M., 2011. Does eTaxation reduce taxation compliance costs. In *ECEG2011-Proceedings of the 11th European Conference on EGovernment: ECEG2011* (p. 335). Academic Conferences Limited.

Karlan, D., Ratan, A.L. and Zinman, J., 2014. Savings by and for the Poor: A Research Review and Agenda. *Review of Income and Wealth*, 60(1), pp.36-78. Available at <https://onlinelibrary.wiley.com/doi/pdfdirect/10.1111/roiw.12101>

Karlan, D. and Valdivia, M., 2011. Teaching entrepreneurship: Impact of business training on microfinance clients and institutions. *Review of Economics and statistics*, 93(2), pp.510-527.

Keiser, T. and Menkhoff, L., 2017. Active Learning Fosters Financial Behavior: experimental evidence, DIW Berlin, 22 June 2018.

https://www.diw.de/documents/publikationen/73/diw_01.c.593115.de/dp1743.pdf

Kettle, Stewart; Hernandez, Marco; Ruda, Simon; Sanders, Michael., 2016. Behavioral Interventions in Tax Compliance : Evidence from Guatemala. Policy Research Working Paper;No. 7690. World Bank, Washington, DC. © World Bank.

<https://openknowledge.worldbank.org/handle/10986/24530> License: CC BY 3.0 IGO.
<https://openknowledge.worldbank.org/handle/10986/24530>

Klapper, L. F., & Love, I., 2010. The impact of business environment reforms on new firm registration. World Bank policy research working paper, (5493).

Kochanova, A., Hasnain, Z., & Larson, B., 2016. Does e-government improve government capacity? Evidence from tax administration and public procurement. The World Bank.
<https://openknowledge.worldbank.org/bitstream/handle/10986/24231/Does0e0governm0d0public0procurement.pdf?sequence=1&isAllowed=y>

“Malawi Public Service Management Policy 2018 To 2022.” 2018. Office of the President and Cabinet. Lilongwe, Malawi.

Makoza, Frank, 2016. The Level of E-Government Implementation: Case of Malawi. 10.4018/978-1-4666-9814-7.ch041.

Mallick, H. 2021. Do governance quality and ICT infrastructure influence the tax revenue mobilisation? An empirical analysis for India. *Economic Change and Restructuring*, 54(2), 371-415.

Mascagni, G. and Nell, C. 2021. Tax Compliance in Rwanda: evidence from a message field experiment, *Economic Development and Cultural Change*.
<https://www.journals.uchicago.edu/doi/pdf/10.1086/713929>

Mascagni, G.; Santoro, F. and Mukama, D. 2019. Teach to Comply? Evidence from a Taxpayer Education Programme in Rwanda, ICTD Working Paper 91, Brighton, IDS

McCluskey, W. and Huang, C.Y., 2019. The role of ICT in property tax administration: Lessons from Tanzania. CMI Brief, 2019(06).

McKenzie, D., & Sakho, Y. S. 2010. Does it pay firms to register for taxes? The impact of formality on firm profitability. *Journal of Development Economics*, 91(1), 15-24.

McKenzie, D. and C. Woodruff 2014. What are We Learning From Business Training and Entrepreneurship Evaluations Around the Developing World? *The World Bank Research Observer* 29(1), 48-82.

National Tax Service (NTS) 2011. “White Paper on Home Tax Service.” National Tax Service, Seoul. In Korean.
<https://www.hometax.go.kr/websquare/websquare.html?w2xPath=/ui/pp/index.xml>

OECD 2019, *Tax Administration 2019: Comparative Information on OECD and other Advanced and Emerging Economies*, OECD Publishing, Paris,
<https://doi.org/10.1787/74d162b6-en>.

- Olken, B 2007. Monitoring Corruption: Evidence from a Field Experiment in Indonesia. *Journal of Political Economy*, Volume 115, Number 2. <https://doi.org/10.1086/517935>
- PwC and World Bank. 2020. Paying Taxes 2020. <https://www.pwc.com/gx/en/paying-taxes/pdf/pwc-paying-taxes-2020.pdf>
- Reinikka, Ritva and Svensson, Jakob, The Returns from Reducing Corruption: Evidence from Education in Uganda (June 2007). CEPR Discussion Paper No. DP6363, Available at SSRN: <https://ssrn.com/abstract=1136688>
- Rosengard, J. 2020. Tax Digitalization in Rwanda: Success Factors and Pathways Forward. Better Than Cash Alliance, October 2020.
- Santoro, F., Groening, E., Mdluli, W., Shongwe, M. 2020. How to Best Nudge Taxpayers: the impact of a tailored letter experiment in Eswatini, International Centre for Tax and Development, working paper no. 112, October 2020, https://opendocs.ids.ac.uk/opendocs/bitstream/handle/20.500.12413/15723/ICTD_WP112.pdf?sequence=1&isAllowed=y
- Schuppan, T., 2009. E-Government in developing countries: Experiences from sub-Saharan Africa. *Government Information Quarterly*, 26, pp.118-127.
- “The Atlas of Economic Complexity by @HarvardGrwthLab.” 2020. The Atlas of Economic Complexity, atlas.cid.harvard.edu/countries/152.
- “The World Factbook: Malawi.” Central Intelligence Agency, Central Intelligence Agency, 1 Feb. 2018, www.cia.gov/library/publications/the-world-factbook/geos/mi.html.
- Touhton, M., & Wampler, B. 2014. Improving social well-being through new democratic institutions. *Comparative Political Studies*, 47(10), 1442-1469.
- Yilmaz, F., & Coolidge, J. 2013. Can e-filing reduce tax compliance costs in developing countries?. The World Bank. <https://elibrary.worldbank.org/doi/abs/10.1596/1813-9450-6647>
- UNDP, 2018. Human Development Indices and Indicators: 2018 Statistical Update: Malawi
- World Bank, 2004. Building State Capacity in Africa New Approaches, Emerging Lessons. Eds. Levy and Kpundeh.
- World Bank, 2017. Citizen Service Centers: Pathways Toward Improved Public Service Delivery. <http://documents1.worldbank.org/curated/en/108371498753288065/pdf/117079-BRI-P157228-PUBLIC-01-P157228-CSC-Trends-Final.pdf>

World Bank, 2019. Charting a New Course: Priorities for a Vibrant Economy and Jobs - Policy Choices for Malawi 2019. World Bank. <https://doi.org/10.1596/3204>

World Bank, 2020a. Malawi Economic Monitor: In Times of COVID-19, Protecting the Lives, Livelihoods and Future of Malawians.

World Bank, 2020b. Doing Business 2020 - Economy Profile - Malawi.
<https://openknowledge.worldbank.org/bitstream/handle/10986/32952/Doing-Business-2020-Comparing-Business-Regulation-in-190-Economies-Economy-Profile-of-Malawi.pdf?sequence=1&isAllowed=y>

Annex A: Alternative Intervention Options

A.1 Digital solutions

A recent intervention strategy to improve the efficiency, transparency, and accountability of government implementation and service delivery is the transition to digital services, or e-Government.

There are a wide range of benefits associated with digital government service delivery. A 2018 McKinsey study found that residents who are satisfied with a public service are nine times more likely to trust the government overall than those who are not. Other benefits cited in the study include:

- Increased access to services;
- Less time interacting with public administration, leading to time and cost savings;
- Reduction of administrative burdens and frees resources through automated case management; and
- Use big data to support informed decision making.

In addition, there are strong linkages between digitization of financial transfers and improved public financial management (Cangiano et al., 2019). Transitioning to electronic payments provides more security for recipients, especially women, greater efficiency and accuracy in reaching the financially excluded, and a broader range of financial services, while saving time and human resources (Cangiano et al., 2019).

The demand for digital government services is increasing, especially in the wake of COVID-19 (Daub et al., 2020). However, in order to realize the benefits of digitization, governments would need to take precautions to protect data and cyber security and invest in whole-of-government solutions. Dilmegani et al. (2014) caution that siloed services, fragmentation in strategy, and lack of a central owner for national IT infrastructure can prevent development of a cohesive digital system. This reduces the quality and utility of services for end users, whether that is business, citizens, or intergovernmental offices. In addition, it may take significant hiring of new talent and training for current civil services for digital solutions to be integrated as a standard part of service delivery.

Tax digitization. Tax digitization has led to impressive benefits in countries such as Rwanda, Mexico, and Indonesia. In Rwanda, a combination of tax reform and tax digitization has resulted in a higher tax-to-GDP ratio (16.6%, compared to 4.5%), a dramatic jump in their rank on the World Bank's Ease of Doing Business report in 2020 (from 67 in 2010 to 38th), and increased 22 positions to 38th in the Paying Taxes category since 2010, when the country's tax digitalization process was still nascent (Rosengard, 2020). In 2018,

Rwanda collected RWF 1.2 trillion (USD 1.3 billion) in total taxes in 2016 with an average annual growth rate (nominal) in collections of ~14% since 2010 (Rosengard, 2020).

Digital payment systems. Digital payment systems have also been seen to increase efficiency. An impact evaluation (Banerjee et al., 2015) examined the effects of e-government reform in delivering funds for a large public employment program in India. It found that by using a digital payment system, program expenditures dropped by 25% in the treatment group, while maintaining the same level of employment as the control. It also resulted in reduced leakage of funds to ghost beneficiaries and an overall better cash management system, with mechanisms that linked fund releases with reported expenditures.

Political accountability. Mobile-based platforms have been used to try to increase transparency and accountability around delivery of local services, but generally suffer from low participation (Grossman et al., 2016). A field experiment in Uganda attempted to resolve this by pairing a mobile-platform for reporting service deficiencies with citizen mobilization strategies to encourage participation. The mobilization strategy had positive significant effects on the likelihood that citizens would contact their local politicians, including female and opposition supporter participants (Grossman et al., 2016). However, this study did not look at the impact that this had on improved service delivery.

Information management. Information management can also be significantly improved through Electronic Document Management Systems (EDMS), which is a collection of technologies that work together to provide a comprehensive solution for managing the creation, capture, indexing, storage, retrieval, and disposition of records and information assets of an organization. The employment of the EDMS increases the operational efficiency of governments in terms of document storage and retrieval, auditing, workflow facilities, searching and publishing. Such systems have been implemented in Jordan, Malaysia, Liberia, and Tanzania with mixed success.

A.1.1 Application in Malawi

Malawi has initiated a process to develop an e-Government system, but remains in early stages. Makoza (2016) conducted an assessment to determine the level of e-Government in Malawi and found that implementation was in the early stages of presence and interaction. There was slow growth in implementation because of limited integration of public service and most of the ministries and departments have not utilised the internet as an alternative means for supporting delivery of public services.

The National Planning Commission of Malawi has identified digitization as a key strategy to improve services, reduce transaction costs, and enhance government performance (NPC, 2020). Malawi's Digital Economy Strategy suggests that digitising processes, deploying low-cost and interoperable systems, and supporting access to data can enhance government performance and capacity for monitoring and planning. The Strategy claims

that improving government service delivery and effectiveness will accelerate Malawi 15 positions in the global e-Government Development Index to 140th. However, the country is still in the early stages of digitization and faces a lack of coordination between development partners and government, non-uniform information and communication technology (ICT) competency in MDAs, and fragmented and nascent digital government service delivery (NPC, 2020).

Multiple projects are currently being implemented in the area of digital transformation, including the Malawi Digital Foundations Project (Phase one of the Digital Malawi Program), funded by the World Bank, which aims to expand access to the internet by making it more affordable, reliable and available in all parts of the country, and provide support for building the necessary infrastructure and skills for the government to scale up its online public services offerings (World Bank, 2017b). The main components of phase one include:

- Digital Ecosystem: strengthening the laws, regulations, and institutional and human capacity needed to promote ICT infrastructure investment, market competitiveness, digital engagement, job creation, and innovation;
- Digital Connectivity: promoting affordable, high quality Internet access for all citizens by incentivizing private sector network infrastructure development and service provision nationwide; and
- Digital Platforms and Services: building the technical capacity, institutions, and IT infrastructure for the Government to deliver services to citizens and conduct its own business digitally.

Although results have not yet been verified, the program expects to have a number of monetized impacts. The primary impact would result from an additional 3.16 million Internet users by 2027, which is expected to result in a 0.06–0.08 percentage point increase in Malawi's GDP per capita growth in 2027. The project's cost-benefit analysis (CBA) for the improved internet penetration component presents a benefit-cost ratio between 2.21 and 2.35 for an investment of US\$37 million. The expected internal rate of return ranges from 22.6 percent and 23.8 percent (WB Project Appraisal Document, 2017). Some of the additional expected benefits include:

- New Internet subscribers will substitute around 10 percent of their travel time for Internet or SMS/Unstructured Supplementary Service Data (USSD) based applications solutions which, in turn, is projected to generate savings of 0.04 percent of GDP over 10 years.
- Reduction in connectivity costs for the Government and other public institutions by 10 percent and 20 percent, despite the expected increase in volume of traffic.
- Reduction in bulk bandwidth costs from US\$135 per Mbit/s month to US\$25 per Mbit/s month.

A.2 Decentralization

Political decentralization involves the transfer of power and authority on decision making from higher levels of government to lower levels of government, from national to subnational levels. Ideally, this allows citizens and their elected representatives more power in public decision-making, which can better respond to local conditions and needs. Administratively, decentralization can relieve overloaded and over-centralised institutions, permitting decongestion at the centre (Ikhide, 1999).

Citizen service centers (CSCs). One intervention model that has potential to improve delivery of local services are CSCs. CSCs are based on the successful one-stop shop model, which were established to facilitate and expedite private-public sector business processes, such as business registration. Similarly, CSCs offer a central location that people can access locally in order to receive a variety of government services (World Bank, 2017). Additionally, the CSCs can further improve efficiency by employing digital platforms for service delivery alongside the regular physical office hub.

This model has been implemented in dozens of countries worldwide, including Liberia, Kenya, Rwanda, and Mozambique. Liberia began implementing one-stop shops at the county level as part of its Decentralization Support Program in 2015 through a two-tiered structure. Some services, such as birth certificates, psychosocial support, and employment-related assistance are free while others, such as issuing permits and licenses are fee-based. In the first year of implementation, the fee-based services generated revenue exceeding 4 million Liberian dollars (World Bank, 2017).

Direct democracy. A number of programs have also aimed to increase public participation in local decision making to increase accountability at a local level. For example, one study from Indonesia (Olken B, 2010) found that using plebiscites, or elections where citizens can directly vote for their preferred projects, resulted in higher village participation, satisfaction, and likelihood that projects would be implemented in poorer hamlets. A separate Indonesian study looked at the impact of increasing government audits from 4% to 100% for 600 rural road projects and found that it reduced missing expenditures by 8 percentage points.

Publishing performance information. Other studies have examined the impact of increasing political transparency and accountability at a local level in Africa. Humpherys and Weinstein (2012) developed a scorecard with detailed information on the performance of MPs in Uganda. They then randomly selected MPs and disseminated the performance information to their constituencies. Although voters were receptive to the information, there was no evidence that MPs responded to the increased transparency by improving their performance. However, another study in Uganda looked at a campaign aimed at reducing capture of public funds by distributing newspapers to parents and schools with information to monitor local officials handling a large education grant program. It found

evidence that it was successful, with a positive effect on enrolment and learning outcomes (Reinikka and Svensson, 2007).

Training civil society. Finally, Touchton and Wamptton (2014) found that in Zimbabwe, typical accountability programs that tried to place pressure on local officials from the top or from the bottom were not successful. However, they found that training local elites as well as other civil society leaders in a community resulted in ‘horizontal pressure’ on village heads, which led to increased knowledge and compliance with regulated procedures, improved management practices, and increased public trust.

A.2.1 Application in Malawi

The World Bank (2020a) has recently funded a project aimed at improving the accountability, planning, and service delivery for local authorities (LAs) in Malawi. The project recognized that Malawi's national development strategies have identified decentralization as a key vehicle through which service delivery can be strengthened. This project confirms the issues that Malawi faces in implementing decentralization reforms however, it remains too early to verify the impacts of the intervention.

A.3 Public sector capacity development and performance management

As outlined above, Malawi faces a number of challenges in improving the performance, monitoring, and evaluation of civil servants.

A number of studies have examined the impact of establishing performance incentives. In addition to the anti-corruption mechanisms, other programs have tried to create monetary incentives for exceptional performance. This has been found to improve results and address the widespread issue of low wages in the civil service.

Pay for performance. Rwanda implemented a pay-for-performance (P4P) program in the health sector, which was expanded nation-wide in 2008. The results of the program found that absenteeism in healthcare dropped, efficiency increased, and key indicators improved. For example, there was a 14% increase in hospital births, a 27% increase in preventative visits for children under 2, and an 8% increase in prenatal tetanus shots (Centre for Global Development, 2015).

Similarly, in Pakistan, the provincial government in Punjab implemented an incentive scheme where tax-collectors received a revenue-based honorarium for performance above historical benchmarks. An impact evaluation (3ie Evaluation Brief, 2017) found that the treatment group outperformed the control group by 12% in total tax collection while maintaining the same level of service satisfaction among citizens. The model also allowed

the government to digitize collections data, create standard templates, and improve staff monitoring.

Anti-corruption. According to Johnson's (2017) guidance on conducting anti-corruption cost-benefit analyses, anti-corruption interventions are most effective when they are mainstreamed into programs, rather than attempting to take an external-agency or whole-of-government approach. An intervention's success in reducing corruption can measure fraud or financial leakage through audits and public expenditure tracking surveys. For example, Olken (2007) examined the impact of increasing government audits from 4% to 100% on 600 rural road projects in Indonesia, where corruption issues are endemic. It found that increasing auditing reduced "missing expenditures" by 8 percentage points over the implementation period.

A.3.1 Application in Malawi

The UNDP responded to these challenges with the Development Effectiveness and Accountability Programme (DEAP) from 2013-2016 with the aim of promoting a culture of accountability and improving the effective use of resources to achieve results. The key intervention areas included:

- Institutionalizing Results-Based Management practices in the public sector;
- Harmonization and alignment of development planning and budgeting tools including the Medium-Term Expenditure Framework (MTEF), the Public Sector Investment Programme (PSIP) and the national budget to support implementation of MGDS priorities; and
- Strengthening capacity for development assistance management.

A performance evaluation of the program concluded that substantial progress was made in relation to piloting Programme Based Budgeting (PBB) for ministries, departments, and agencies (MDAs), improving coordination of development partners, and installation of the Integrated Performance Management Information System (IPMIS). However, it noted that performance gaps still remain, which may detract from sustainability of results. Specifically, the report suggested that the government develop a more functional, decentralized M&E system, RBM and performance enforcement with improved accountability structures across all levels of government (Chipika and Mwanza, 2017, pp 45). Finally, the evaluation concluded that the program lacked an exit strategy; most activities were heavily reliant on donor funding, also reducing the sustainability of results.

A.4 Public financial management

PFM refers to the way governments manage public resources (revenue and expenditure) and the immediate, medium, and long-term impact of such resources on the economy or society (Andrews et al., 2010). PFM reforms aim to improve functionality along four main

dimensions: prudent fiscal decisions, credible budgets, reliable and efficient resource flows and transactions, and institutionalized accountability (Andrews et al., 2010).

Andrews (2010) analyzed recent PFM assessments in 31 governments to determine how well African PFM systems have contributed to effective public financial management. It found that in general, budget preparation processes are stronger, but budget execution and oversight processes are comparatively weaker. It also concluded that there is a general implementation deficit across all process areas, where laws and processes are put in place, but not followed. Finally, it found that when reforms are narrow and only involve smaller, concentrated sets of actors in implementation, they result in more success than when processes have multiple players. Lawson (2012) also notes that when comparing PFM reform in Malawi, Ghana, and Burkina Faso, although external technical assistance and advisory support can help advance reforms, they are only effective when tied to clear objectives and outputs that were directly linked to the Government's reform programme. Too many independent technical assistance activities and direct, coercive funding for PFM activities with donor-imposed timelines were generally ineffective.

Andrews (2010) also finds that there are different 'PFM performance leagues,' which look and perform very differently. What league a country fits into is determined by many factors, such as economic growth, stability, reform tenure and colonial heritage (Andrews, 2010). For the lower tier leagues, the most effective PFM reforms focus on:

- Formalizing PFM processes through new laws and procedures
- Strengthening central, concentrated entities (like treasuries, debt and budget departments, even recently procurement and internal audit regulatory agencies).
- Formalizing the budget preparation process, including legislative engagement,
- Clarifying and formalizing the tax process,
- Formalizing and strengthening debt management, and
- Improving reporting.

A.4.1 Application in Malawi

Financial Reporting and Oversight Improvement Project (FROIP)

The World Bank (2018) recently funded the Financial Reporting and Oversight Improvement Project (FROIP), which was implemented between 2013-2018. Its original purpose was to improve the internal controls, accounting, reporting, and oversight of the country's finances at the central and decentralized levels in its MDAs. The project was fundamentally affected by the 2013 cashgate crisis, which exposed broader, fundamental and deep-rooted governance problems as well as the immediate public financial management (PFM) problems. The FROIP Implementation Completion and Results Report (World Bank, 2018) cited the most immediate PFM needs in Malawi as delays or the inability of the Government to:

- prepare bank reconciliation statements;

- prepare and publish quarterly in-year financial statements according to the PFM Act;
- prepare and publish audited annual financial statements in accordance with the PFM Act;
- communicate budget ceilings to MDAs and enforce commitments control;
- prevent misapplication of funds due to nonadherence with rules regarding budget virements;
- ensure adequate segregation of duties between end users and system administrators of the IFMIS; and
- enforce managerial accountability to ensure compliance with rules and regulations.

In response to cashgate, FROIP pivoted the program focus to the procurement and implementation of a new Integrated Financial Management Information System (IFMIS). The project was successful in supporting internal and external audit units and made some progress in improving oversight, accounting, and reporting by MDAs; it failed to substantially strengthen internal controls because of the failure to procure a new IFMIS. It was agreed that the Government would proceed with the procurement of the new IFMIS with its own resources.

Other studies have highlighted the potential of IFMIS to improve fiscal reporting and transparency if complimentary systems could be improved as well. For example, the IMF (2017) recommended improving the accounting records, including bank reconciliations, so that the IFMIS could function more effectively. Currently, fiscal reports are prepared based on different and disparate data and not integrated into the IFMIS. This highlights the importance of having supportive practices to gain full utility of new systems.

In addition to the FROIP program, there is also the Foreign, Commonwealth and Development Office (FCDO, 2018) funded project “TRACTION.” It aimed to improve accountability and responsiveness in the delivery of public goods and services through improvements in managing public finances, budgets allocation, and creating structures where more politicians seek to legitimise themselves based on the delivery of public goods.

A.5 Summary of impact evaluation evidence by governance framework

Table A.1: Summary of impact evaluation evidence by governance framework

Political Interests		
Intervention	Location	Impact
MP performance dissemination (Humphreys and Weinstein, 2012)	Uganda	<ul style="list-style-type: none"> Randomly disseminated performance information for MPs to their constituencies in Uganda. Voters were receptive to information, but no impact on MP performance
Rural road program audits (Olken, 2007)	Indonesia	<ul style="list-style-type: none"> Increasing government audits from 4%-100% on 600 rural road projects resulted in 8 percentage point decrease in missing expenditures
Newspaper campaign for education program (Reinikka & Svensson, 2007)	Uganda	<ul style="list-style-type: none"> Newspaper campaign aimed at reducing elite capture of public funds by providing monitoring info to parents Positive effect on learning and enrollment
Texting complaints to politicians (Grossman et al, 2016)	Uganda	<ul style="list-style-type: none"> Text message platform to report service deficiencies combined with mobilization campaign increased participation No linkage to improved service delivery or accountability
Horizontal pressure on local officials (Baldwin et al, 2017)	Zimbabwe	<ul style="list-style-type: none"> Training civil society leaders alongside local officials (village heads) increased knowledge and compliance with regulation, improved management, and increased citizen trust via horizontal pressure
Formal Institutions		
Intervention	Location	Impact
Development Effectiveness and Accountability Programme 2013-2016	Malawi	<ul style="list-style-type: none"> Progress with Programme Based Budgeting for MDAs, improved coordination of development partners, installation of Integrated Financial Management Information System (IFMIS) Performance gaps remain; need a more functional, decentralized M&E system, RBM and performance enforcement, improved accountability structures Program lacked an exit strategy
Financial Reporting and Oversight Improvement Project (FROIP)	Malawi	<ul style="list-style-type: none"> Pivoted to procurement and implementation of a new IFMIS. Supported internal/external audit units, some progress in improving oversight, accounting, and reporting by MDAs Failed to substantially strengthen internal controls because of the failure to procure a new IFMIS. IMF suggests improving the accounting records, including bank reconciliations, so the IFMIS can function more effectively
Bureaucracy		
Intervention	Location	Impact

Pay for Performance Schemes (3ie Evaluation Brief, 2017)	Rwanda Pakistan	<ul style="list-style-type: none"> • P4P increased efficiency, key health indicators in Rwanda • P4P increased tax collection performance in Punjab, Pakistan
Participatory Budgeting (Touchton & Wampler, 2013)	Brazil	<ul style="list-style-type: none"> • Participatory budgeting increased citizen wellbeing in Brazil, strongly associated with increased healthcare spending and civil society organization activity, decrease in infant mortality
Direct democracy in local assemblies (Olken, 2010)	Indonesia	<ul style="list-style-type: none"> • Using plebiscites to decide on local programs increased participation, satisfaction and likelihood that programs would be located in poorer hamlets
E-payments reduce capture of public programs (Banerjee et al., 2015)	India	<ul style="list-style-type: none"> • Reduction of program expenditures by 25% in treatment compared to control while maintaining same employment level • Reduced leakage of funds to ghost beneficiaries • Improved cash management system
Electronic Document Management System (EDMS)	A wide range of countries inc. Jordan, Malaysia, South Africa, Tanzania	<ul style="list-style-type: none"> • Increased operational efficiency of governments in terms of document storage and retrieval, auditing, workflow facilities, searching and publishing • Improved customer services • Reduction in queue times • Saving from storage and retrieval expenses • Improved regulatory compliance • Easy access between the public and the private sectors • Increased information security • Improved ability to measure public sector performance
One-stop center for businesses	Kenya	<ul style="list-style-type: none"> • Providing government services to investors effectively and efficiently • Minimising bureaucracy in the procedure and process of starting a business. • Easy access to information on business opportunities • Reduction in cost of doing business
Easy service centers	Azerbaijan	<ul style="list-style-type: none"> • Delivery of all government services in an uniformed and coordinated manner • Cost and time savings by the public • Increase transparency