INSPECTORATE
OF GOVERNMENT

# STUDY ON THE COST OF CORRUPTION IN UGANDA

DECEMBER 2021

# Foreword

Corruption is one of the major obstacles, that are undermines Uganda's social economic development. Although substantial investments have been made to combat corruption in Uganda, it continues to impose wide ranging costs on the society. Corruption leads to loss of trust in government, poor infrastructure, delays in project implementation, low investments and poor social service delivery and loss of life.

Despite being a clear challenge, there are no comprehensive estimates of the extent and cost of corruption. By failing to measure the cost of corruption and establishing the magnitude of the problem to Ugandans, adequate and appropriate anti-corruption interventions cannot be developed.

The Inspectorate of Government in 2021, commissioned a research on the cost of corruption in Uganda with support from the German Government, through the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmBH.The research was conducted by the Governance Transparency Institute (Hungary) an international and non-partisan think tank in good governance. The information gathered will be used by Government, Civil Society, Private Sector, Development Partners, Policy Makers, University and Tertiary Institutions to formulate and implement strategies to eliminate corruption and address mal-administration so as to improve governance in Uganda.

With the combined effort of all the laws and institutions in place the war against corruption has mainly centered on whistleblowers ,tracking,investigating prosecution,suspects,conviction, incarcerate and recovery of the loot. But the fact is that only a very small percentage of corruption gets detected or even gets to the level of being investigated at all.

There is therefore need to re-brand the war from being an Executive, Parliament, Judiciary, IG, NGOs and anti-corruption agencies' war with citizens of Uganda being mere frustrated spectators, to a Citizens' War.

As we release the report of cost of Corruption in Uganda, it is my hope that relevant authorities and institutions will take the findings seroiusly, have further deliberations to improve on the implementation of strategies for the elimination of corruption in Uganda.

I have the honour to present the Cost of Corruption Report to the people of Uganda and all stakeholders in the fight to eliminate corruption. I implore all stakeholders to read this report and set targets that will help deter, prevent and eliminate corruption in all public institutions.

Beti Kamya Turwomwe
**INSPECTOR GENERAL OF GOVERNMENT**

# About the Authors

In 2021, the Inspectorate of Government, initiated the research on the cost of corruption in Uganda with support from the German Government, through the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmBH. The Government Transparency Institute GTI) a non-partisan think tank researching and advocating good governance was contracted to conduct the study. Born from the research and Civil Society activism of its founder Mihály Fazekas, the Institute was founded in Budapest, Hungary in 2015 to provide an independent, research-driven voice to the causes of transparency, anti-corruption, and good governance in Europe and beyond. It is financed by private donations, European research funds, and government contract work, and works independently of political parties or special interest groups. The aim of the Institute is to better understand the causes, characteristics, and consequences of low-quality governance with interdisciplinary analysis, drawing on political science, economics, law, and data science.

The Institute help citizens and companies hold their governments accountable through the publication of novel datasets and robust analyses. The unique research approach uses Big Data, econometrics, and qualitative methods to understand micro-behaviour, macro-outcomes, and the links between the two. The main themes include corruption, collusion, spending efficiency, administrative quality, public procurement, and legislative processes. We believe that the combination of a thorough qualitative understanding and precise quantitative measurement of the state is the foundation of good governance.

The main authors of the report on cost of corruption were; Mihály Fazekas, Isabelle Adam, Olena Nikulina (Government Transparency Institute)

Mihály Fazekas is an Assistant Professor at the Central European University, Department of Public Policy, with a focus on using Big Data methods to understand the quality of government globally. He is also the Scientific Director of an innovative think-tank, the Government Transparency Institute. He has a PhD from the University of Cambridge where he pioneered Big Data Methods to measure and understand high-level corruption in Central- and Eastern Europe. His research and policy interests revolve around corruption, favouritism, private sector collusion, and government spending efficiency. Methodologically, he has experience in both quantitative and qualitative methods in diverse fields such as public policy, economics, and political science.

He worked at the University of Cambridge as the scientific coordinator of the Horizon 2020 funded project DIGIWHIST which used a Big Data approach to measuring corruption risks, administrative capacity, and transparency in public procurement in 33 European countries. While at University College London, he served as a co-Principal Investigator on the FCDO-funded research project looking at anti-corruption in development aid funded procurement.

He regularly consults the European Commission, Council of Europe, EBRD, OECD, World Bank, and a range of national governments and NGOs across the globe. He led a team of FCDO UK, GTI, and IMF which won the 1st prize at the IMF Anti-Corruption Challenge for measuring corruption and its costs globally.

Isabelle Adam works as an Analyst at GTI. She graduated in Global Public Policy at Central European University in Budapest and IBEI Barcelona, focusing on the governance of development. Previously, she studied Global Project and Change Management at Windesheim Honours College in Zwolle, the Netherlands, and gathered experience abroad in countries such as Uganda, Madagascar and Bolivia conducting field research and working in local NGOs. She works on the DFID-funded research project looking at anti-corruption in government procurement and is involved in research projects looking into the impact of transparency reforms and ways to detect collusion in public procurement.

Olena Nikulina is a Data Scientist at GTI. She holds a MA degree in Sociology (Kyiv-Mohyla Academy)and Public Policy (Central European University).Previously, she worked as a data journalist and an analyst in NGOs in Ukraine. Along with that, she consulted governmental agencies in Ukraine on data collection and analysis. She is interested in working with open data and large governmental data for studying political corruption.

GTI also received advice from the expert pool: Prof. Elizabeth Dávid-Barrett, University of Sussex; Prof. Dina Balabanova, Department of Global Health and Development London UK; Dr. Monica Kirya, Senior Program Advisor at the U4 Anti-Corruption Resource Centre and Dr.Caryn Peiffer, Lecturer in International Public Policy and Governance, School for Policy Studies University of Bristol while compiling the report.

**The findings and analysis in this report is attributed to the authors and by no means constitute the views of the Inspectorate of Government of Uganda or the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH**

# Table of Contents

# Abbreviations and Acronyms

| | |
|---|---|
| **CPI** | Corruption Perception Index |
| **CRI** | Corruption Risk Indicator |
| **DTM** | Data Trucking Mechanism |
| **EABI** | East African Bribery Index |
| **EUR** | European Currency |
| **FDI** | Foreign Direct Investment |
| **GDP** | Gross Domestic Product |
| **GIZ** | Gesellschaft Fur Internationale Zusammenarbeit |
| **IG** | Inspectorate of Government |
| **ILOSTAT** | International Labour Organization Statistics |
| **IMF** | International Monetary Fund |
| **LFPR** | Labour Force Participation Rate |
| **MOFPED** | Ministry of Finance Planning and Economic Development |
| **NEMA** | National Environmental Management Authority |
| **NIS** | National Integrity Survey |
| **NSSF** | National Social Security Fund |
| **PPDA** | Public Procurement and Disposal of Public Assets |
| **RGI** | Resource Governance Index |
| **TI** | Transparency International |
| **UGX** | Uganda Shillings |
| **UNICEF** | United Nations International Children Emergency Fund |
| **USD** | United States Dollar |
| **VAT** | Value Added Tax |

# Executive Summary

## Introduction

The Inspectorate of Government in 2021, initiated the study on the cost of Corruption in Uganda with support from the German Government, through the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmBH. The study was conducted by the Governance Transparency Institute (Hungary) an international and non-partisan think tank Organization in good governance. The overall objective of the study was to generate empirical data on the cost of corruption in Uganda that can be used for dialogue with stakeholders to inform anti-corruption policy formulation, strategies, and programs.

The study was undertaken using available data and included interviews with experts, practitioners and relevant public officials from Uganda and beyond. The measurement of the cost of corruption quantified the extent of corruption and this will lead to the development of adequate anti-corruption strategies to improve service delivery for the different sectors.

The report provides a detailed estimation of costs of corruption in Uganda for 2019. It considers both direct costs all those attributed to corrupt acts, and indirect costs all those that result from corrupt acts through a series of interactions in the longer term. The report also attributes the costs of corruption to different actors bearing the costs, such as citizens, firms, public budget, or society at large. The cost of corruption estimates is based on a variety of methods and data sources and considers the cost of bribery, loss of public services through absenteeism, or broader welfare costs among others. Overall, the estimates on the cost of corruption are considered to be lower bound and conservative estimate of the true cost of corruption in Uganda since some costs are in kind while others are non-measurable due to lack of data. The direct costs attributed to corrupt acts are either a cost to the public budget (either to the Ugandan government or donor governments providing aid to the Ugandan budget); or a cost to citizens who are required to pay a bribe to get a public service.

## Findings

**Taxation:** The study considered the prevalence and size of bribes in taxation including the estimated total cost of bribes paid by citizens to tax officials; bribes and gifts paid by firms to tax officials; the shortfall in income tax collection and indirect domestic taxes as well as the estimated loss for the public budget due to misreporting and underreporting of value-added tax by firms. The total cost of corruption in taxation is estimated to be UGX136 billion per year.

**User fees for Public Utilities:** The level of bribery in water and electricity utilities as well as the corruption costs of unpaid utility fees for the government contributes to a total loss of almost UGX478 billion.

**Natural Resources such as oil, gas, gold, phosphate etc:** Due to corruption in the sector, a significant share of income from natural resources is lost. The estimated cost of corruption in contract royalties is esitimated to be UGX.868 billion per year.

**Weak Environmental regulations and enforcement:** Uganda loses a considerable amount of its renewable and non-renewable resources each year due to weak environmental regulations, enforcement, and overexploitation of the environment by firms and individuals. The estimated loss

of environmental resources due to corruption is UGX 2.28 trillion, while the cost of environmental pollution and degradation amounts to UGX 536.8 billion.

**Absenteeism in Healthcare and Education sectors:** Absenteesism in these sectors makes essential services less accessible for users, as well as reduces their quality. Similarly, wages of absent employees are net losses to the public budget, which fail to create value for citizens. The study couldn't measure general absenteeism in all government sectors due to lack of data but used reliable data on absenteeism in Health and Education sectors. The study shows, that approximately one out of every two health workers is absent on any given day at Healthcare facilities in Uganda, while the rate of teachers' absenteeism in Uganda is 27%. In total, approximately UGX 2.3 trillion are lost annually due to absenteeism in the healthcare and education sectors.

**Cost of bribery in the healthcare and the education sectors:** Bribery as well as the amount of public education funds that are lost due to corruption in the Health Sector amounts to nearly UGX 191 billion per year and in the education sector to about UGX 278 billion per year.

**Corruption in the Security Sector:** Given the limited data in this sector, only one cost was estimated which is the public service users' cost of bribing security officials. Taking the average size of a bribe to be UGX.56,779, the total cost of bribery in this sector is estimated at UGX 91billion per year.

On regulation, the cost of bribery for citizens, e.g., bribes paid to receive a permit, is estimated to be UGX 244 billion. If bribes allow citizens to receive a permit that they are not entitled to, it can lead to loss of government funding, as well as effective service delivery.

**Procurement and Budgeting:** Analysis of the administrative records of public procurement spending showed that UGX 614 billion was lost to corruption in procurement in 2019 alone.

The indirect costs are hard to measure in exact monetary terms. They are a dead-weight loss to society and represent a deviation from the optimal resource allocation of the public budget and more broadly the whole economy. Hence, they represent the net social cost.

**Foreign Direct Investment (FDI):** Many investors avoid countries with high corruption because of the associated risks and costs. Similarly, countries with low levels of corruption hardly invest in countries with high corruption levels. The analysis shows that if corruption could be entirely eradicated, the gain in FDI net inflows would be nearly UGX 18.5 billion.

**Labour markets.** In countries with high corruption, labour markets suffer from limited labour force supply and an inefficient workforce. The analysis forecast a 10.95% improvement in the labour force participation rate (LFPR) if corruption could be fully eliminated. Such a rise in LFPR would translate into UGX 320.5 billion increase in total wages earned annually.

**Corruption in the Judiciary:** High-level transactional corruption in the public sector leads to large indirect costs by undermining society's trust in public institutions and eroding the rule of law. The estimated costs paid by citizens to bribe Judicial Officers amount to UGX 763 billion. To provide context, this corruption cost amounts to 43% of the national spending on the Justice sector in 2019.

**Interest rates:** Uganda's interest rates have been consistently high in the recent decade. In 2018,the real interest rate was 14.7%. Small and medium-sized enterprises in countries with

high levels of corruption are less likely to submit loan applications, which results in high-interest rates, thus hindering economic growth.

In conclusion, full eradication of corruption in Uganda will lead to UGX 9.144 trillion per year, which translates to 23% of the annual government budget. This figure include both direct and in-direct costs of corruption, in other words, corruption cost each Ugandan in 2019 at least UGX 200,000.

Not all the total costs of corruption are borne by the same groups of society, UGX 4.5 trillion per year is borne by the public budget while UGX4.3 trillion per year accrues to public service users, citizens, and firms. Some costs impact everyone (i.e. not attributable to any specific group), these amount to UGX339 billion per year. The highest total cost of corruption was estimated for the environmental protection sector at UGX 2.8 trillion per year and the cost of absenteeism in the public sector amounts to about UGX 2.3 trillion per year.

The savings from eliminating corruption in Uganda hold the potential to significantly improve the provision of public services to the citizens. These cost estimates help direct policy attention to areas where addressing corruption is not only the right thing to do, but also offers the highest savings. Demonstrating anti corruption financial benefits for Ugandans can reignite support for the fight to eliminate corruption and improve public service delivery.

## Chapter One:

# Introduction

## Overview of corruption

Corruption is one of the major obstacles that undermine Uganda's short as well as long-term development. Although substantial investments and efforts to combat corruption in Uganda, the effects of anti-corruption interventions remain modest at best, and corruption continues to impose wide-ranging costs on society. Most widely used, perception-based measures of corruption are inadequate in providing a credible assessment of corrupt phenomena as they miss context specificities and lack the necessary detail. Crucially, by failing to measure the cost of corruption and establishing the magnitude and seriousness of the problem to Ugandans, we cannot develop adequate and appropriate anti-corruption measures.

Corruption affects citizens in their everyday lives as it constrains their access to basic and vitally important public services. According to the Fourth National Integrity Survey Report1, 76% of respondents believed that corruption had increased in the last 12 months. Multiple studies, such as the National Integrity Survey and the East Africa Bribery Index, show that Ugandan citizens often can only receive essential public services, in particular healthcare and education, if they are willing to pay a bribe to the public servants that function as gatekeepers of these services.

As a result, corruption contributes to the worsening situation with poverty and inequality. Along with hindering efforts in poverty alleviation, corruption is one of the major obstacles to the political and economic development of the country. The Fourth National Integrity Survey Report2 found that corruption leads to the loss of trust in government, poor infrastructure, delays in project implementation, and low investments.

### Problem statement

Every year for several decades, 180 countries participate in what is known as the World Corruption Perception Index in which countries are scored and ranked against each other depending on the perceived prevalence of corruption in the country. The score and ranking of Uganda in the recent years has been poor. Studies by most anti-corruption agencies and activists e.g.. World Governance Index, Africa Governance Index, United States Think Tank For Peace, Transparency International, Corruption Perception Index, Afro barometer, Global Anti-corruption Efforts etc have consistently listed Uganda among countries with highest levels of corruption in the world.

The table below gives Uganda's ranking according to Transparency International over the last six years.

1 IGG National Integrity Survey 2020
2 IGG National Integrity Survey 2020

**Table 1 - Uganda's Transparency International Corruption Perception Index and Ranking for the las six years**

| Year | CPI Score out of 100 | Ranking |
|---|---|---|
| 2016 | 27 | 151 / 176 |
| 2017 | 26 | 151 / 180 |
| 2018 | 26 | 149 / 180 |
| 2019 | 28 | 137 / 180 |
| 2020 | 27 | 142 / 180 |
| 2021 | 27 | 144/180 |

Despite being a clear challenge to the country's sustainable development, comprehensive estimates of the extent and cost of corruption are lacking. With support from the German Government, through the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmBH, the IG commissioned a study to the estimate the cost of corruption in Uganda. This research will inform the debate and underpin advocacy for policies and institutions needed to fight corruption, and direct the focus to specific sectors3. At the same time, more detailed and exact knowledge about corruption, e.g. why bribes are paid and requested, can enhance stakeholder dialogue, citizens' demand for accountability and help institutions to assess the impact of targeted anti-corruption measures. It offers an estimate of the overall cost of corruption in Uganda and describes indirect and direct corruption costs for different sectors.

## Objectives of the study

The objective of the study was to generate empirical data on the cost of corruption in Uganda that can be used for dialogue with stakeholders to inform anti-corruption policy formulation, strategies, and programs.

## Methodology

Overall, the following methodological approaches for the research project were used:

- 'Red flag' methodology to analyze public procurement spending.
- Analyzing government administrative records and secondary survey data.
- Desk review of the existing literature on corruption.
- The scope of the study covered available data from 2019 and included interviews with experts, practitioners and relevant public officials from Uganda and beyond. The measurement of the cost of corruption quantified the extent of corruption in all sectors. The data was collected from the period February to December 2021.

3 https://ace.globalintegrity.org/wp-content/uploads/2020/12/GI-ACE-Research-Paper-SFRA.pdf

## Chapter Two:

# Conceptual framework

## Definitions: Typology of corruption

One of the most used definitions of corruption is: "the misuse of public office for private gain" (Rose-Ackerman, 1978) or the "abuse of entrusted power for private gain". Leading international anti-corruption institutions such as Transparency International to employ this definition4. This definition understands corruption within a bureaucratic context and can take place on different scales. The layman often associates corruption with low-level bribery of public officials, in other words, petty corruption. Such petty corruption often refers to street-level bureaucrats being corrupted during public service delivery and involves small favors when public officials meet citizens, with bribery being the most common corruption form (Bardhan, 2006; Charoensukmongkol and Moqbel, 2014).

High-level, grand corruption on the other end of the scale usually involves abuses of high-level power within government institutions to benefit the few at the expense of the many and causes serious and widespread harm to individuals and society5. In other words, grand corruption is perpetrated by corrupt leaders who control state institutions to expropriate the state's wealth with impunity. Hence, grand corruption is inherently difficult to fight since its perpetrators` design and control the system in which they operate.

The Uganda Anti-Corruption Act of 2009 defines corruption in terms of various manifestations such as bribery, solicitations, extortion, embezzlement, diversion of public resources, causing financial loss, false/fraudulent accounting, forgery, ilicit enrichment, influence peddling/conflict of interest, nepotism, favoritism, etc.

The definition of corruption show, that the act of being corrupt is commonly understood as an interaction between different actors where a transaction of funds or favors takes place. However, there are also types of non-transactional misbehaviors that are done individually and not conventionally considered corruption but "shirking" (Gates, Scott & John Brehm, 1997) or sabotage, such as embezzlement, fraud, absenteeism ("neglect of duty"), and ghost workers. For this study, we nevertheless aim to include these types of corruption as well to paint a comprehensive picture of wrongdoing in the public sector that can be considered corruption. For example, teachers that do not show up to work without authorization and receive their salary nonetheless (i.e. absenteeism) is often considered a de facto form of corruption6. The World Bank and Transparency International have diagnosed unauthorised absenteeism as a serious corruption problem in education particularly7. The forms of corruption are distinguished as shown in Table 1 below.

4 https://www.transparency.org/en/what-is-corruption

5 https://www.unodc.org/documents/NGO/Grand_Corruption_definition_with_explanation_19_August _2016_002_1.pdf and https://www.transparency.org/en/corruptionary/grand-corruption

6 e.g. https://openknowledge.worldbank.org/bitstream/handle/10986/6848/399850REPLACEM101OFF ICIAL0USE0ONLY1.pdf?sequence=1&isAllowed=y

7 https://images.transparencycdn.org/images/2013_GCR_Education_ExecSum_EN.pdf and https://blogs.worldbank.org/education/hidden-cost-corruption-teacher-absenteeism-and-loss-schools

**Table 1: Low-level vs. high-level corruption**

| Low-level corruption | High-level corruption |
|---|---|
| • transactional: bribery (extortion as part of it)<br>• non-transactional forms done individually: embezzlement, fraud, absenteeism, ghost workers | • grand / institutional corruption (usually transactional, but can also involve embezzlement) |

## Explanations of corruption

### Corruption as a principal-agent problem

In this framework, corruption can be conceptualized as a principal-agent problem, with citizens usually being principals and government officials being agents that act on citizens' behalf. The officials possess asymmetric information and discretion on the distribution of resources, which potentially allows room for corruption. Consequently, strategies to fight corruption in the sense of the principal-agent problem commonly focus on decreasing the discretionary power of government officials and establishing better oversight and accountability mechanisms (Klitgaard, 1988).

### Corruption as a collective action problem and particularism

Corruption can be defined as a collective action problem when there are many different groups of actors in government, civil society, and the private sector which fail to coordinate an effective anti-corruption response. This may be because doing so is not in their individual best interests or because the costs of effectively coordinating are too high (Persson, Rothstein & Teorell, 2013). As a result of failings of collective action unable to overcome individuals' self-interest, corruption remains systemic (Marquette & Peiffer, 2018). Many societies are characterized by particularism, meaning that people's treatment by the state depends on their position in society. Therefore, corruption in particularistic societies essentially reproduces the existing structures of inequality and uneven distribution of power (Mungiu-Pippidi, 2006)8. Strategies to fight this type of corruption require a more comprehensive approach that focuses on fostering anti-corruption norms and building coalitions against corruption – for example, by educating people or creating tools fostering collective action and coordination.

### Corruption as a problem-solving functionality

Corruption can be understood through the functionality it fulfills, in other words, "the ways in which corruption provides solutions to the everyday problems people face, particularly in resource-scarce environments, problems that often have deep social, structural, economic and political roots" (Marquette & Peiffer, 2021, 2018). This understanding of corruption relates to the idea that corruption is a necessity for many people to fix daily problems. The corruption functionality approach helps to explain why corruption persists, arguing that people believe they must rely on corruption (be it small-scale bribery or grand corruption) to solve the social, economic, or political problems they face. Strategies to fight corruption following this approach focus on better understanding which functions it fulfills and which do and do not need to be filled by anti-corruption efforts. Through this lens, corruption is seen as a logical mechanism that arises to solve problems that are associated with the

*8 Mungiu-Pippidi, 2006*

brokenness of the system– a symptom of a broken system, rather than a cause of it. In consequence, this approach also highlights that tackling corruption can have unintended consequences or 'costs" that may leave people even more vulnerable. Reducing corruption, without fixing the broken system, can result in more harm than good, because it would take away a mechanism people relied upon to navigate the broken system and solve immediate problems they face (Peiffer, Armytage, Marquette & Gumisiriza, 2020). Effective efforts to reduce corruption, from the functionality perspective, deal in the business of solving the problems that corruption is used to deal with (like gaining access to scarce resources or navigating a security issue) rather than addressing corruption directly.

## Costs of corruption

Corruption in the public sector imposes costs on the whole society and constitutes a barrier to public wellbeing and the development of nations. Corruption in the provision of public services and regulation can impose costs in numerous ways. In order to cover the various forms of cost impacts that corruption can take, the study differentiates between direct costs and indirect costs which may be monetizable or non-monetizable. Because some types of corruption costs may represent an income for the counterpart of the corrupt transaction, the study separates our cost of corruption accounting by actor, namely

1) public budgets including the Ugandan government but also international donors,

2) public service users and citizens, and

3) the society at large.

Direct costs include all those costs that can be directly attributed to corrupt acts. This can be either a direct cost to the public budget (hence in our case to the Ugandan government or donor governments providing aid to the Ugandan budget); or a direct cost to the citizens who are required to pay a bribe to get a public service. In the latter case, the cost involves a transfer of money from citizens to public officials, thus the cost to the former constitutes an (approximately) equal income to the latter which would make the net cost to society zero. While it is important to keep in mind that there are incomes from corruption in case of transfers such as bribes, in this case, we measure the total direct cost of corruption to the service user or citizen.

Indirect costs include all those that are only indirectly attributable to the corrupt act and harder to express in exact monetary terms. Indirect costs constitute a dead-weight loss to society, in other words they do not benefit anyone but create a deviation from the optimal resource allocation of the public budget and more broadly in the whole economy. Hence, they represent the net social cost.

In sum, the three types of costs incurred by different groups are:

1. Cost to the public budget (direct cost)
2. Cost to citizens (direct cost)
3. Net social cost due to dead-weight loss (indirect cost)

To illustrate this distinction of direct and indirect costs to the public budget, citizens, and public officials, think of the following example in Box 1.

**Box 1: Real-life example to illustrate different types of corruption costs.**

A car driver gets stopped on the road by a policeman for speeding. Instead of charging the official fine of 100,000 UGX, the policeman accepts a bribe of 30,000 UGX and lets the driver go. In this case, the direct cost of the corrupt act to the public budget equals the loss of the value of the fine — 100,000 UGX — , the cost to the citizen is the amount of the bribe — 30,000 UGX — (while he saved 70,000 UGX compared to the official fine), and the income of the policeman equals the bribe — 30,000 UGX In case the driver was a genuine traffic offender, these are the main costs (although one could argue that letting a traffic offender go for a third of the official fine will not prevent him from speeding again, hence making roads unsafe which would be an indirect net social cost). However, if the policeman was abusing his position to solicit bribes, e.g. targeting potentially wealthy drivers and hence stopping a car on a pretense without any offense actually having occurred, this act also carries an indirect net social cost. The policeman's act of abuse of power and extortion means that he does not fulfill his duty to guard the safety of traffic and punish actual offenders, which may go unnoticed or unpunished, leading to less safe roads which is a dead-weight loss to society. In addition, this carries a potential additional indirect cost of reducing citizens` trust in public institutions.

Below the study further discusses the different areas of direct and indirect costs based on different acts of corruption and whom they affect in what way.

## Direct costs

In terms of direct costs, first, corruption in the public sector is likely to affect the public budget by increasing procurement prices. Price inflation can manifest itself in wages or material costs in the awarded contract or only later during contract implementation. Duflo (2003) shows, for example, that overpricing is one main mechanism to extract rents from public works on water irrigation systems in India. It thus affects the public budget directly. On the other hand, the effect of this in terms of lower quality provision of public infrastructure and services would constitute a deadweight loss and thus an indirect cost to society.

Second, corruption in the public sector is likely to affect the public budget by distorting the public spending structure, in particular biasing public investment toward high-value, high-complexity investments and also toward new infrastructure, as opposed to spending on maintenance and operations. In high-value projects, even a small fraction of the investment value amounts to large corruption rents, making them particularly attractive (Rose-Ackerman, 1999; Transparency International, 2008). This expected distortion is demonstrated by Tanzi and Davoodi (1997), who show that a higher level of perceived corruption in a country is associated with increased public investment, but with lower expenditures on operations and maintenance. Similarly, Mauro (1998) shows that country-level corruption is negatively associated with the share of education-related government expenditure in GDP, and this relationship is robust to a number of alternative explanations such as prior level of development. Again, this type of direct cost carries indirect deadweight losses to society as a consequence.

Third, there seems to be a correlation between a higher incidence of corruption and increased delays and low-quality provision of public infrastructure and services. The corruption rent is extracted by

providing infrastructure or services of lower quality than contracted or delaying the works. This constitutes a direct cost to the public budget while also implying an indirect cost to society. Flyvbjerg et al. (2004) point out that delayed provision and long implementation also create ideal conditions for inflating costs. Weak supervision and enforcement of the initial contracts give rise to corruption risks, and while construction delays are easy to detect, assessing implementation quality is less straightforward (e.g. effects are only visible after years).

Fourth, another direct cost of corruption to the public budget is the revenue the state loses when fines go unpaid because the official who should be handing out the fine takes a bribe instead. At the same time, this corrupt act also constitutes a direct cost to the citizen who pays the bribe, as illustrated in the example earlier. Similar costs go along with areas of administration where public officials accept bribes instead of the official fees for licenses (e.g. hunting or fishing). However, these incomes generally do not represent a major revenue source. The problem becomes larger in magnitude where national tax revenue collection is concerned, and the cost of tax revenue is lost due to corruption. Studies in various developing countries indicate that it is not uncommon that half or more of the taxes that should be collected in fact never arrive at government treasuries due to corruption and tax evasion. This tax-base erosion is particularly damaging since insufficient domestic revenue mobilization is considered the root of the adjustment and growth problems faced by many developing countries[9].

Fifth, the loss of wages of public employees, such as teachers and healthcare workers, that do not show up to work is a direct cost of absenteeism to the public budget. This act of corruption also constitutes a direct cost to the citizens losing out on hours of education or needed healthcare services. The World Bank found that teacher absenteeism accounts for the loss of up to one-quarter of primary school spending worldwide. Teacher absenteeism represents a direct cost to students losing out in terms of reduced teaching time which negatively influences the overall quality of education (as an indirect cost). This cost especially hurts those students from disadvantaged backgrounds for whom school is the only avenue for economic and social advancement[10]. In addition, where corruption in schools involves abusive behavior (e.g. "sextortion") this can have direct effects on students' physical and mental wellbeing, leading to higher drop-out rates which overall jeopardizes economic development and social advancement (Mieszczanski, 2018). Corruption in education most affects the poor and disadvantaged, particularly women and minorities, who are unable to bear the hidden cost of admissions or play by the rules that determine success. The poor are also least equipped to challenge corrupt behavior and vulnerable members of the society lose the opportunity to realize their full potential, and as an indirect effect, social inequality is maintained[11].
Similarly, missing service delivery in healthcare due to absent staff or poor access to drugs due to corruption is a direct cost of corruption affecting individual citizens seeking treatment. The presence of corruption in any one of the critical decision points in the pharmaceutical system from manufacture to sales can limit the access to quality medicines, thereby indirectly affecting overall population health. A U4 study identified two major corruption risks along the drug supply chain in Uganda: the lack of National Medical Stores' accountability and transparency regarding the manner in which the budget is being executed, and drug pilferage.12 Björkman and Svensson

9 https://www.cmi.no/publications/file/2039-corruption-in-revenue-administration.pdf

10 https://blogs.worldbank.org/education/hidden-cost-corruption-teacher-absenteeism-and-loss-schools

11 https://images.transparencycdn.org/images/2013_GCR_Education_ExecSum_EN.pdf

12 https://www.u4.no/publications/using-power-and-influence-analysis-to-address-corruption-risks-the- case-of-the-ugandan-drug-supply-chain.pdf

(2009) showed in a randomized controlled trial that countering corruption in public primary health care providers in Uganda through community-based monitoring led to a 15% reduction in medicines going missing from the facilities, and a 13% reduction in staff absenteeism. While corruption in the public health system can affect a country's entire population, it is typically the poor that are most vulnerable to its detrimental effects.13 As Ackers, Ioannou & Ackers-Johnson (2016) show, staff absenteeism in health facilities is a major factor contributing to maternal and neonatal mortality in Uganda. In addition, corruption has generally been shown to be correlated with poor progress on HIV/AIDS outcomes (Lee, Yang & Kang, 2016) as well as cancer care in Africa (Mostert et al., 2015).

## Indirect costs

Following these numerous direct costs, corruption takes avenues leading to deadweight losses to society, constituting a net social cost. Ultimately, public sector corruption carries the large indirect cost of deteriorating citizens' trust in public institutions and causes the loss of legitimacy and credibility of the State in the eyes of citizens. It also corrodes justice and the rule of law, e.g. when minor offenses, as well as serious criminal acts, can go unpunished through the payment of bribes or other undue influence on the institutions of justice.

On the level of the national economy, the harmful effects of corruption on countries' economic development are widely acknowledged in the economics literature. Using formal as well as empirical approaches several authors show that corruption detracts investors, reduces the productivity of public expenditures, distorts the allocation of resources, and thus lowers economic growth.

Corruption can affect FDI directly by damaging the perception of stability and quality of investment potential in host countries. Investors may prefer not to invest because of extra costs. The view that corruption deters FDI is empirically supported by studies of Wei (1999, 2000) and Smarzynska and Wei (2000). Similarly, countries with high corruption levels may face difficulties in accessing international financial means and higher interest rates due to lower international credit ratings.

In addition, corruption in the healthcare sector leads to overall poor health conditions and higher mortality in the general population. Corruption in the health sector kills an estimated 140,000 children a year globally (Hanf et al., 2011). Björkman and Svensson (2009) showed in a randomized controlled trial that countering corruption in public primary health care providers in Uganda through community-based monitoring reduced mortality by 33% for children under five years old. Corruption has also been shown to fuel the global rise in anti-microbial resistance (Collignon et al., 2015), and hinder the fight against HIV/AIDS and other diseases14.

Lastly, corruption in the education sector negatively impacts the level of education in the society as Gupta, Davoodi, and Tiongson (2000) found that countries with higher levels of corruption tend to have higher dropout rates and Reinikka and Svensson (2005, 2011) show that a newspaper campaign in Uganda reduced the capture of primary school capitation grants which, in turn, improved educational outcomes in terms of increased enrollment and learning outcomes. In the long run, costs of corruption in education also pose an indirect cost to the countries' long-term economic

13 https://openknowledge.worldbank.org/bitstream/handle/10986/6848/399850REPLACE M101OFFICIAL0USE0ONLY1.pdf?sequence=1&isAllowed=y

14 https://www.cgdev.org/sites/default/files/CGD-Working-Paper-395-Friedman-Corruption-AIDS-Deaths.pdf , http://ti-health.org/wp-content/uploads/2019/03/IgnoredPandemic-WEB-v3.pdf

performance due to an undereducated workforce. In addition, one result of obtaining degrees and other qualifications based on bribes, rather than on ability, is that unsuitable people are allocated to jobs and positions of authority.

**Table 2 below sums up the types of direct and indirect costs of corruption discussed above which may or may not be monetizable.**

Table 2: Direct and indirect corruption cost types

| **Direct costs** (= costs to the public budget as well as to citizens) | **Indirect costs** (=dead weight loss) |
|---|---|
| • Overpricing of public goods, works, and services, inflating public procurement prices for a given quality<br>• Distorting project design<br>• Contributing to delayed and low-quality provision, or even non-completion/non-provision<br>• Lost revenue for state (e.g. in case of taxes or fines that remain unpaid)<br>• Lost wages to public employees (e.g. salaries of doctors/teachers paid despite unauthorised absence)<br>• Lost education due to teacher absenteeism<br>• Physical and mental wellbeing of students<br>• Lost health due to missing service delivery and drugs access in healthcare15 | • Deteriorating trust in public institutions<br>• Corroding justice and rule of law<br>• Loss of productivity in the public & private sectors<br>• Distortions in the economy and public spending structure (e.g. new built rather than maintenance)<br>• Loss of foreign direct investment<br>• Higher interest rates for the government (due to lower country credit rating)<br>• Poor health conditions and higher mortality in the general population<br>• Poor education leading to social inequality and impacting long-term economic performance of society (undereducated workforce) |

While these different forms of corruption costs in the public sector may occur jointly or substitute for each other, they are likely to carry different social and economic costs. If corruption only increases the price of services or infrastructure without impacting project design, quality, delivery time, or overall completion, the total social cost would be close to the direct cost. However, if corruption's direct impact goes beyond prices, additional indirect costs are likely inflicted on the society, such as non-available public infrastructure or unreliable provision, which can pose serious risks in terms of indirect costs to human health and wellbeing. These indirect social and economic costs are potentially larger in magnitude but also harder to isolate, measure and attribute to corruption. Nevertheless, the study directs efforts into exploring numerous indirect costs to ensure that the research provides an understanding of the magnitude of the potential cost of corruption.

When measuring all these types of corruption costs, the study considered scenarios to illustrate the potential impact of reducing costs. There are two types of scenarios. First, to estimate the effects of corruption reduction if the level of corruption in Uganda dropped to virtually zero. Second, to model the corruption costs drop in Uganda by nearly 30%. This scenario is defined by the comparison of Uganda to countries in the region with comparable levels of national income yet

15 While the first study will cover Uganda as a whole including all sectors of the economy, the second and third study will focus especially on the cost of corruption in the health and education sectors.

lower corruption - Namibia and South Africa. According to the Corruption Perceptions Index16, these countries demonstrate approximately one-third higher scores compared to Uganda. The scenario of a nearly 30% drop in corruption level provides a realistic estimate that might be more actionable for policymakers.

Referring back to the 'corruption-as-problem-solving' approach above, it must be highlighted that such accounting of the cost of corruption reduction assumes that when corruption is eliminated formal institutions are able to fulfill the same governance functionalities (e.g. once bribing for getting ahead on the patient list is eliminated, a formal and fair system for putting people in the waiting queue steps in). In the absence of such an assumption lowering corruption could also increase some costs which cannot precisely be estimated here.

## Chapter Three:

# Methodology

## Corruption & its costs

In order to structure the methodological approach and develop a measurement framework that covers corruption costs comprehensively, the focus was on partial effects that can be summed up to arrive at the total cost. In this logic, differentiates many types of corruption costs based on different areas of government and assign to each a measurement method. Focusing on the partial effects of corruption by assigning one type of corruption and one cost effect, we create a comprehensive framework that generates the overall cost of corruption, but largely neglects spillover and interaction effects — the impact of the certain corruption type for other sectors and actors. However, when analyzing macro-level indirect effects, such as economic outcomes and political institutional costs, we are likely to account for spillover and interaction effects which might lead to smaller areas where we double count the cost of a certain corruption type. Unfortunately, in the absence of comprehensive studies which consider spillover and interaction effects among different corruption costs, it is not possible to fully account for double counting of the specific corruption costs. Where possible, the aim is to precisely know the amount of double counting and deduct the amount from the headline figure. Where this is not possible, this poses a limitation to the research that can be minimized by nailing down individual or partial effects as precisely as possible. Moreover, the time periods that were covered for the specific corruption-cost type estimates differr due to the varying availability of data and empirical studies drawn on.

Following the conceptual framework, corruption cost types are distinguished by:

- the corruption level: low-level or high-level,
- the corruption nature: transactional or non-transactional,
- the cost type: direct or indirect, and
- the cost form: financial or in-kind.

Corruption costs types were grouped according to the various areas of government activities where corruption occurs:

- government revenues: taxation, user fees, and natural resource rents;
- public service provision: healthcare, education, welfare, and security;
- government regulation: environmental protection, and permits/certificates;
- government procurement and budgeting;
- government subsidies: from government to companies or citizens;

as well as systemic impacts of corruption on

- the entire economy, including FDI, interest rates, the labour market, and productivity, and
- political institutions at large, including trust in institutions and the rule of law.

Each corruption-cost type is discussed in the sections below under Direct and Indirect Corruption-Cost Types. For an overview of all the corruption-cost types and their assigned methods, see Annex D.

Methods used

Using a mixed-methods approach, the aim was to combine as comprehensive as possible measurement of low- and high-level incidences of corruption, given data constraints.

## Administrative data

### Red flag methodology to analyse procurement data

The study used a dataset that had already been compiled on national spending – which includes sectoral procurement data on healthcare and education – to identify corruption risks and estimate the costs of these risks. This estimation will build on cost and extend the award-winning Corruption Risk Tracker methodology[17] (recent winner of the IMF Anti-Corruption Challenge) covering almost all procurement spending, which amounts to about 10% of annual Ugandan GDP[18]. The current dataset contains 50,000 contracts obtained from the government's open data portal[19] covering the years 2015-2020 with an updated version produced for this analysis.

For this research, corruption proxies were used that are measurable in procurement data to analyze the public spending structure, the prices paid for procurement, and the quality of delivery (in terms of cost overrun after contract award). The details of the red flag methodology are explained in Annex C.

### Other government administrative data

Building on the records of the Inspectorate of Government and its access to government documents primary data was combined with government administrative data wherever possible. This enabled refining and validation of the estimates of types of corruption and costs specific to the machinery of the Ugandan government, e.g., in the case of absenteeism in healthcare and education.

### Review of literature and policy documents

Data was collected, systematized and the existing literature reviewed and corruption analyses made. This did not only guide the research process and support the data collection and analysis, but also fill in crucial gaps. For example, a number of macro variables capturing indirect corruption costs such as the impact on foreign direct investment are best measured in a cross-country context; hence applying existing cross-country estimates to Uganda gives the highest quality corruption impact estimate. Nevertheless, the study was mindful of the Ugandan context and list the limitations of these estimates.

17 http://www.govtransparency.eu/index.php/2020/10/08/the-imf-anti-corruption-challenge/
18 https://ti-health.org/content/modelling-reform-strategies-for-open-contracting-in-low-and-middle-inco me-countries/
19 https://gpp.ppda.go.ug/#/public/open-data/

## Survey data

In order to estimate the costs of corruption, also the raw data was analyzed from the existing representative surveys such as East Africa Bribery Index, National Integrity Survey, etc. For instance, the cost for citizens was developed due to bribery in tax collection using the data the level of bribery rates in taxation and size of bribes from the 2017 East Africa Bribery Index20. While this method is especially valuable for the areas where data was not collected, it was also used to quantify the costs of bribery in the education and healthcare sectors to complement data collected.

## Chapter Four:

# Detailed cost calculations

Below, each of the main areas of corruption costs such as taxation or public procurement is discussed in-depth, reviewing the most relevant literature, offering details on cost calculations and the assumptions used, and outlining the estimated corruption costs. All numbers henceforth are calculated as the annual cost of corruption, whenever possible using data from 2019. The UGX and EUR values are in real terms referring to 2019. While typically the average cost estimate was included, whenever possible only estimate a band of likely costs (lower-upper bound estimate), the lower bound estimate was included in the overview sheet. While this is a conservative approach it is more likely to yield a robust overall cost figure.

## Direct corruption-cost types

### Government revenues

In many low- and middle-income countries, corruption in the collection of government revenues has profoundly harmful effects on the economy and living standards. As the government does not receive the full value of taxes, fees, and royalties, it does not have the ability to provide necessary services, such as healthcare and education (Easterly et al., 1999). Tax evasion is part of a "vicious cycle" many developing countries experience, where corruption leads to low quality of provided public goods, which means the public is less willing to use public services and pay taxes for them, which in turn leads to lost government revenues and hence reinforces its inability to provide quality services (Easterly, Alesina & Baqir, 1999).

### Taxation

The first group of direct costs for government revenues comes from the corruption in the administration of taxes. In this study, the focus is on two relevant costs: 1) the cost of bribery, and 2) the loss of taxes as government revenue.

The first one is the cost for citizens due to bribery in tax collection. In other words, if a citizen makes an illicit payment to an official to avoid paying taxes, he or she bears the cost of this bribe. Evidence from a prior survey, the 2017 East Africa Bribery Index by Transparency International Kenya[21], provides the level of bribery rates in taxation and the average amounts of bribes. According to the survey data, the prevalence of bribery in tax services (the likelihood that somebody would pay a bribe upon interacting with the sector) was 9.3% and the average size of the bribe was UGX 139,063. For the whole population of Uganda, considering the share of people interacting with tax services and adjusting to the 2019 inflation rates, this results in a total cost for citizens due to bribery

21 https://tikenya.org/wp-content/uploads/2017/09/East-African-Bribery-Index-EABI-2017-1-1.pdf - the data on bribery in Uganda in the report was supplemented by a background dataset received from TI Kenya.

in tax collection of UGX 26.8 billion.

Businesses also experience bribery in tax collection. According to the World Bank's Enterprise Surveys[22], 22% of firms experienced at least one bribe payment request, and 14% of firms reported being expected to give gifts to tax officials. In the absence of data about the value of bribes and gifts that businesses give to tax officials, the study was unable to develop a precise cost estimate of bribery in tax collection for firms.

With that, an illicit payment from a citizen or a company to an official generates gains for both sides of the transaction as the cost of paying a bribe is most likely cheaper than taxes. In this case, the cost of corruption in taxation is paid by the society in the amount of the loss of government revenue. In addition, officials may use loopholes in taxation to acquire illicit gains or/and advantage politically-connected firms. Several studies have found that politically connected firms are more likely to evade taxes leading to significant fiscal losses (Rijkers et al., 2016; Teera, 2003).

Evidence suggests that corruption is an important incentive for tax evasion among citizens and firms in Uganda. From the citizens' perspective, it erodes trust in the government and lowers the quality of public services[23]. While for the firms, corruption contributes to a poor business environment[24]. In the absence of more precise data on the nature of tax evasion, it was assumed that this involves some form of corruption.

The available administrative data was used to estimate the cost of tax evasion for government revenues in Uganda. The Ugandan Ministry of Finance, Planning, and Economic Development (MOFPED) provides in the Accountability Sector Annual Report 2019/20 numbers on tax payments and losses of tax revenue. In general, Uganda only has 1.5 million registered taxpayers (in a total population of 44 million, and a working-age population of approx. 23 million[25]). MOFPED registers a shortfall of taxes in income tax collection and indirect domestic taxes (such as VAT and excise duty) which amount to 1.7 billion UGX In the absence of more precise data on the nature of the shortfall and the circumstances of tax evasion, it was assumed that this involves some form of corruption.

The 2017 report "An analysis of discrepancies in tax declarations submitted under the value-added tax in Uganda"[26] investigated underreporting and misreporting of value added by firms in Uganda. Based on the administrative records of monthly declarations submitted by VAT-registered firms, the study finds massive underreporting and misreporting of value added by companies. The estimated annual loss for the public budget due to misreporting and underreporting is found to be nearly UGX 367 billion.

It is important to acknowledge that the above-outlined micro estimates do not allow to approximate the potential full cost of tax evasion as they represent certain types of taxes. Furthermore, these figures do not include the cost of tax evasion coming from the informal sector of the economy — businesses that do not register their activity and, therefore, do not submit tax declarations.

The tax-to-GDP ratio indicator allows for discussion of the upper bound estimate of the potential costs of corruption in tax evasion. In the recent decade, Uganda has been demonstrating a ratio

22 https://www.enterprisesurveys.org/en/data/exploreeconomies/2013/uganda#corruption
23 https://www.tandfonline.com/doi/full/10.1080/23311975.2020.1827699
24 https://www.researchgate.net/publication/304337128_Tax_Evasion_and_the_Business_Environment_in_Uganda
25 https://www.statista.com/statistics/447698/age-structure-in-uganda/
26 https://www.theigc.org/wp-content/uploads/2017/05/Almunia-et-al-2017-final-report.pdf

of nearly 12%[27]. In 2019/2020, it increased to 12.5% in 2019/2020 but remained lower than the average ratio of 16.5% among 30 African countries[28], as well as the Government target of 16%[29]. Considering the real and the target tax-to-GDP ratio, the potential costs of tax evasion could be up to 3.5% of GDP. However, there are two main reasons why this estimate cannot be directly used in our corruption cost calculations. One reason is that this figure cannot be fully attributed to corruption as the gap between the real and expected tax-to-GDP ratio also appears due to the limited tax collection capacity of the state. The second reason is that there is no firm empirical basis for the 16% tax-to-GDP ratio, it may be higher or lower for particular reasons differentiating Uganda from the average of other African economies.

In sum, as Table 3 shows, the total cost of corruption estimation, or in other words, the savings from the eradication of corruption in taxation, amounts to UGX 135,677,997,715. Only reducing corruption by a third would lead to savings for the state of about UGX 44,773,739,246.

**Table 3: Summary of corruption cost estimates for tax system in UGX, 2019, annual figures:**

| Cost description | Actor bearing cost | Saving scenario 1 (eradicating corruption 100%) | Saving scenario 2 (reducing corruption by 33%) |
|---|---|---|---|
| Cost of bribing tax official | Citizen | 26,772,719,937 | 8,834,997,579 |
| Cost of bribing tax official | Firms | non-measurable due to lack of data | non-measurable due to lack of data |
| Loss of govt tax revenue due to tax evasion (citizens) | Public budget | 1,740,500,000 | 574,365,000 |
| Loss of govt tax revenue due to tax evasion (firms) | Public budget | 107,164,777,778 | 35,364,376,667 |
| **TOTAL COST** | | **135,677,997,715** | **44,773,739,246** |

## User fees for public utilities

In the public utility sector, a lack of integrity can take a variety of forms with different effects such as unaccounted for water, low reporting of faults, ignored complaints from consumers, and non-payment of bills (Gulati & Rao, 2007). Each of these outcomes of low-level corruption typically results from bribes paid by the client, private household, or company, to low-level bureaucrats of the utility company. Nevertheless, mid to high-ranking officials in the utility company may also support or even facilitate such a scheme in order to further extract rents for themselves or simply to keep underpaid bureaucrats at bay (Fazekas, Allakulov, Sanchez & Aje, 2021). Payments are made in exchange for several services, such as expediting applications for new

27https://www.oecd.org/countries/uganda/revenue-statistics-africa-uganda.pdf
28 https://www.oecd.org/countries/uganda/revenue-statistics-africa-uganda.pdf
29 https://documents1.worldbank.org/curated/en/425631526323380885/pdf/126184-WP-PUBLIC-FinalReportUgandaEconomicUpdate.pdf

connections; quick attention to supply works and repair work; the falsification of bills; and ignoring illegal service connections. This also impacts a range of business processes as industrial actors require water and electricity to produce goods or in order to provide their services (Makoni, 2014). While there is little hard evidence on the incidence and costs of such corruption within or across countries, there is little disagreement that these costs can be high and that petty corruption is most prevalent at the interface with customers and is one of the reasons for the low payment collection rates reported by many utility companies in developing countries (Lovei, 2000).

Hence, bribery in user fee systems for public utilities benefits recipients of the unauthorized payments and potentially also benefits citizens or businesses paying a lower price for a public service compared to the official fee, but disadvantages government revenues. Both scenarios undermine the capacities of public utility facilities to provide services to citizens.

To estimate the cost of bribery for citizens, the study relied on existing surveys. Evidence from the 2017 East Africa Bribery Index by Transparency International Kenya, provides us with the level of bribery rates in water and electricity utilities and the average amounts of bribes. According to the survey data, the prevalence of bribery in utilities (the likelihood that somebody would pay a bribe upon interacting with the sector) was 16.8% and the average size of the bribe was UGX 40,990. For the whole population of Uganda, considering the share of the population interacting with utilities and adjusting to the 2019 inflation rates, this results in a total cost for citizens due to bribery in public utilities of UGX 53.7 billion.

To estimate the cost of unpaid utility fees for the public budget, administrative data by the Uganda National Water and Sewerage Corporation and the Electricity Regulatory Authority were used. Both provide data on energy and water sales as well as losses and billing inefficiencies, resulting in a total loss of UGX 424.5 billion due to inefficiencies. While the study cannot certainly attribute all inefficiencies directly as a result of bribery, it was assumed that they most likely involve some form of corruption.

In sum, as Table 4 shows, the total cost of corruption estimation, or in other words, the savings from the eradication of corruption in public utility user fees, amounts to UGX 478,229,243,709. Only reducing corruption by a third would lead to savings for the state of about UGX 157,815,650,424.

**Table 4: Summary of corruption cost estimates for public utilities in UGX, 2019, annual figures:**

| Cost description | Actor bearing cost | Saving scenario 1 (eradicating corruption 100%) | Saving scenario 2 (reducing corruption by 33%) |
|---|---|---|---|
| Loss of government revenue from fees for public utilities | Public budget | 424,529,391,990 | 140,094,699,357 |
| Cost of bribing official | Citizen | 53,699,851,718 | 17,720,951,067 |
| **TOTAL COST** | | **478,229,243,709** | **157,815,650,424** |

## Natural resource rents

In resource-rich countries, a lack of transparency and competition in the allocation of rights to use natural resources facilitates high-level, transactional corruption when top officials exchange the licenses to exploit natural resources for bribes for private benefits (Søreide and Kolstad, 2009). As a result, corruption introduces costs for citizens, firms, and a public budget.

Uganda is rich in natural resource wealth such as oil, gas, gold, phosphate, etc. However, multiple evidence[30] suggests that, as a result of corruption and misgovernance in the sector, a significant share of income from natural resources is lost for the society. According to the Resource Governance Index (RGI)[31], the country shows weak performance in the governance of the natural resource, in regard to corruption control in licensing and revenue management.

Firstly, the lack of transparency and fair competition creates incentives for firms to make unauthorized payments in exchange for access to natural resources and more favorable conditions for operations. For instance, in 2017, a Chinese company at Kilembe Mines was suspected of giving a 1 million USD bribe to a Minister to influence mining licenses allocation. In 2016, a local businessman was reported to have paid 10 thousand USD to be able to meet with the President in order to ask for permission for iron export despite a ban[32]. In such cases, the cost of corruption is paid by the companies and it is equal to the value of bribes. Based on the few reported cases[33] of bribery, it was at least around UGX 8.8 billion by a conservative estimate.

Secondly, through corruption and collusion companies may receive unfair advantages to extract resources, favorable tax treatment, and royalty reduction. Consequently, natural resource rents are captured by private interests while the citizens bear the cost equivalent to unpaid taxes and royalties. For instance, in the gold mining sector, there are multiple known cases of gold extraction and export without paying royalties. For instance, in 2016, over 200 million USD worth of gold was extracted without a license by the African Gold Refinery[34]. The sum of money lost by citizens based only on the known cases[35] corruption in royalties allows a modest estimate of more than UGX 859 billion .

Additionally, the costs for society at large and companies, high-level, transactional corruption in the natural resources sector facilitates violations of the environment protection by the companies (Cole, 2007). For instance, the allocation of licenses for mining in Uganda's protected areas, such as national parks, poses a threat to unique ecosystems[36]. As the Ugandan economy is strongly dependent on environmental resources, damaging the environment leads to significant losses for the public budget. However, it is hard to provide a numerical estimate for costs of environmental damage caused by corruption in the natural resource sector in Uganda as there are no relevant estimates available.

In total, as Table 5 shows, the cost of corruption in the natural resource sector, based on the known cases, equals UGX 868,005,508,547. In turn, the potential savings of reducing corruption by 33% amounts to UGX 286,441,817,821.

30 https://www.globalwitness.org/en/campaigns/oil-gas-and-mining/uganda-undermined/
31 https://resourcegovernanceindex.org/country-profiles/UGA/oil-gas?years=2017
32 https://www.globalwitness.org/en/campaigns/oil-gas-and-mining/uganda-undermined, p. 43
33 Collected from "Uganda: Undermined" Report by Global Witness (2017) and "Uganda Corruption Report" by GAN (2020).
34 https://www.globalwitness.org/en/campaigns/oil-gas-and-mining/uganda-undermined/, p. 29
35 Collected from "Uganda: Undermined" Report by Global Witness (2017) and "Uganda Corruption Report" by GAN (2020).
36 https://www.u4.no/publication/uganda-overview-of-corruption-and-anti-corruption-2018.pdf

**Table 5: Summary of corruption cost estimates in natural resource sector in UGX, 2019, low-bound estimate based on known cases, annual figures:**

| Cost description | Actor bearing cost | Saving scenario 1 (eradicating corruption 100%) | Saving scenario 2 (reducing corruption by 33%) |
|---|---|---|---|
| Corruption in contract royalties | Citizens | 859,208,000,000 | 283,538,640,000 |
| Corruption in contract royalties (cost of paying bribes) | Companies | 8,797,508,547 | 2,903,177,821 |
| Cost in terms of environmental degradation Public budget | | non-measurable due to lack of data | non-measurable due to lack of data |
| **TOTAL COST** | | **868,005,508,547** | **286,441,817,821** |

## Environmental protection

Corruption has a negative impact on the environment, leading to losses of environmental resources, misappropriation of public environment funds, and degradation of ecosystems. Multiple cross-country studies show that corruption leads to weaker environmental regulations and enforcement, and consequently, negative outcomes such as high pollution, illegal wildlife trade, deforestation, decreased biodiversity, soil productivity loss (Cole 2007, Welsch 2004). Due to overexploitation of the environment by firms and individuals, Uganda loses its renewable and nonrenewable resources each year. The resulting costs are paid by the public budget and citizens.

Ugandan economy heavily relies on the environment and biodiversity[37]. Agriculture sector account for around 28% of Ugandan GDP (2017 estimate)[38] and 65% of employment[39]. Products like wood, coffee, precious stones and metals, mineral fuels and oils constitute the largest shares of the Ugandan export[40]. Considering these figures, loss of environmental resources may result in extreme costs for the public budget in the future. The 17th edition of the World Bank "Uganda Economic Update"[41] suggests that soil erosion and land degradation cost 17% of GDP by 2019. This estimate is equal to UGX 21.5 trillion which represents a cost for the whole economy. However, only a part of these costs may be attributed to corruption, other parts can be down to weak regulations, or lack of investment into monitoring among others.

Another cost of corruption for the government budget occurs due to the loss of environment funds. In countries with high levels of corruption, there is a higher risk that allocation of public funds to environmental projects will fail to improve environmental outcomes as officials may direct the funds into creating rent-seeking opportunities (Lapatinas et al., 2019). However, the data about allocation and implementation of the public environment funds in Uganda, as well as information about bribery and embezzlement of such funds, are missing. Therefore, the study was not able to produce reliable estimates of the lost governmental environment funds due to corruption.

While environmental degradation brings significant losses for the public budget, it mainly puts costs

37 https://www.nema.go.ug/projects/national-state-environment-report-2018-2019, p.4
38 https://www.indexmundi.com/uganda/gdp_composition_by_sector.html
39 https://www.agriculture.go.ug/agricultural-sector-potential/
40 https://tradingeconomics.com/uganda/exports-by-category
41 https://documents.worldbank.org/en/publication/documents-reports/documentdetail/265371623083730798

on citizens. Firstly, it deteriorates incomes and wellbeing of citizens as the Ugandans heavily rely on environmental resources in their everyday activities. For instance, capture and overexploitation of wetlands by farms and enterprises restricts access of ordinary citizens to water and fishery. Secondly, environmental degradation leads to damaging consequences such as floods and deforested slopes. For instance, the costs of the massive flooding in 2007 was approximately UGX 358 billion[42].


***Flooding on section of roads in Kampala due to environmental degradation***

According to the most recent available estimate provided by the National Environment Management Authority (NEMA)[43], the economic costs of environmental degradation for Uganda were between 4 and 12% of GDP. Extrapolation of these estimates for 2019 figures results in total losses from UGX 5.1 trillion to UGX 15.2 trillion from environmental degradation. Once again, only some of these costs can be attributed to corruption.

Since both mentioned estimates include losses due to soil erosion, it introduces some double counting. Acknowledging this issue, a lower-bound of both estimates is used.

Although the available studies do not allow us to estimate the precise share of corruption in the environmental degradation costs, the study hypothesis is that the contribution of corruption is approximately 10%. This estimate is coming from the number of studies on the role of corruption in environment degradation. For instance, in the logging sector, 10% of the worldwide trade in wood products occurs through illegal forest activities and corruption[44]. Tanzi (1998) suggests that, in countries with high levels of corruption, the average added cost of corruption in the forest sector is 20%.

42 https://openknowledge.worldbank.org/bitstream/handle/10986/12407/682250ESW0WHIT00April190yb40260120.pdf?sequence=1&isAllowed=y, p. 8

43 https://wedocs.unep.org/bitstream/handle/20.500.11822/9237/-State%20of%20the%20Environment%20Report%20-%20Uganda-2007soer_2007.pdf, p. 293

44 Lin, jiunn-cheng & Lee, Jun-Yen & Liu, Wan. (2021).

***Source: NEMA; Stockpile of firewoood to be used in factories***

In sum, as Table 6 shows, the total cost of environmental degradation and loss of natural resources equals up to 2.1% of GDP by a modest estimate. This sum assumes that about 10% of total environmental losses are due to corruption, the rest are down to other factors.

### Table 6. Summary of corruption cost estimates in natural resource sector in UGX, 2019, annual figures:

| Cost description | Actor bearing cost | Saving scenario 1 (eradicating corruption 100%) | Saving scenario 2 (reducing corruption by 33%) |
|---|---|---|---|
| Loss of environmental resources | Public bud-get | 2,281,377,131,090 | 752,854,453,260 |
| Loss of public environ-ment funds | Public bud-get | non-measurable due to lack of data | non-measurable due to lack of data |
| Cost of environmental degradation | Citizens | 536,794,619,080 | 177,142,224,296 |
| **TOTAL COST** | | 2,818,171,750,170 | 929,996,677,556 |

*Note: Cost of the loss of environmental resources is paid by the public budget. For example, loss of tourism income due to mining in ecosystems enabled by corrupt officials providing mining license in exchange of bribe. In turn, environmental pollution/degradation constitutes costs for citizens. For example, lost corps due to floods that occurred as a consequence of illegal logging.*

## Public service provision

Corruption in the provision of public services that should be guaranteed by the state to the citizens based on the public budget is a common occurrence in many low- and middle-income countries. The most crucial areas of public services are healthcare, education, welfare, and security.

Where the state is unable to provide for satisfactory public services, there is room for corruption – citizens are willing to pay extra public service providers from their own pocket in order to receive a better serviceand public service providers are at the same time inclined to abuse their position, either by cashing in bribes or other in-kind payments, or not showing up to work while receiving the government salary, for example. The effects of corruption in public service provision are well-known and especially detrimental to individual citizens (users) who lose out and bear the costs in terms of bribes, lost health or years of education, for example.

The National Integrity Survey (NISIV) showed, significant proportions of respondents paid unofficial fees or extra amounts for services in public institutions (Table 7).

**Table 7. Excerpt of NIS IV results**

| | | Nature of payment | | | | |
|---|---|---|---|---|---|---|
| PUBLIC INSTITUTION | Paid for Service | Official Fee | Official fee and token of thanks | Official fee and amount demanded | Unoffi-cial fee | Total |
| Public Health Facilities | 29.5 | 39.8 | 3.1 | 13.1 | 44 | 100 |
| Public Education Institutions | 71.8 | 87.1 | 0.3 | 4.5 | 8.1 | 100 |
| Uganda National Examination Board | 72 | 95.9 | 0 | 0.3 | 3.8 | 100 |
| CID Police | 33.6 | 8.6 | 6.7 | 13.7 | 71 | 100 |
| Traffic police | 62.7 | 8.7 | 0.3 | 5.3 | 85.7 | 100 |
| Police General | 58.5 | 14.5 | 4.4 | 12.7 | 68.4 | 100 |
| Local councils (LC I/LC II/LC III/LC V) | 26.8 | 53.9 | 2.2 | 5.7 | 38.2 | 100 |
| Municipal / Town Councils | 38 | 68.7 | 0.3 | 2.6 | 28.4 | 100 |
| Kampala City Council Authority (KCCA) | 66 | 56.6 | 0 | 8.2 | 35.2 | 100 |
| District Local Government | 12 | 74.7 | 3.4 | 1.9 | 20 | 100 |
| District Service Commission | 15.8 | 7 | 0 | 3.5 | 89.5 | 100 |
| Land offices | 73.6 | 29.3 | 0.4 | 32.7 | 37.6 | 100 |
| Uganda Telecom Limited (UTL) | 72.6 | 97.6 | 0 | 0 | 2.4 | 100 |
| Face Technologies (driving permits) | 97.2 | 79.3 | 1.5 | 9.1 | 10.1 | 100 |
| National Water and Sewerage Corporation | 73.5 | 96.7 | 0.1 | 1 | 2.2 | 100 |
| Electricity Service (UMEME) | 86.7 | 82.9 | 0.3 | 9.1 | 7.7 | 100 |
| Courts of Law/Land Tribunals | 42.4 | 45.3 | 0 | 13.1 | 41.6 | 100 |
| Uganda Revenue Authority (URA) | 90.7 | 88.8 | 1 | 2.6 | 7.6 | 100 |
| Uganda National Bureau of Standards (UNBS) | 88.1 | 83.4 | 0 | 14.8 | 1.8 | 100 |
| Agriculture Extension Services (OWC, Veterinary, Fisheries, Forestry) | 8.4 | 15.8 | 1.5 | 3.7 | 79 | 100 |

*Source: IG NIS 2019*

## Absenteeism in the public sector

Government employee absenteeism is a widespread problem in Uganda. According to the National Integrity Survey (NIS IV)[45], 85% of respondents stated that absenteeism in the public sector exists in their district. High rates of absenteeism in the public sector led to numerous costs for citizens and society at large. Undue absence of government employees means that their wages are a cost for the public budget without creating a value for citizens. Furthermore, absenteeism makes essential services such as education, healthcare, security provision, etc. less accessible for citizens, as well as lowers their quality.

This section focuses on two main costs of absenteeism in the public sector:
1) the cost of wages paid to absent public servants;
2) loss of service and/or quality to users due to absenteeism.

45 Fourth National Integrity Survey, p. 59.

A first non-transactional, financial corruption-cost type is the loss of government salaries paid to the public sector workers despite their undue absence from work. The bulk of studies about absenteeism rates in the public sector of Uganda is dedicated to the healthcare and education sectors.

The 2014 and 2012 IG reports on Corruption Trends using Data Tracking Mechanism (DTM) found that in Uganda, approximately one out of every two health workers is absent on any given day at healthcare facilities. Based on administrative and audit data from the Ugandan Ministry of Health on the number of health workers (47,929) and the average daily salary (UGX 32,881), it is estimated that the cost of lost salaries amounts to UGX 495.1 billion .

In the education sector, the 2014 and 2012 DTMreports found out that for every 100 teachers only 39 were in class teaching during their assigned lessons. The available estimates of teachers absenteeism in Uganda vary from 20% to 30%[46]. A report "The Global Corruption Report: Education"[47] by the World Bank suggests that the rate of teachers absenteeism in Uganda is among the highest in Africa - around 27%. Given that teaching staff salaries take around 60% of local governments` expenditure on public education[48], the estimated cost of absenteeism is UGX 180.5 billion.

While the comprehensive estimate of the rates of absenteeism outside of the education and healthcare sectors are missing, multiple evidence suggests that savings from removing ghost workers from payroll amount to billions UGX For instance, a review and clearing of government payroll from ghost workers in 2014 resulted in UGX 100 billion of savings[49].


***Source: IG Team conducting inspection at a Health Center in Uganda to prevent Health Worker absenteeism***

46 https://www.unicef.org/esa/sites/unicef.org.esa/files/2019-05/UNICEF-Uganda-2016-Absenteeism-Key-Driver-Poor-Performance-Primary-Education.pdf

47 https://issuu.com/transparencyinternational/docs/global_corruption_report_-_educatio

48 Based on the public funding expenditure data, 2013-2014. http://uis.unesco.org/sites/default/files/uganda_nea_report-2016-en.pdf, pp. 84-88

49 https://ageconsearch.umn.edu/record/206131/, p. 14

It is suggested that further discussions on the magnitude of the potential total loss of government salaries paid by extrapolating the absenteeism rates from the education and healthcare sectors to the whole public sector be conducted. In 2019, there were 318,392[50] civil servants, while the wage bill allocated amounted to UGX 4.2 trillion [51]. Applying the absenteeism rate of 30% would result in the overall loss of nearly UGX 1.4 trillion for the whole public sector. To avoid double-counting, the study suggests subtracting the above-discussed estimates of the loss of government salaries paid in the education and healthcare sectors from this figure. As a result, the potential costs of undue absence of public servants for the budget could amount to almost UGX 726 billion. However, given that there is no sufficient evidence to back up the estimate for the whole public sector, this figure is omitted from the total cost of corruption.

A second relevant corruption-cost type is non-transactional and in-kind loss of services or/and quality for citizens. For instance, in the education sector, teachers absenteeism results in the loss of education hours for students. While the expected teaching time is, on average, 7 hours per day[52], 1.9 hours of classroom time is lost due to absenteeism per day. It is equal to around 478 hours per year for one student. Multiplying this figure by the number of students in secondary and primary schools[53], and by average cost of teaching hour per student results in annual costs equal UGX 1.47 trillion (Table 8).

**Table 8. Summary of corruption cost estimates due to absenteeism in the public sector in UGX, 2019, annual figures:**

| Cost description | Actor bearing cost | Saving scenario 1 (eradicating corruption 100%) | Saving scenario 2 (reducing corruption by 33%) |
|---|---|---|---|
| Loss of government salaries to healthcare worker paid despite absence | Public budget | 495,103,123,932 | 163,384,030,897 |
| Loss of government salaries to teacher paid despite absence | Public budget | 180,468,000,000 | 59,554,440,000 |
| Loss of government salaries to workers despite absence (other sectors) | Public budget | non-measurable due to lack of data | non-measurable due to lack of data |
| Loss of healthcare treatment and/or quality to user due to absenteeism Citizen | | Part of the total cost of absenteeism in the healthcare sector | Part of the total cost of absenteeism in the healthcare sector |
| Loss of education hours to student | Citizen | 1,465,031,743,590 | 483,460,475,385 |
| Loss of service or/and quality for users (other sectors) | Citizen | non-measurable due to lack of data | non-measurable due to lack of data |
| **TOTAL COST** | | **2,321,070,867,521** | **765,953,386,282** |

50 "Size of the Civil Service, 2015-2019", https://www.ubos.org/explore-statistics/22/

51 "Approved Estimates of Revenue and Expenditure FY 2019/20" https://www.finance.go.ug/sites/default/files/Approved%20Budget%20Estimate%20FY%202019-20%281%29-1.pdf

52 Filmer, D. (2015). Education quality in sub-Saharan Africa [Presentation slides]. Retrieved from https://riseprogramme.org/sites/default/files/inline-files/25_Filmer_SDI-RISE.pdf

53 Education Abstract 2017, http://www.education.go.ug/wp-content/uploads/2019/08/Abstract-2017.pdf

## Healthcare provision

Corruption in the public healthcare sector bears several costs on citizens as well as the public budget. There are numerous types of low-level corruption of transactional and non-transactional nature (e.g. absenteeism) that bear financial and in-kind costs in healthcare.

The first direct, transactional type is the cost of a healthcare user (patient) bribing a healthcare provider (doctor, nurse etc.) for the delivery of a service or to receive (better) treatment that should be delivered free of charge or for a fixed lower fee. In many countries, there is not a clear distinction between a bribe and a gift, which can be in cash or in-kind, which is also important to consider in the context of Uganda (Gaal and McKee 2005). In the Afrobarometer survey (2018), 42% of respondents said they had to pay bribes to obtain medical care (Question 44D-F). The National Integrity Survey IV report indicated that 29.5% of all the survey respondents (not all of whom might have been at a public health facility) paid for services at public health facilities, of which 13% included an extra amount demanded and 44% were classified as an unofficial fee. In the household survey, the distinction is made by adding a question on the motivation for gift-/bribe-giving, i.e. whether it was perceived to be necessary for receiving the healthcare service.

The cost of corruption here equals the amount of the bribe paid and is a cost inflicted on the citizen. It can have an extremely detrimental impact in terms of impoverishment as citizens use their income and sell assets to pay for healthcare (Vian, 2005).

The household survey results led to the estimate of the cost of bribery in healthcare using the level of interaction with the sector (80% of the total sample), the prevalence of bribery (20% - lower than the Afrobarometer and NIS estimates), and the median size of a bribe (UGX 20,000). Extrapolating this to the whole population of Uganda and adjusting to the 2019 value of the UGX results in a total estimated cost for citizens due to bribery in healthcare of UGX 140.8 billion (Table 9).

Another cost arises from patients not being able to afford to pay a bribe or any unofficial fees that have been demanded or are expected. The household survey evidence suggests that the need to pay bribes can put a significant financial strain on households. 9% of the total sample reported having to cut other expenses in order to pay a bribe for healthcare services, and 7% had to borrow money to afford a bribe. 3% of the total sample reported not receiving treatment because they refused or were unable to pay a bribe. With that, the share of respondents who reported that they or their family members avoided needing healthcare services because they could not pay a bribe was about 1%. Combining these proportions together with the level of interaction with the healthcare sector (80% of the population), and average government health expenditure per capita (excluding expenses on health system administration) (18948 UGX[54]), we estimate the loss to be nearly 33.3 billion UGX

It is important to acknowledge that this estimate can not fully capture the cost of not delivered/ avoided services due to bribery since the impact of lost treatment on the health of individuals as well as a society can be severe. A higher national level of perceived corruption is associated with poor national level health outcomes (e.g. Azfar & Gugur, 2007; Witvliet et al., 2013), as well as specific outcomes such as increased mortality rates of under-five-year-olds (Hanf et al., 2011; Björkman & Svensson, 2009).

54 http://library.health.go.ug/sites/default/files/resources/NHA_FINAL%20-UGANDA-1%20FY%202014-15_2015-16%20final%20%20%202018-1.pdf , p.49

The next cost for citizens - loss of healthcare treatment and/or quality due to absenteeism - is included in the total cost of absenteeism in the healthcare sector - UGX 495.1 billion.

Lastly, the public budget also bears the cost of public healthcare funds or supplies lost to embezzlement by public officials, stealing or diverting funds or supplies such as drugs for private enrichment.

**Table 9. Summary of corruption cost estimates for public healthcare in UGX, 2019, annual figures:**

| Cost description | Actor bearing cost | Saving scenario 1 (eradicating corruption 100%) | Saving scenario 2 (reducing corruption by 33%) |
|---|---|---|---|
| Cost of bribing healthcare provider | Citizen | 140,800,000,000 | 46,464,000,000 |
| Loss of treatment due to not affording the bribe | Citizen | 33,349,313,354 | 11,005,273,407 |
| Loss of healthcare treatment and/or quality to user due to absenteeism | Citizen | Part of the total cost of absenteeism in the healthcare sector | Part of the total cost of absenteeism in the healthcare sector |
| **TOTAL COST** | | 174,149,313,354 | 57,469,273,407 |

## Education provision

Corruption in the public education sector bears a number of costs on citizens and the public budget as well as society at large (discussed under Indirect costs). There are numerous direct, low-level corruption types of transactional and non-transactional (absenteeism, embezzlement) nature that bear financial and in-kind costs in education.

The first direct, transactional type is the cost of an education user (pupil/student) having to bribe an education provider (teacher, examiner, etc.) for the delivery of a service that should be delivered free of charge or for a fixed lower fee or to receive (better) results. In many countries, there is not a clear distinction between a bribe and a gift, which is also important to consider in the context of Uganda (Gaal and McKee 2005). The National Integrity Survey IV shows that at public education institutions, 72% of overall survey respondents paid for services, but for the large majority this covered official fees and only 4.5% included an extra amount demanded and 8% were unofficial fees. The cost of corruption here equals the amount of the bribe paid and is a cost inflicted on the citizen.

To estimate the cost of bribery in education, evidence from the household survey was used. It provided the level of interaction with the sector (47%), the prevalence of bribery (9%), as well as the median size of a bribe (UGX 21,000). Extrapolating this to the whole population of Uganda and adjusting it to the 2019 value of the UGX results in a total estimated cost for citizens due to bribery in the education of UGX 39 billion.

Next, corruption in the form of embezzlement of public education funds bears financial costs on the public budget and in-kind costs on the user in terms of loss of education quality. As public officials steal or divert funds or supplies intended for public education, the school and therewith the students ultimately receive less. As Reinikka and Svenvvson's (2004) public expenditure tracking survey in Uganda showed, schools went significantly underfunded because grants (or significant portions

thereof) were captured by local officials or politicians. In 2001, on average, schools received only 82% of the entitled governmental funds. Thus, 18% were captured at the local level. However, for many schools, especially in rural areas, the share of captured funds is around 25% or more. Applying the average estimate of 18% loss in grants due to embezzlement to the more recent data on public education funds[55] results in costs worth 244.6 billion UGX, as Table 10 sums up.

A special type of transactional cost to students is the so-called "sextortion" or "sex for grades" – describing the sexual harassment and extortion by teachers in exchange for favours. According to a 2013 UNICEF survey[56], some 78% of the primary school children and 82% of the secondary school students in Uganda surveyed reported having experienced sexual abuse at school. It is important to acknowledge that this study uses a broad definition of sexual abuse[57], as well as the fact that not all of the reported cases might have taken place in exchange for grades or other teacher favours. In our survey, 15% of the households with children of school age reported that in 5 years prior to the survey, it happened at least once that a teacher or school official proposed to a child from their household or a child they know to grant benefits, such as good grades or passing a test, in exchange for sexual favours.

The in-kind cost of this type of corruption is the physical and mental wellbeing of students as a result of the abuse. In the long run, it can lead to lower learning results, unwanted pregnancies and sexually transmitted infections, and higher drop-out rates hence affecting the overall education attainment, especially of girls and young women.

Additionally, the household survey revealed multiple examples of misbehavior towards students in public schools. For instance, the respondents shared experiences when their children were beaten and shouted at by teachers. Furthermore, there were cases when teachers humiliated students in front of peers for not being able to pay fees or buy a particular textbook required by a teacher. While sextortion and other forms of misbehavior undermine the physical and mental wellbeing of students, we could not identify literature that attempts to develop a monetary estimate of this loss.

Finally, corruption in the sector hinders the quality of education. For instance, embezzlement of public education funds negatively affects students' outcomes through the reduction of school inputs and/or infrastructure (Ferraz, Finan & Moreira, 2012). Students from corrupt municipalities score lower on tests, have higher dropout and failure rates, and receive less teaching supplies. The occurring learning losses may translate into decreased productivity and lifetime earnings of students. For instance, Bedi and Edwards (2002) find a significant positive effect of school quality (measured through teacher training, school infrastructure, and school crowding) on students' future incomes. Along with embezzlement, evidence from the interviews suggests that the quality of teaching in Uganda is undermined by favoritism, bribery, and forgery of documents in teachers recruitment. However, lack of the relevant literature does not allow us to develop the numeric estimate for this "in-kind" type of corruption costs.

55 Based on the public funding expenditure data, 2013-2014. http://uis.unesco.org/sites/default/files/uganda_nea_report-2016-en.pdf, p. 85

56 https://static1.squarespace.com/static/5614036de4b0014b6b21ce4f/t/57473aae40261de8e3aea696/1464285877619/Child+Protection%2C+Safety+%26+Security+in+Uganda+Schools.pdf

57 "Sexual abuse in this study is defined as sexual contact with a child such as sexual touching and fondling, kissing, and penetrative sex or defilement; as well as engaging a child in other sexual behavior that she or he does not comprehend or give consent to, such as indecent exposure of sexual objects, engaging in sex in front of a child, encouraging children to engage in prostitution, or sharing pornography with a child.", Ibid., p. 2

**Table 10. Summary of corruption cost estimates for education sector in UGX, 2019, annual figures:**

| Cost description | Actor bearing cost | Saving scenario 1 (eradicating corruption 100%) | Saving scenario 2 (reducing corruption by 33%) |
|---|---|---|---|
| Cost of bribing teacher/ examiner | Citizen | 39,085,200,000 | 12,898,116,000 |
| Cost to physical and mental wellbeing of students | Citizen | non-measurable due to lack of data | non-measurable due to lack of data |
| Loss of public education funds | Public budget | 244,613,871,795 | 80,722,577,692 |
| Loss of education quality for user Citizen | | non-measurable due to lack of data | non-measurable due to lack of data |
| **TOTAL COST** | | 283,699,071,795 | 93,620,693,692 |

## Welfare provision

Corruption in the public welfare sector bears several costs on citizens as well as the public budget. There are a few types of low-level corruption of transactional and non-transactional (embezzlement) nature that bear direct financial costs.

The first direct, transactional type is the cost of a citizen bribing a public official or bureaucrat in charge of welfare payment or service. In case the citizen must pay a bribe in order to receive a welfare payment or service that he or she is lawfully entitled to, the cost of corruption here equals the amount of the bribe paid and is a cost inflicted on the citizen. In case the citizen bribes a public official to unduly receive a welfare payment that he or she is not entitled to, the cost of corruption is inflicted on the public budget. Lastly, welfare funds may get lost due to embezzlement by public officials. The effects can be detrimental to welfare programs and efforts to redistribute wealth and resources among citizens. For example, Olken (2006) examined a large anti-poverty program in Indonesia that distributed rice to poor households where at least 18% of the rice appeared to have disappeared, and hence welfare losses from this corruption may have been large enough to offset the potential welfare gains from the redistributive intent of the program. These findings suggest that corruption may impose substantial costs and limitations to countries' redistributive efforts (Olken, 2006).

In Uganda, most welfare schemes consist of subsidies to communities or groups such as entrepreneurs, or as responses to crises such as drought, or fall under public services. The largest social security provider, the National Social Security Fund (NSSF) is funded by member contributions of private and public sector employees, and is not run by the government. The only significant public welfare type identified is the public service pension scheme supervised by the Uganda Retirement Benefits Regulatory Authority. The scheme covers pensions for traditional civil servants, primary and secondary school teachers, police officers, prison officers, doctors, and public employees in the judiciary. The benefits are funded by the state budget and do not require contributions (World Bank, 2019).

According to a World Bank (2019) report, corruption is likely to also play a role in the retirement industry; however, until recently, there have been no widely reported cases or convictions. However,

there has been a heightened focus on the investment decisions being made, which may in turn increase costs (and reduce returns) through the bureaucratic process. For example, there is anecdotal evidence of procurement loopholes being exploited. (World Bank, 2019).

Another two costs of corruption in welfare occur in the allocation of government subsidies to individuals. Such low-level, transactional corruption carries the costs for both citizens paying bribes and the public budget. For citizens, the cost is equivalent to the price of a bribe they had to pay to access welfare subsidies. This cost is especially harmful to the economically vulnerable groups of citizens whose living standards and access to essential services depend on government subsidies. For the public budget, this cost corresponds to the amount of misallocated funds.

Estimation of the costs of corruption in subsidies allocation is a complex task as the detailed data on government transfers is often not publicly available in developing countries. In this study, we will supplement the research of the available administrative data on subsidies with literature and policy document review and insight from the existing surveys (e.g., Uganda National Household Survey contains questions on subsidies).

## Security provision

As the fourth key area of public service provision, public safety and security is a government area notoriously riddled by corruption: the Police in Uganda was ranked as the most bribery-prone institution in the East Africa Bribery Index (EABI, 2017). The effect of corruption can carry costs for citizens as well as the public budget and be potentially detrimental to the overall country's security. We have a number of types of low-level corruption of transactional and non-transactional nature (embezzlement/absenteeism) that bear direct financial and in-kind costs.

In particular, corruption in the security provision services can lead to an increase in levels of crime. Firstly, crime levels increase if bribery serves as a mechanism for avoiding law enforcement. Secondly, corruption in personnel selection reduces the overall quality of security services.

First, there is the simple direct, transactional cost type of a citizen bribing a public official or bureaucrat in order to avoid paying a fine for wrongdoing. The resulting cost of corruption for the citizen equals the amount of the bribe and the cost for the public budget equals the amount of the non-paid fine (in case there was a legitimate case of wrongdoing and the public official did not extort a bribe for an alleged, unproven case of wrongdoing).

To estimate the cost of bribery for citizens, existing surveys are relied upon. Evidence from the 2017 East Africa Bribery Index by Transparency International Kenya, provides the level of bribery rates in the public security sector, which includes the National Police Force, Administration Police, Criminal Investigation Departments, Professional Standard Units, Family and Child Protection Unit, Traffic Police, and Land Desk Police. According to the survey data, the prevalence of bribery in this sector (the likelihood that somebody would pay a bribe upon interacting with the sector) was the highest of all sectors with 39.5% and the average size of the bribe was 56,779 UGX For the whole population of Uganda, considering the share of the population interacting with the security sector (9%) and adjusting to the 2019 inflation rates, this results in a total cost for citizens due to bribery in the security of UGX 90.9 billion as Table 11 below sums up.

Second, in terms of non-transactional costs as a result of absenteeism or embezzlement, the public budget bears the costs of non-delivered but paid-for security services and the loss of public security funds to private enrichment. Unfortunately, there is no evidence of absenteeism and corruption in public funds allocation in the security sector. Therefore, this report does not provide a reliable estimate of these costs.

Third, the citizens and society at large suffer from a loss of public security. Corruption in the security provision services can lead to an increase in levels of crime. For instance, criminals can use bribes to avoid law enforcement. Furthermore, corruption in personnel selection reduces the overall quality of security services. In the long run, higher crime levels and low quality of security services have considerable negative impacts on justice or security sector development and performance and is a challenge to nation-building, to the maintenance of public order and the rule of law, and to support the legitimacy of the state (Hope, 2018) (for the societal impact, see Indirect costs). Multiple studies (Bradbury, 1997) suggest that public safety has a positive effect on economic growth (as measured through growth in employment and/or new investment). However, available literature and data do not allow to the development of a numerical estimate of the cost of a loss of public security for Uganda.

**Table 11. Summary of corruption cost estimates in public security sector in UGX, 2019, annual figures:**

| Cost description | Actor bearing cost | Saving scenario 1 (eradicating corruption 100%) | Saving scenario 2 (reducing corruption by 33%) |
|---|---|---|---|
| Cost of bribing security official | Citizen | 90,940,512,532 | 30,010,369,136 |
| Loss of security to citizen | Citizen | non-measurable due to lack of data | non-measurable due to lack of data |
| Cost to govt budget for non-delivered security services | Public budget | non-measurable due to lack of literature | non-measurable due to lack of literature |
| Loss of public security funds | Public budget | non-measurable due to lack of data | non-measurable due to lack of data |

## Corruption in employment in the public sector

Interviews with practitioners and experts in the education and healthcare sectors revealed multiple cases of corruption in employment. In particular, bribery is a common practice in the hiring process in the public sector. For example, one respondent (Interview 48, basic science teacher) said that to get a job in a grade III school, a candidate has to pay about UGX 3 million. He also mentioned that teachers and healthcare workers are so used to bribery in the hiring process that "sometimes we volunteer to pay even before anyone asks".

Fair competition in recruitment is also undermined by political interference. Interviewees shared examples when politicians, especially on the local governance level, influenced recruitment for jobs in healthcare facilities and schools, with an aim to secure positions for their relatives or other connected individuals.

Similar to recruitment, transfers of teachers and healthcare workers are vulnerable to corruption too.

Several respondents stated that, in order to be transferred to a preferable place of work, teachers have to pay bribes to headteachers and education officers. On the other hand, transfers sometimes are used as a mechanism of pressure or punishment of workers:

> "*Teachers would be posted to schools in remote areas as a form of punishment, or from rural areas to urban areas in return for bribes.*" (Interview 4, senior official at the Education Service Commission).

Bribery and nepotism lead to the loss of the quality of service provision for users. First, corruption hinders fair competition and can restrict the most talented and qualified candidates from getting jobs. Second, corruption facilitates appointments of unqualified staff. For instance, individuals use bribes to hide the fact that they do not have documentary evidence of their qualifications:

> "*In Namutumba District where the interviewee comes from, a few years ago an investigation discovered that 30 percent of all the teachers had fake papers.*" (Interview 9, Consultant)

> "*...quacks or fake health workers – impersonating, stealing supplies, claiming to be doctors... [and]... providing a fake Covid-19 vaccine*" (Interview 33, director of Health Monitoring Unit).

Together with introducing costs for users of public services, corruption in employment puts a significant cost on the public budget since unqualified workers receive salaries from the government:

> *"Every year almost 600 teachers are appointed on the basis of forged papers, and are earning salaries. This costs the government about 7 billion shillings per year."* (Interview 4, senior official at the Education Service Commission).

However, due to the limited evidence (only relevant for the education and healthcare sectors), we are not able to develop precise numerical estimates for costs of corruption in the public sector employment.

## Regulation

## Permits and certificates

As a related area of government regulation, the provision, and control of permits and certificates, e.g. for land or building rights, can be severely affected by corruption costing the public budget, citizens, and society overall. In terms of low-level corruption, where bribery is added on top of permit fees, the amount of the bribe represents the direct financial corruption cost to the citizen.

To estimate the cost of bribery for citizens, existing surveys are relied on. Evidence from the 2017 East Africa Bribery Index by Transparency International Kenya, provides bribery rates in the various types of public administration that issue permits and certificates, including in land services, local authorities, business licensing, and civil registration. According to the survey data, the prevalence of bribery in this sector (the likelihood that somebody would pay a bribe upon interacting with the sector) is similar across these sub-sectors with bribery prevalence between 16.7% (civil registration) and 19.2% (land services). Notably, the prevalence of bribery in land services has reduced drastically from 46.5% in 2014. The average size of bribes differs by area; for local authorities, it is only around

UGX 16,000 while a bribe to land services costs around UGX 130,000 on average. Considering the whole population of Uganda and the share of it interacting with the four sub-sectors and adjusting bribe amounts to the 2019 inflation rates, this results in a total cost for citizens due to bribery of UGX 243.7 billion. Around half of this cost is attributed to bribery in land services.

Furthermore, the illegitimate provision of permits and certificates can have detrimental effects to citizens and society overall (e.g. in terms of rule of law - see indirect costs), when land or building rights are unlawfully provided to the best-paying bidder or the politically connected. Aside from petty corruption, on a larger scale corruption in e.g. land rights can result in certain politically connected companies gaining control over a vast expanse of land and its resources through abuse of high-level positions (TI, 2017). Bujko et al. (2016), for example, investigate the link between land acquisitions and corruption, arguing that corrupt elites exploit poor institutional set-ups (characterized by corruption) to strike deals with domestic and international investors at the expense of local populations. Using panel data for 156 countries from 2000 to 2011, they provide evidence that large-scale land deals indeed occur more often in countries with higher levels of corruption. However, there is little information on the extent of this type of corruption available that would allow measuring its impact in numerical or financial terms. Generally, according to a study by Transparency International (2017) the high prevalence of corruption in Uganda's land sector has a disproportionate impact on the poor, especially on women (TI, 2017). Also, land grabbing and other corrupt practices in land governance reduce the basis for income of small-scale producers, agricultural laborers, indigenous communities, and landless rural and urban poor TI-Uganda, 2017).

Table 12. Summary of corruption cost estimates for public healthcare in UGX, 2019, annual figures:

| Cost description | Actor bearing cost | Saving scenario 1 (eradicating corruption 100%) | Saving scenario 2 (reducing corruption by 33%) |
|---|---|---|---|
| Loss of government revenue from permit fees | Public budget | 14,227,880,342 | 4,695,200,513 |
| Cost of bribing official to receive permit | Citizen | 243,720,615,540 | 80,427,803,128 |
| Unlawful provision of land rights, building rights, etc. | Society at large | non-measurable due to lack of data | non-measurable due to lack of data |
| **TOTAL COST** | | **257,948,495,882** | **85,123,003,641** |

## Procurement and budgeting

### Procurement

Procurement as a key area of government spending is prone to corruption in all of the phases of the procurement cycle from planning to implementation which can cost the government and citizens significant amounts of money.

Low-level transactional corruption in the procurement process, such as bribery, can lead to a loss of value-for-money as not the best bidder is awarded a public contract but the highest-paying or the best-connected. This represents a direct financial cost to the public budget. At the same time, it is a

cost to citizens, receiving lower quality goods, works, or services from the public budget.

However, where these corruption mechanisms happen on a larger scale and become institutionalized into a high-level type of corruption, the costs are likely to be significant to the public budget and society at large. First, systemic transactional corruption in the public procurement sector is likely to affect the public budget by increasing procurement prices. Price inflation can manifest itself in wages or material costs in the awarded contract or only later during contract implementation. Duflo (2003) shows, for example, that overpricing is one main mechanism to extract rents from public works on water irrigation systems in India. It thus affects the public budget directly. On the other hand, the effect of this in terms of lower quality provision of public infrastructure and services would constitute a deadweight loss and thus an indirect cost to society.

Second, corruption in the public procurement sector is likely to present a cost to the public budget by distorting the public spending structure, in particular biasing public investment toward high-value, high-complexity investments and also toward new infrastructure, as opposed to spending on maintenance and operations (Fazekas & Tóth, 2018). In high-value projects, even a small fraction of the investment value amounts to large corruption rents, making them particularly attractive (Rose-Ackerman, 1999; Transparency International, 2008). This expected distortion is demonstrated by Tanzi and Davoodi (1997), who show that a higher level of perceived corruption in a country is associated with increased public investment, but with lower expenditures on operations and maintenance. Similarly, Mauro (1998) shows that country-level corruption is negatively associated with the share of education-related government expenditure in GDP, and this relationship is robust to a number of alternative explanations such as prior level of development. Again, this type of direct cost carries indirect deadweight losses to society consequently.

Third, there seems to be a correlation between a higher incidence of corruption in public procurement and increased delays and low-quality provision of public infrastructure and services. The corruption rent is extracted by providing infrastructure or services of lower quality than contracted or delaying the works. In a randomized field experiment in Indonesia, Olken (2007) measures missing material expenditures in road projects and shows that increased monitoring can improve low-quality delivery. However, the observability of ill-delivery of a contract depends on the complexity and technological nature of the procured products limiting the applicability; for example, Olken (2007) uses independent engineers to review road projects and calculates the amount and value of missing inputs to indicate corruption during contract implementation, which may not be readily observable to non-experts only visiting construction sites intermittently. In the Ugandan context, unfortunately, there is no reliable data on contract implementation and the quality of procured goods and services available.

Low-quality delivery of public goods and services constitutes a direct cost to the public budget while also implying an indirect cost to society. Flyvbjerg et al. (2004) point out that delayed provision and long implementation also create ideal conditions for inflating costs. Weak supervision and enforcement of the initial contracts give rise to corruption risks, and while construction delays are easy to detect, assessing implementation quality is less straightforward (e.g. effects are only visible after years).

***Source: IG; Construction of Primary School in Uganda in November 2020***

***Source: IG; Status of construction of the Primary School in February 2022***

**Low-quality delivery of procured good/services/works**

These types of costs are measured mainly by using big data analysis of public procurement data in order to analyze the public spending structure, the prices paid for procurement, and the quality of delivery (in terms of delays or cancellations). These measurements are further supplemented by literature and policy document review and administrative data as available. The most relevant, alternative measure to our big data approach comes from a supplier survey conducted by the Public Procurement and Disposal of Public Assets Authority (PPDA) (PPDA, 2020). It finds that 21% of suppliers admit to having paid a bribe. Of these suppliers, the average value of bribes is 7.1% of the contract value. This implies that the average bribe value in public procurement is merely 1.5% of the contract value which is very low in an international comparative perspective hence most likely represents an underestimation.

The publicly available public procurement contracts available from the Government Procurement Portal: GPP were analyzed. After performing several validation and cleaning steps, we arrive at a dataset that covers around EUR 620 million or UGX 2.6 billion over a period of 5 years. We calculate our Corruption Risk Indicator (CRI) which aggregates several corruption red flags such as single bidding, manipulation of tendering period length, the use of non-open procedure types, and others that are commonly used for the purpose of hindering competition. Each individual red flag is validated based on two corruption proxies that are highly correlated with corrupt procurement practices; single bidding and the share of a buyer's contracts offered to one supplier. It was predicted that relative prices for all the contracts under a counterfactual scenario where CRI scores are reduced to zero. The r predictions are based on a linear regression model which controls for various price predictors such as contract sector, buyer type, tendering year etc., Using those predicted relative prices the research team was able to estimate a counterfactual price for each contract under a "no corruption" scenario. The difference between those counterfactual prices and actual contract prices is assumed to be the cost of corruption on each individual contract. This methodology allowed the team to aggregate losses to corruption based on several criteria such as markets, years, and buyers. Public procurement spending amounted to 10.34% of GDP (see Bosio et. al, 2020). However, the

total public procurement spending in the economy in the research dataset was not observed. In order to circumvent this issue, the research team extrapolated the aggregations based on a ratio calculated from the observed total value in the dataset and the total public procurement spending estimated by experts.

It was found out that the losses to corruption in Uganda amounted to UGX 614,414,529,915 in 2019 alone, as Table 13 below shows.

**Table 13. Summary of corruption cost estimates for procurement in UGX, 2019, annual figures:**

| Cost description | Actor bearing cost | Saving scenario 1 (eradicating corruption 100%) | Saving scenario 2 (reducing corruption by 33%) |
|---|---|---|---|
| Cost of corruption in procurement | Public budget | 614,414,529,915 | 202,756,794,872 |
| Low-quality delivery of procured good/ services/ works | Citizens | non-measurable due to lack of data | non-measurable due to lack of data |
| Distorted spending structure | Public budget | non-measurable due to lack of data | non-measurable due to lack of data |

## Intra-government budgetary transfers

Transfers from the central government to local governments touch on a major part of the public budget in Uganda. These transfers can be corrupted, embezzled, and redirected. Such corruption and corruption costs accrue within the government rather than during the interaction between public and private actors, even though some private actors may facilitate corruption inside the government. One example of such costs has been thoroughly documented by Olken (2006) who traced corruption in welfare spending (rice provision to poor households) in Indonesia. This study compared budget data on the amount of rice distributed with survey data from recipient households on the amount actually received. It was found out that on average 18% of the allocated funds were lost on the way, making such corruption costs potentially major. Unfortunately, there is little evidence and data on intra-government budgetary transfers and its level of corruption in Uganda which would allow for an evidence-based estimate of the costs.

## Subsidies

Government subsidies, like other areas of public expenditure, are profoundly prone to corruption in weak institutional contexts[58]. In this study, the focus was on four costs of corruption in government subsidies allocation.

The first cost is the loss of subsidy funds to companies that paid a bribe. Governments give subsidies to private companies and state-owned enterprises to achieve multiple economic and social goals, like the support of particular sectors (e.g., agriculture or energy), or boosting of research and

58 http://www.oecd.org/corruption/OECD-Strategic-Approach-Combating-Corruption-Promoting-Integrity.pdf

innovation[59]. While such programs may have a positive effect on the economy, in weak institutional contexts, the effectiveness of subsidies is often undermined by corruption. Firms may bribe officials to start or continue receiving subsidies. In this case, the cost of corruption is equal to the captured public funds.

Along with bribery, the public budget also suffers from different forms of non-transactional corruption in subsidies administration. For instance, firms may utilize their political influences to affect the allocation and monitoring of subsidies (Fang et al. 2018). As a consequence of such rent-seeking behavior, subsidies do not achieve their primary economic and social goals but benefit the connected companies. For instance, in China, government subsidies aimed at boosting research and innovation decreased the performance in these areas (Du and Mickiewicz 2015, Zhang et al. 2019, Fang et al. 2018). However, for Uganda, the lack of information and data on government subsidies suggests that it is a negligible part of the public budget.

## Indirect corruption-cost types

### Economic outcomes

A large body of evidence (Mo 2001, Chuah et al. 2020) suggests that corruption negatively affects economic outcomes: foreign direct investments, interest rates, and labour market outcomes.

### Foreign Direct Investment (FDI)

A large body of evidence suggests (Mellios and Paget-Blanc 2006, Smarzynska and Wei 2000, Connolly 2007) that high-level corruption decreases inward foreign direct investments (FDI). Foreign investors are deterred from the countries with high corruption by the accompanying risks and costs, as well as moral responsibility (Habib and Zurawicki 2002). Furthermore, corruption affects the sources of the investments - countries with high corruption attract fewer investments from countries with low corruption (Belgibayeva and Plekhanov, 2019). The reduction in foreign investments is costly for society at large as it hinders economic growth. In this case, the cost is equal to the amount of missed investments.

The existing empirical investigations (Wei 2000, Connolly 2007, Castro and Nunes 2013, Udenze 2018) estimate the impact of corruption on FDI flows using country-level panel data. For instance, Udenze (2018) finds that, on average, a one-point increase in the corruption perception score is associated with a 0.58% decrease in net FDI incomes. Following these studies, we use the earlier version of the Transparency International Corruption Perceptions Index (CPI) with a scale from 0 (high corruption) to 10 (low corruption). Accordingly, Uganda's score was 2.5. Applying the estimates from Udenze (2018) to the Ugandan context, one-point decrease in the corruption perception index potentially leads to an increase in 2019 FDI inflows for UGX 18,453,867,521.

59 https://www.oecd.org/trade/why-subsidies-are-bad-global-competition/

**Table 14. Summary of corruption cost estimates for Foreign Direct Investment inflows in UGX, 2019, annual figures:**

| Cost description | Actor bearing cost | Saving scenario 1 (eradicating corruption 100%) | Saving scenario 2 (reducing corruption by 33%) |
|---|---|---|---|
| Missed investments | Society at large | 18,453,867,521 | 6,089,776,282 |

## Interest rates

Uganda's interest rates have been consistently high in the recent decade, compared to other Southern and Eastern African countries[60]. In 2018, the real interest rate was 15%.

High interest rates on credit markets are another indirect cost of corruption for society at large. The literature suggests that high interest rates hinder economic growth in developing countries (Shafik, 1991). The main reason why high lending interest rates are costly for society is that they discourage firms and individuals from credit activity - an important factor of economic growth (Statnik and Vu, 2019).

Cross-national studies suggest a positive correlation between corruption and the real interest rate (Swaleheen, 2008). Galli et al. (2016) suggest that small and medium-sized enterprises in countries with higher levels of corruption are less likely to submit loan applications compared to firms in countries with low corruption.

However, the study could not identify any relevant literature that attempts to develop a monetary estimate of costs for the public budget that occurs due to high interest rates.

## Labour markets

In countries with high corruption, labor markets suffer from limited labor force supply and inefficient workforce.

For instance, Cooray and Dzhumashev (2018), using panel data from 132 countries, showed that corruption has statistically significant negative effects on labor force participation rate and employment to population ratio as proxies for labor supply. The literature suggests multiple mechanisms of how corruption adversely affects labor supply. The first one is the negative effect of corruption on the level of education in the country. While an undereducated workforce hinders labour market productivity, it also has more complex implications for the development of the country in the long run. Eicher et al. (2009) suggest that the level of education is an important prerequisite for society to escape a poverty trap.

To measure the indirect costs of corruption that occur due to an undereducated and inefficient workforce, the research team used the relevant administrative records, such as data on labor market outcomes. The analysis of available data was supplemented with literature and policy document review.

60 https://www.theigc.org/wp-content/uploads/2020/07/Jefferis-et-al-2020-Project-Report_v2.pdf

World Bank data that draws on the International Labour Organization, ILOSTAT database, estimates that Uganda's official labour force (comprises people ages 15 and older who supply labour to produce goods and services during a specified period are unemployed, but excludes unpaid workers, family workers and students, for example) amounts to 16.5 million people (in a population of 44 million, the majority of which are aged under 15 years). According to the Uganda Bureau of Statistics[61], only around 1 million are employed in the formal sector (2015 numbers), the remaining are working in the informal sector (mainly agriculture). The ILOSTAT labour statistics indicate that unemployment decreases with the level of education, it is at 5% for people with advanced education, but at 11% for those with only basic education, confirming the above theoretical expectation.

Cooray and Dzhumashev (2018) provide a theoretical model to investigate the relation between corruption and labour supply: corruption affects labour supply in the formal sector by reducing productivity, changing the supply of labour in the shadow economy, altering the tax burden, and distorting the saving-consumption trade-off. Corruption has a statistically significant robust direct negative effect on the labour force participation rate (LFPR) and employment to population ratio. Corruption also has an indirect effect on the LFPR and employment to population ratio through a higher tax burden and increase in the size of the shadow economy. A 1-unit increase in the TI Corruption Perceptions Index (CPI) leads to a 0.15% fall in the LFPR, or in other words, a 1-unit decrease in the corruption index would lead to a 0.15% improvement in the LFPR. Uganda currently scores 27/100 points in the TI CPI. Hence, if corruption was eradicated, it would improve its LFPR by 10.95%. Such a rise in LFPR would translate into UGX 320.5 billion increase in total wages earned annually[62].

**Table 15. Summary of corruption cost estimates for labour markets in UGX, 2019, annual figures:**

| Cost description | Actor bearing cost | Saving scenario 1 (eradicating corruption 100%) | Saving scenario 2 (reducing corruption by 33%) |
|---|---|---|---|
| Loss due to under-educated, inefficient workforce | Society at large | 320,490,570,910 | 105,761,888,400 |

## Institutional outcomes

High-level, transactional corruption in public sector corruption leads to large indirect costs of undermining society's trust in public institutions and deteriorating rule of law.

## Loss of society's trust in public institutions

Studies by Clausen et al. (2011), and Lavallée et al. (2008) based on the evidence from the Gallup World Poll and Afrobarometer, show the statistically significant negative correlation between corruption and level of trust in public institutions. Weak institutional context hinders economic growth, making

61 https://www.ubos.org/wp-content/uploads/statistics/Total_employees_in_the_formal_sector_byYear_(number).xlsx

62 To calculate these figures, we multiplied the expected increase in the labor fore size by the annual median salary of 177,228 UGX The data on the labour force size is coming from the World Bank: https://data.worldbank.org/indicator/SL.TLF.TOTL.IN?locations=UG&name_desc=false. The statistics about median wage is coming from UBOS: https://www.ubos.org/wp-content/uploads/publications/03_20182016_UNHS_FINAL_REPORT.pdf

domestic and foreign investments riskier, as well as increasing the size of the shadow economy (Mauro, 1995). With that, low trust in public institutions undermines the effectiveness of government revenues collection leading to the state's incapability of providing basic services to the citizens and making productive investments. The consequential fall in the quality of public services further decreases trust in government (Easterly et al., 1999).

Nevertheless, the effects of corruption in terms of costs to citizens and society are not linear and remain ambiguous because corruption also serves as a problem-solving function in a dysfunctional state; in other words, it can help people to manage their livelihoods in circumstances where the state is not well-organized to distribute limited resources and provide them with public goods and services (Marquette & Peiffer, 2021, 2018). Obviously, the ability to use this function of corruption depends on a person's social status and varies greatly according to the corresponding income and networks available to maintain corruption-enabled informal exchanges of goods and services.

Hence, the effects of this corruption-cost type are impossible to quantify in monetary terms and we have not been able to identify any relevant literature that attempts to do so.

### Loss of trust in rule of law

Along with trust in public institutions, rule of law is an important prerequisite of economic growth as it ensures the security of person, property, as well as effective monitoring and enforcement. For example, the empirical investigation by Zhuang et al. (2010) names rule of law among three main factors of economic growth in developing Asian countries. By contrast, lack of checks on government, as well as police and judiciary corruption undermine economic growth in both the intermediate and long-run (Haggard and Tiede, 2011). Especially the security of property rights is a commonly used indicator for rule of law and a country's attractiveness for investors.

Indirect costs of lack of rule of law are paid by the society at large and are equivalent to the loss in economic growth. However, we could not identify any relevant literature that attempts to put a monetary number on this corruption-cost type.

Overall, according to existing estimates such as the East African Bribery Index, the judiciary in Uganda is the sector with the highest cost of corruption (the prevalence is slightly higher in the police sector, but the average bribe size is almost five times larger in the judicial sector). In terms of direct costs of bribery in the judiciary, the EABI provides us with the prevalence of bribery in this sector (the likelihood that somebody would pay a bribe upon interacting with the sector) which is quite high at almost 40%. The average size of bribes is the highest across sectors with almost UGX 300,000 (around EUR 70) on average. Considering the whole population of Uganda and adjusting bribe amounts to the 2019 inflation rates, this results in a total cost for citizens due to bribery of UGX 762.9 billion, which is the largest bribery cost of all sectors we cover in the study.

**Table 16. Summary of corruption cost estimates for Loss of Rule of Law, in UGX, 2019, annual figures:**

| Cost description | Actor bearing cost | Saving scenario 1 (eradicating corruption 100%) | Saving scenario 2 (reducing corruption by 33%) |
|---|---|---|---|
| Loss of trust in rule of law, resorting to street law | Society at large | non-measurable due to lack of literature | non-measurable due to lack of literature |
| Cost of bribing judg-es | Citizen | 762,906,612,759 | 251,759,182,210 |

## Chapter Five:

# Conclusions and Evidence Gaps

The overview of all corruption costs discussed in this report is provided in the Annex A.

Despite the wide-ranging challenges, many high-value cost areas could be estimated with reasonable precision. Unfortunately, not all high-value areas could be assigned a reliable cost figure. More work needs to be done to offer reliable enough estimates in at least the following areas:

- Cost of loss of security to citizen
- Cost to government budget for non-delivered security services
- Cost of loss of public security funds
- Cost of loss of public environment funds
- Cost of unlawful provision of land rights, building rights, etc.
- Cost of low-quality delivery of procured good/services/works (public procurement)
- Cost of distorted spending structure (public procurement)
- Cost of loss of society's trust in public institutions, loss of in trust in rule of law

Nevertheless, even after considering these missing areas and other data limitations, the report suggests that the eradication of corruption in Uganda could result in substantive savings. In particular, the study considers two scenarios of achieving savings:
1) full eradication of corruption,

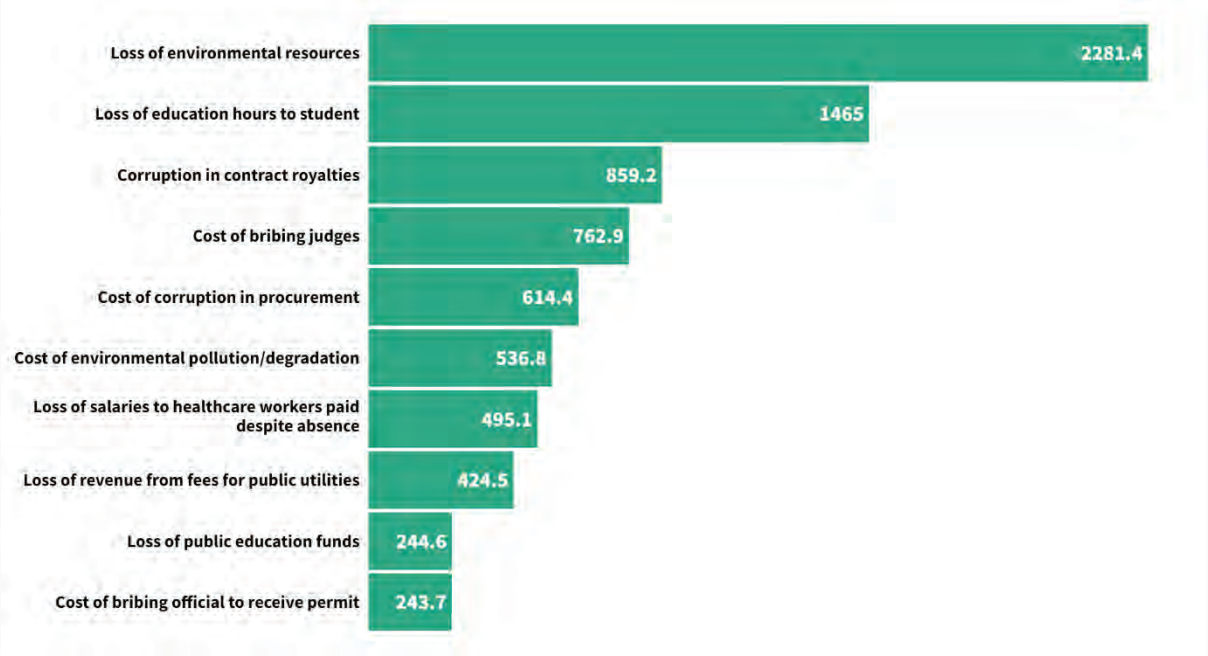
2) eradication of corruption by one-third.
According to the full eradication scenario, the potential savings amounts to approximately UGX 9.14 trillion or EUR 2.14 billion. This is equivalent to 44% of total government revenue in 2019. In other words, corruption cost each Ugandan in 2019 at least UGX 200 thousand. In the 1/3rd corruption reduction scenario, savings amount to nearly UGX 3.02 trillion or EUR 0.7 billion.

These large headline figures mask large variation by cost type as well as sector. Looking at the 10 largest corruption cost types, some stand out: loss of environmental resources, loss of education hours to students, and losses in natural resource contract royalties (Figure 1). For 8 out of 10 largest corruption cost types, the actor bearing the cost is the society at large or the government. With that, not all these costs arise due to high-level corruption. For instance, the loss of education hours for students amounts to nearly UGX 1.5 trillion or EUR 343 million annually as the result of absenteeism among teachers. The largest costs typically arise in a select set of sectors: environmental and natural resources sectors, public procurement, regulation, judiciary education, and healthcare sectors.

However, it is also worth noting that when corruption is pervasive, manifests itself across the whole spectrum of public action and state-society interactions, its impacts are also encompassing. This broad impact scope implies that the total cost of corruption is likely to be higher than the mere sum of individual impacts. At a fundamental level, the biggest cost of corruption is loss of governing capacity and the corresponding under-supply of public services such as education and failure to

solve collective action dilemmas such as environmental protections (Offe, 2004).

**Figure 1. Annual cost of corruption in billion UGX, full eradication scenario, cost areas with the largest costs, 2019**




Note: This graph represents 10 largest corruption costs estimates, in billion UGX, 2019, annual figures. The estimate of the cost of environmental resources loss is only approximate due to the difficulty of attributing a certain portion of lost environmental resources to corruption. The estimate of corruption in contract royalties is based on the known cases of corruption in the natural resources sector.

## Chapter Six:

# Policy lessons

The identification of main types of corruption costs, the mechanisms which give rise to these costs open up useful, novel, and evidence-based avenues for prioritizing and targeting policy interventions that not only lower the incidence of corruption but also help save costs to the society, governments, and others. Such welfare-enhancing anti-corruption efforts are expected to ultimately contribute to poverty alleviation.

For areas where there are reliable corruption cost estimates, it is possible to track progress over time. In these cases, the impact of policy interventions such as awareness raising campaigns or changes to the institutional setup can be tracked. One promising area of such ongoing monitoring is public procurement where a steady flow of up-to-date data allows for cost tracking at a modest cost. In some other areas where costly surveys have to be fielded, only relatively infrequent, say every 2-3 years, updates are realistic. Nevertheless, even in such cases, tracking the impact of anticorruption interventions facilitates refining and improving policies.

The comparison of costs across cost types and sectors can also support policy prioritization, that is identifying the areas where interventions are likely to yield the most positive impact. In addition, the detailed description of impact channels between corrupt acts and the resulting costs to different actors is also conducive to designing effective interventions.

# Annex A. Summary of cost calculations

| | | | | | | | | UGX, 2019, annual figures | |
|---|---|---|---|---|---|---|---|---|---|
| **Cost group** | **Cost sub-group** | **Type of corruption** | | **Cost category** | | **Cost description** | **Actor bearing cost** | **Saving scenario 1 (eradicating corruption 100%)** | **Saving scenario 2 (reducing corruption by 33%)** |
| | | ***Level*** | ***Nature*** | ***Cost type*** | ***Cost form*** | | | ***Estimate*** | ***Estimate*** |
| Government revenue | Taxation | Low-level | Transactional | Direct | Financial | Cost of bribing tax official | Citizen | 26,772,719,937 | 8,834,997,579 |
| Government revenue | Taxation | Low-level | Transactional | Direct | Financial | Loss of government tax revenue due to tax evasion (citizens) | Public budget | 1,740,500,000 | 574,365,000 |
| Government revenue | Taxation | Low-level | Transactional | Direct | Financial | Loss of government tax revenue due to tax evasion (firms) | Public budget | 107,164,777,778 | 35,364,376,667 |
| Government revenue | User fees | Low-level | Transactional | Direct | Financial | Loss of government revenue from fees for public utilities | Public budget | 424,529,391,990 | 140,094,699,357 |
| Government revenue | User fees | Low-level | Transactional | Direct | Financial | Cost of bribing official | Citizen | 53,699,851,718 | 17,720,951,067 |
| Government revenue | Natural resource rents | High-level | Transactional | Direct | In-kind | Cost in terms of environmental degradation | Society at large | non-measurable due to lack of literature | |
| Government revenue | Natural resource rents | High-level | Transactional | Direct | Financial | Corruption in contract royalties | Citizen/companies | 859,208,000,000 | 283,538,640,000 |
| Government revenue | Natural resource rents | High-level | Transactional | Direct | Financial | Corruption in contract royalties | Firms | 8,797,508,547 | 2,903,177,821 |
| Service provision | Healthcare provision | Low-level | Non-transactional (absenteeism) | Direct | Financial | Loss of government salaries paid despite absence (healthcare sector) | Public budget | 495,103,123,932 | 163,384,030,897 |
| Service provision | Education provision | Low-level | Non-transactional (absenteeism) | Direct | Financial | Loss of government salaries paid despite absence (education sector) | Public budget | 180,468,000,000 | 59,554,440,000 |
| Service provision | Education provision | Low-level | Non-transactional (absenteeism) | Direct | In-kind | Loss of education hours to student | Citizen | 1,465,031,743,590 | 483,460,475,385 |
| Service provision | Healthcare provision | Low-level | Transactional | Direct | Financial | Cost of bribing healthcare provider | Citizen | 140,800,000,000 | 46,464,000,000 |
| Service provision | Healthcare provision | Low-level | Transactional | Direct | In-kind | Loss of treatment due to not affording the bribe | Citizen | 33,349,313,354 | 11,005,273,407 |
| Service provision | Healthcare provision | Low-level | Non-transactional (absenteeism) | Direct | In-kind | Loss of healthcare treatment and/or quality to user | Citizen | non-measurable due to lack of literature | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Service provision | Healthcare provision | Low-level | Non-transactional (embezzlement of funds or equipment, medicine) | Direct | In-kind | Loss of healthcare quality for user | Citizen | non-measurable due to lack of literature | |
| Service provision | Education provision | Low-level | Transactional | Direct | Financial | Cost of bribing teacher/examiner | Citizen | 39,085,200,000 | 12,898,116,000 |
| Service provision | Education provision | Low-level | Transactional (sex for grades) | Direct | In-kind | Cost to physical and mental well-being of students | Citizen | non-measurable due to lack of literature | |
| Service provision | Education provision | Low-level | Non-transactional (embezzlement) | Direct | Financial | Loss of public education funds | Public budget | 244,613,871,795 | 80,722,577,692 |
| Service provision | Education provision | Low-level | Non-transactional (embezzlement) | Direct | In-kind | Loss of education quality for user | Citizen | non-measurable due to lack of literature | |
| Service provision | Welfare provision | Low-level | Transactional | Direct | Financial | Cost of bribing official for welfare payment | Citizen | negligible | |
| Service provision | Welfare provision | Low-level | Transactional | Direct | Financial | Cost to govt budget for fraudulent welfare payment (e.g. pensions) | Public budget | negligible | |
| Service provision | Welfare provision | Low-level | Non-transactional (embezzlement) | Direct | Financial | Loss of public welfare funds to govt (e.g. pension) | Public budget | negligible | |
| Service provision | Security provision | Low-level | Transactional | Direct | Financial | Cost to govt budget for non-paid fines | Public budget | non-measurable due to lack of literature | |
| Service provision | Security provision | Low-level | Transactional | Direct | Financial | Cost of bribing security official | Citizen | 90,940,512,532 | 30,010,369,136 |
| Service provision | Security provision | Low-level | Transactional | Direct | In-kind | Loss of security to citizen | Citizen | non-measurable due to lack of literature | |
| Service provision | Security provision | Low-level | Non-transactional (absenteeism) | Direct | Financial | Cost to govt budget for non-delivered security services | Public budget | non-measurable due to lack of literature | |
| Service provision | Security provision | Low-level | Non-transactional (embezzlement) | Direct | Financial | Loss of public security funds | Public budget | non-measurable due to lack of data | |
| Regulation | Environmental protection | Low-level | Transactional | Direct | In-kind | Loss of environmental resources | Public budget | 2,281,377,131,090 | 752,854,453,260 |
| Regulation | Environmental protection | Low-level | Non-transactional (embezzlement) | Direct | Financial | Loss of public environment funds | Public budget | non-measurable due to lack of data | |
| Regulation | Environmental protection | Low-level | Transactional & non-t. | Direct | In-kind | Environmental pollution/degradation | Citizen | 536,794,619,080 | 177,142,224,296 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Regulation | Permits & certificates | Low-level | Transactional | Direct | Financial | Loss of government revenue from permit fees | Public budget | between 0 and 14,227,880,342 | between 0 and 4,695,200,513 |
| Regulation | Permits & certificates | Low-level | Transactional | Direct | Financial | Cost of bribing official to receive permit | Citizen | 243,720,615,540 | 80,427,803,128 |
| Regulation | Permits & certificates | Low-level & High-level | Transactional | Direct | In-kind | Unlawful provision of land rights, building rights etc | Society at large | non-measurable due to lack of data | |
| Procurement & budgeting | Procurement | Low-level | Transactional | Direct | Financial | Cost of corruption in procurement | Public budget | 614,414,529,915 | 202,756,794,872 |
| Procurement & budgeting | Procurement | Low-level | Transactional | Direct | In-kind | Low-quality delivery of procured good/services/works | Citizens | non-measurable due to lack of data | |
| Economic outcomes | Procurement | High-level | Transactional | Direct | Financial | Distorted spending structure | Public budget | non-measurable due to lack of data | |
| Procurement & budgeting | Intra-government budgetary transfers | Low-level | Non-transactional (embezzlement) | Direct | Financial | Loss of public budget | Public budget | non-measurable due to lack of data | |
| Subsidies | Subsidies to companies | Low-level | Transactional | Direct | Financial | Loss of subsidy funds to companies that paid a bribe | Public budget | non-measurable due to lack of data | |
| Subsidies | Subsidies to citizens | Low-level | Transactional | Direct | Financial | Loss of subsidy funds to bribe-paying citizens | Public budget | negligible | |
| Subsidies | Subsidies to citizens | Low-level | Transactional | Direct | Financial | Cost of bribe for subsidies | Citizen | negligible | |
| Subsidies | Subsidies | Low-level | Non-transactional (embezzlement) | Direct | Financial | Loss of subsidy funds | Public budget | negligible | |
| Economic outcomes | FDI | High-level | Transactional | Indirect | Financial | Loss of foreign productive investment | Society at large | 18,453,867,521 | 6,089,776,282 |
| Economic outcomes | Interest rates | High-level | Transactional | Indirect | Financial | Higher interest rates on credit markets | Society at large | non-measurable due to lack of literature | |
| Economic outcomes | Labour market | High-level | Non-transactional | Indirect | Financial | Undereducated, inefficient workforce | Society at large | 320,490,570,910 | 105,761,888,400 |
| Political institutions | Trust in institutions | High-level | Transactional | Indirect | In-kind | Loss of society's trust in public institutions | Society at large | non-measurable due to lack of literature | |
| Political institutions | Rule of law | High-level | Transactional | Indirect | In-kind | Loss of trust in rule of law, resorting to street law | Society at large | non-measurable due to lack of literature | |
| Political institutions | Rule of law | Low-level | Transactional | Direct | Financial | Cost of bribing judges | Citizen | 762,906,612,759 | 251,759,182,210 |
| **TOTAL** | | | | | | | | **9,144,158,342,330** | **3,017,572,252,969** |

## Annex B. Methods to measure corruption

Mungiu-Pippidi & Fazekas (2020) sum up the most-used methods and indicators to measure corruption in the following table A1.

### *Table A1: Corruption measurement methods*

**Table 2.3** A synthetic comparison of corruption indicators

| Indicator | Specificity | Comparison across time | Comparis across un |
|---|---|---|---|
| **National context level** | | | |
| **Perception indicators** | | | |
| Expert scores first generation (Corruption Risk PRS, Business Index, Economist Intelligence Unit rating) | Low | Yes | Yes |
| Expert scores second generation (Global Competitiveness Report survey), surveys based on reporters | Medium | Yes | Yes |
| Public opinion surveys (Global Corruption Barometer, continental surveys, victimization surveys) | Medium | Yes in principle (in practice, too, many changes across years) | Yes |
| Specific population surveys (consumers of a public service) | High | Yes | Yes |
| Aggregates of expert scores and occasional public opinion surveys (CPI, CoC) | Low | Yes | Yes |
| **Objective indicators** | | | |
| IPI (6 proxies: 3 for corruption opportunities, 3 for constraints) | High | Yes | Yes |
| PACI (FCPA cases/exports) | High | Yes | Yes |
| Crony capitalism measurements | High | Yes | Yes |
| **Intermediate level** | | | |
| Company level (compliance, political connections, ownership) | High | Yes | Yes |
| Public agency level (transparency and conflict of interest measurements, 'revolving door', social loss, capture) | High | Yes | Yes |
| Detection measurements (corruption convictions per county) | High | Yes | Yes |
| Market distortion measures | High | Yes | Yes |
| **Micro level** | | | |
| Procurement based corruption risk indicators transaction level (such as single bidding or red flag | High | Yes, at aggregate | Yes, at aggregate |

**Source: Mungiu-Pippidi & Fazekas (2020)**

Corruption can be measured better where its incidence is more than occasional or exceptional. We can distinguish between measurements at a national level, intermediate level (e.g. companies or public agencies), and micro-level (e.g. a certain public procurement contract). We can broadly distinguish measurement approaches by whether they build on perception indicators (i.e. based on people's experiences and knowledge of corruption) or on objective indicators (i.e. based on "hard data" such as public procurement records). A few selected, commonly used methods are discussed below.

### Perceptions-based indicators

The first generation of perception indicators consists of expert scores or surveys of businesspeople averaged into an aggregate score based on the assumption that perceptions are based on experience and observable indicators (Kaufmann et al. 2007). Similarly, public opinion surveys and specific population surveys (e.g. focusing on users of a certain public service) rely on people's experience with corruption. In victimization surveys, for instance, individuals are required to state if they have

been asked for a bribe, which has both advantages and limits in establishing corruption. The question is clear and limited to a specific corruption phenomenon and sector. It is also phrased to minimize the responsibility of the respondent and blame the other side, which tends to encourage responses. A good guide to organizing such a survey exists from UNODC (UNODC et al. 2018).

## Experience-based and objective indicators

There are several methods and techniques to collect quantitative micro-level data on corruption. One well-known approach is Public expenditure tracking surveys (PETS) which track actual public spending at the provider or facility level through a sample survey and are useful for quantifying capture or leakage of public funds. They are typically used for schools and healthcare at the local government level. In fact, Uganda was the first country to do a PETS in 1996 on public spending on education which found that funds were captured by local politicians and public officials instead of reaching schools (Reinikka & Svensson, 2003). On the frontline public service providers, service provider surveys and the quantitative service delivery survey (QSDS) is a variant of these provider surveys, with a heavy emphasis on systematic quantitative data. It collects data on inputs, outputs, quality, pricing, oversight, etc. e.g. by doing surprise visits to health clinics or schools to see how many staff are present at their posts to determine absentee rates.

In the last decade, a global evidence base for corruption risk scoring using big data analysis has emerged with a range of scholars developing objective corruption proxies which rely on behaviors directly observable in data that likely indicate corruption. The most widely used are proxies from public procurement, which try to capture corruption in terms both of processes and outcomes (Fazekas, Tóth, & King, 2016). Procurement-based corruption proxies (often called "red flags") have been grouped in different ways following the logic of the procurement process. Using these to analyze procurement data three outcome groups that are particularly interesting to the study of corruption costs can be measured: the public spending structure, the prices paid for procurement, and the quality of delivery (in terms of delays or cancellations).

## Annex C. Red flag methodology to analyse procurement data

We applied the 'red flag' methodology to analyze corruption risks and associated direct costs in public spending as represented by public procurement to the dataset on national spending. The dataset for analysis contains 50,000 public procurement records covering the period of 2015-2020, including sectoral procurement data on healthcare and education.

This methodology builds on corruption risk indicators and corruption cost estimates calculated using well-established methods (see, for example, Fazekas & Kocsis, 2015). The corruption risk indicators that we developed proxy corruption by identifying high-risk situations where open and fair competition has been curtailed in order to benefit a favored firm. For example, when only one firm submits a bid on an otherwise competitive market and the bid advertisement period was only 1 working day, the chances are higher that tendering decisions were driven by corruption. We carry out a series of econometric tests identifying the best parameters for our indicators (e.g. how many days would count as a very short advertisement period in different contexts) and validating them. All these indicators are also confirmed by proven cases and economic theories of crime. In order to use a robust risk indicator, we aggregate several red flags into a composite score by simply averaging them (where 0 is the lowest corruption risk and 1 highest); we call this the Corruption Risk Index.

For Uganda, the red flags that can be calculated based on the available data include:

- Non-open procedure type
- Lack of call for tender publication
- Short bid submission period
- Length of decision period
- Single bidder contract
- Spending concentration (by organisation, by year)

Our methodology also links corruption risks to spending based on econometric modeling which estimates the price sensitivity of awarded contracts to corruption risks. We predict the size of discounts offered by the winning firm compared to the auction reference price (that is typically the maximum budgetary allocation for a given purchase) based on corruption risks while controlling for year, contract value, main market, buyer location, and buyer type on the contract level. Finally, these models allow us to bridge our large-scale micro-level dataset with macro aggregates such as budget deficit and to offer different macro spending estimates based on different risk levels in each country and sector.

# Annex D. Overview of corruption cost types and cost bearers

| Type of corruption | | Cost category | | Cost group | Cost sub-group | Cost description | Cost bearing actor | Estimation methods |
|---|---|---|---|---|---|---|---|---|
| *Level* | *Nature* | *Cost type* | *Cost form* | | | | | |
| Low-level | Transactional | Direct | Financial | Govt revenue | Taxation | Cost of bribing tax official | Citizen | literature and policy document review, admin data |
| Low-level | Transactional | Direct | Financial | Govt revenue | Taxation | Loss of govt tax revenue | Public budget | literature and policy document review, admin data |
| Low-level | Non-transactional (embezzlement) | Direct | Financial | Govt revenue | Taxation | Loss of govt tax revenue (citizens) | Public budget | literature and policy document review, admin data |
| Low-level | Non-transactional (embezzlement) | Direct | Financial | Govt revenue | Taxation | Loss of govt tax revenue (firms) | Public budget | literature and policy document review, admin data |
| Low-level | Transactional | Direct | Financial | Govt revenue | User fees | Loss of govt revenue from fees for public services | Public budget | literature and policy document review, admin data, survey |
| Low-level | Non-transactional (embezzlement) | Direct | Financial | Govt revenue | User fees | Loss of govt revenue from fees for public service | Public budget | literature and policy document review, admin data, survey |
| High-level | Transactional | Direct | In-kind | Govt revenue | Natural resource rents | Cost in terms of environmental degradation | Society at large | literature and policy document review, admin data |
| High-level | Transactional | Direct | Financial | Govt revenue | Natural resource rents | Corruption in contract royalties | Citizen/companies | literature and policy document review, admin data |
| High-level | Transactional | Direct | Financial | Govt revenue | Natural resource rents | Cost to govt budget | Public budget | literature and policy document review, admin data |
| Low-level | Transactional | Direct | Financial | Service provision | Healthcare provision | Cost of bribing healthcare provider | Citizen | literature and policy document review, admin data, survey, interviews |
| Low-level | Transactional | Direct | Financial | Service provision | Healthcare provision | Loss of treatment due to not affording the bribe | Citizen | literature and policy document review, admin data, survey, interviews |
| Low-level | Non-transactional (absenteeism) | Direct | Financial | Service provision | Healthcare provision | Loss of govt salaries to healthcare worker paid despite absence | Public budget | literature and policy document review, admin data, survey, interviews |
| Low-level | Non-transactional (absenteeism) | Direct | In-kind | Service provision | Healthcare provision | Loss of healthcare treatment to user | Citizen | literature and policy document review, survey |
| Low-level | Non-transactional (embezzlement) | Direct | Financial | Service provision | Healthcare provision | Loss to public healthcare funds | Public budget | literature and policy document review, admin data, interviews |
| Low-level | Non-transactional (embezzlement) | Direct | In-kind | Service provision | Healthcare provision | Cost to physical and mental well-being of patients. | Citizen | literature and policy document review, admin data, survey, interviews |
| Low-level | Transactional | Direct | Financial | Service provision | Education provision | Cost of bribing teacher/examiner | Citizen | literature and policy document review, admin data, survey, interviews |
| Low-level | Transactional (sex for grades) | Direct | In-kind (e.g. sextortion) | Service provision | Education provision | Cost to physical and mental well-being of students | Citizen | literature and policy document review, admin data, survey, interviews |
| Low-level | Non-transactional (absenteeism) | Direct | Financial | Service provision | Education provision | Loss of govt salaries to teacher paid despite absence | Public budget | literature and policy document review, admin data, survey, interviews |
| Low-level | Non-transactional (absenteeism) | Direct | In-kind | Service provision | Education provision | Loss of education hours to student | Citizen | literature and policy document review, admin data, survey, interviews |
| Low-level | Non-transactional (embezzlement) | Direct | Financial | Service provision | Education provision | Loss of public education funds | Public budget | literature and policy document review, admin data, survey, interviews |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Low-level | Non-transactional (embezzlement) | Direct | In-kind | Service provision | Education provision | Loss of education quality for user | Citizen | literature and policy document review, admin data, survey, interviews |
| Low-level | Transactional | Direct | Financial | Service provision | Welfare provision | Cost of bribing official for welfare payment | Citizen | literature and policy document review, admin data |
| Low-level | Transactional | Direct | Financial | Service provision | Welfare provision | Cost to govt budget for fraudulent welfare payment | Public budget | literature and policy document review, admin data |
| Low-level | Non-transactional (embezzlement) | Direct | Financial | Service provision | Welfare provision | Loss of public welfare funds to govt | Public budget | literature and policy document review, admin data |
| Low-level | Transactional | Direct | Financial | Service provision | Security provision | Cost to govt budget for non-paid fines | Public budget | literature and policy document review, admin data |
| Low-level | Transactional | Direct | Financial | Service provision | Security provision | Cost of bribing security official | Citizen | literature and policy document review, admin data |
| Low-level | Transactional | Direct | In-kind | Service provision | Security provision | Loss of security to citizen | Citizen | literature and policy document review, admin data |
| Low-level | Non-transactional (absenteeism) | Direct | Financial | Service provision | Security provision | Cost to govt budget for non-delivered security services | Public budget | literature and policy document review, admin data |
| Low-level | Non-transactional (embezzlement) | Direct | Financial | Service provision | Security provision | Loss of public security funds | Public budget | literature and policy document review, admin data |
| Low-level | Transactional | Direct | In-kind | Regulation | Environmental protection | Loss of environmental resources | Public budget | literature and policy document review, admin data |
| Low-level | Non-transactional (embezzlement) | Direct | Financial | Regulation | Environmental protection | Loss of public environment funds | Public budget | literature and policy document review, admin data |
| Low-level | Transactional & Non-t. | Direct | Financial | Regulation | Environmental protection | Environmental pollution/degradation | Citizen | literature and policy document review, admin data |
| Low-level | Transactional | Direct | Financial | Regulation | Permits & certificates | Loss of govt revenue from permit fees | Public budget | literature and policy document review, admin data |
| Low-level | Transactional | Direct | Financial | Regulation | Permits & certificates | Cost of bribing official to receive permit | Citizen | literature and policy document review, admin data |
| Low-level | Transactional | Direct | In-kind | Regulation | Permits & certificates | Unlawful provision of land rights, building rights etc | Citizen | literature and policy document review, admin data |
| Low-level | Transactional | Direct | Financial | Procurement & budgeting | Procurement (infrastructure, healthcare, education) | Loss of value-for-money | Public budget | literature and policy document review, admin data, big data analysis |
| Low-level | Non-transactional (embezzlement) | Direct | Financial | Procurement & budgeting | Procurement (infrastructure, healthcare, education) | Loss of public procurement funds | Public budget | literature and policy document review, admin data, big data analysis |
| Low-level | Transactional | Direct | In-kind | Procurement & budgeting | Procurement (infrastructure, healthcare, education) | Low-quality delivery of procured good/services/works | Citizen | literature and policy document review, admin data, big data analysis |
| High-level | Transactional | Direct | Financial | Economic outcomes | Procurement (infrastructure, healthcare, education) | Distorted spending structure | Public budget | literature and policy document review, admin data, big data analysis |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| High-level | Transactional | Direct | In-kind | Economic outcomes | Procurement (infrastructure, healthcare, education) | Non- or low-quality delivery of public goods/services/works; companies deterred from public contracts | Society at large | literature and policy document review, admin data, big data analysis |
| Low-level | Non-transactional (embezzlement) | Direct | Financial | Procurement & budgeting | Intra-government budgetary transfers | Loss of public budget | Public budget | literature and policy document review, admin data |
| Low-level | Transactional | Direct | Financial | Subsidies | Subsidies to companies | Loss of subsidy funds to companies that paid a bribe | Public budget | literature and policy document review, admin data |
| Low-level | Transactional | Direct | Financial | Subsidies | Subsidies to citizens | Loss of subsidy funds to bribe-paying citizens | Public budget | literature and policy document review, admin data |
| Low-level | Transactional | Direct | Financial | Subsidies | Subsidies to citizens | Cost of bribe for subsidies | Citizen | literature and policy document review, admin data |
| Low-level | Non-transactional (embezzlement) | Direct | Financial | Subsidies | Subsidies | Loss of subsidy funds | Public budget | literature and policy document review, admin data |
| High-level | Transactional | Indirect | Financial | Economic outcomes | FDI | Loss of foreign productive investment | Society at large | literature and policy document review, admin data |
| High-level | Transactional | Indirect | Financial | Economic outcomes | Interest rates | Higher interest rates on credit markets | Society at large | literature and policy document review, admin data |
| High-level | Non-transactional | Indirect | Financial | Economic outcomes | Labour market | Undereducated workforce | Society at large | literature and policy document review, admin data |
| High-level | Transactional | Indirect | Financial | Economic outcomes | Productivity, resource allocation | Inefficient workforce, resource allocation | Society at large | literature and policy document review, admin data |
| High-level | Transactional | Indirect | In-kind | Political institutions | Trust in institutions | Loss of society's trust in public institutions | Society at large | literature and policy document review, admin data |
| High-level | Transactional | Indirect | In-kind | Political institutions | Rule of law | Loss of trust in rule of law, resorting to street law | Society at large | literature and policy document review, admin data |

## References

Ackers, Louise, Ioannou, E. & Ackers-Johnson, J. (2016). The impact of delays on maternal and neonatal outcomes in Ugandan public health facilities: the role of absenteeism, Health Policy and Planning, Volume 31, Issue 9, pp. 1152–1161. https://doi.org/10.1093/heapol/czw046

Almunia, M., F. Gérard, Jonas Hjort, Justine Knebelmann, Dorothy Nakyambadde, Claude Raisaro and Lin Tian. "An Analysis of Discrepancies in Tax Declarations Submitted Under Value-Added Tax in Uganda." (2017).

Athanasios Lapatinas & Anastasia Litina & Eftichios Sophocles Sartzetakis, 2019. "Environmental projects in the presence of corruption," International Tax and Public Finance, Springer;International Institute of Public Finance, vol. 26(1), pages 103-144, February.

Azfar, O., & Gurgur, T. (2007). Does corruption affect health outcomes in the Philippines? Economics of Governance, 9(3), 197–244. doi:10.1007/s10101-006-0031-y

Bardhan, P. and Mookherjee, D. (2006), Decentralisation and Accountability in Infrastructure Delivery in Developing Countries. The Economic Journal, 116: 101-127. https://doi.org/10.1111/j.1468-0297.2006.01049.x

Baez-Camargo, Bukuluki, Lugolobi, Stahl & Kassa (2017). Behavioural influences on attitudes towards petty corruption: A Study of Social Norms and Mental Models in Uganda. Basel Institute on Governance.

Bedi, Arjun & Edwards, John. (2002). The Impact of School Quality on Earnings and Educational Returns: Evidence from a Low-Income Country. Journal of Development Economics. 68. 157-185. 10.1016/S0304-3878(02)00010-X.

Belgibayeva, A., Plekhanov, A. Does corruption matter for sources of foreign direct investment?. Rev World Econ 155, 487–510 (2019). https://doi.org/10.1007/s10290-019-00354-1

Björkman, Martina, and Jakob Svensson. "Power to the People: Evidence from a Randomized Field Experiment on Community-Based Monitoring in Uganda." The Quarterly Journal of Economics 124, no. 2 (2009): 735-69. Accessed March 10, 2021. http://www.jstor.org/stable/40506242.

Bosio, Erica, Simeon Djankov, Edward L. Glaeser, and Andrei Shleifer. Public procurement in law and practice. No. w27188. National Bureau of Economic Research, 2020.

Bradbury, Katharine & Kodrzycki, Yolanda & Tannenwald, Robert. (1997). The effects of state and local public policies on economic development: An overview. New England Economic Review. 1-12.

Bujko, Matthias & Fischer, Christian & Krieger, Tim & Meierrieks, Daniel. (2016). How Institutions Shape Land Deals: The Role of Corruption. Homo Oeconomicus. 33. 1-13. 10.1007/s41412-016-0021-4.

Castro, Conceicao & Nunes, Pedro. (2013). Does corruption inhibit foreign direct investment?. Revista Política. 51. 10.5354/0716-1077.2013.27418.

Cavanagh, C. Unready for REDD+? Lessons from Corruption in Ugandan Conservation Areas. Bergen: CMI. 2012.

Charoensukmongkol, Peerayuth & Moqbel, Murad. (2014). Does Investment in ICT Curb or Create More Corruption? A Cross-Country Analysis. Public Organization Review. 14. 10.1007/s11115-012-0205-8.

Chuah, Lay Lian and Loayza, Norman and Myers, C. Bernard, The Fight Against Corruption: Taming Tigers and Swatting Flies (January 1, 2020). World Bank Research and Policy Briefs No. 145050, Available at SSRN: https://ssrn.com/abstract=3586635

Claudio Ferraz & Frederico Finan & Diana B. Moreira, 2012. "Corrupting learning," Journal of Public Economics, vol 96(9-10), pages 712-726.

Clausen, Bianca; Kraay, Aart; Nyiri, Zsolt. 2011. Corruption and Confidence in Public Institutions : Evidence from a Global Survey. World Bank Economic Review;25(2). World Bank. © World Bank. https://openknowledge.worldbank.org/handle/10986/13471

Cole, M.A. Corruption, Income, and the Environment: An Empirical Analysis. Ecological Economics 62: 637-647. 2007.

Constantin Mellios & Eric Paget-Blanc (2006) Which factors determine sovereign credit ratings?, The European Journal of Finance, 12:4, 361-377, DOI: 10.1080/13518470500377406

Cooray, Arusha & Dzhumashev, Ratbek. (2018). The effect of corruption on labour market outcomes. Economic Modelling. 74. 10.1016/j.econmod.2018.05.015.

Davoodi, Hamid & Gupta, Sanjeev & Tiongson, Erwin. (2000). Corruption and The Provision Of Health Care And Education Services. International Monetary Fund, IMF Working Papers. 00. 10.5089/9781451853926.001.

Davoodi, Hamid & Tanzi, Vito. (1997). Corruption, Public Investment, and Growth. IMF Working Papers. 97. 10.5089/9781451929515.001.

Delbecq AL, Van de Ven AH. (1971). A group process model for problem identification and program planning. J Appl Behav Sci. 1971;7(4):466-492. doi:10.1177/002188637100700404

Du, Jun & Mickiewicz, Tomasz. (2015). Subsidies, rent seeking and performance: Being young, small or private in China. Journal of Business Venturing. 31. 10.1016/j.jbusvent.2015.09.001.

Easterly, William & Alesina, Alberto & Baqir, Reza. (1999). Public Goods And Ethnic Divisions. The Quarterly Journal of Economics. 114. 1243-1284. 10.1162/003355399556269.

Epaphra, Manamba. (2017). The Effect of Corruption on Foreign Direct Investment: A Panel Data Study. Turkish Economic Review. 4. 19-54. 10.1453/ter.v4i1.1234.

Ezra, Munyambonera and Mayanja Lwanga Musa. "A Review of Uganda's Public Finance Management Reforms (2012 to 2014): Are the Reforms Yielding the Expected Outcomes?" (2015).

Fazekas, M., Allakulov, U., Sanchez, A. & Aje, J. (2021). Water and Sanitation Sector Integrity Risk Index. Budapest: Government Transparency Institute, Working paper, GTI-WP/2020:04.

Fazekas, Mihaly & Kocsis, Gabor (2020). Uncovering High-Level Corruption: Cross-National Objective

Corruption Risk Indicators Using Public Procurement Data. British Journal of Political Science, 50(1), 155-164. doi:10.1017/S0007123417000461
Fazekas, M. & Tóth, B. (2018) The extent and cost of corruption in transport infrastructure: New evidence from Europe. Transportation Research Part A: Policy and Practice. Vol. 113, July 2018, pp. 35–54. doi: 10.1016/j.tra.2018.03.021

Flyvbjerg, Bent & Skamris, Mette & And, Holm & Buhl, Søren. (2004). What Causes Cost Overrun in Transport Infrastructure Projects?. Transport Reviews. 24. 3-18. 10.1080/0144164032000080494a.
Gaal, Peter, Tamas Evetovits, and Martin McKee. "Informal Payment for Health Care: Evidence from Hungary." Health Policy 77, no. 1 (2006): 86–102. https://doi.org/10.1016/j.healthpol.2005.07.024.
Galli, Emma & Mascia, Danilo & Rossi, Stefania. (2016). Does corruption affect the access to bank credit for micro and small businesses? Evidence from European MSMEs.

Gates, Scott & John Brehm (1997). Working, Shirking and Sabotage: Bureaucratic Response to a Democratic Public. Ann Arbor, MI: University of Michigan Press.

Gaziano, Cecile (2005). Comparative Analysis of Within-Household Respondent Selection Techniques. Public Opinion Quarterly 69:124-157

Habib, M., Zurawicki, L. Corruption and Foreign Direct Investment. J Int Bus Stud 33, 291–307 (2002). https://doi.org/10.1057/palgrave.jibs.8491017

Haggard, S., & Tiede, L. (2011). The Rule of Law and Economic Growth: Where are We? World Development, 39(5), 673–685. doi:10.1016/j.worlddev.2010.10.007

Hanf, Matthieu & Van-Melle, Astrid & Fraisse, Florence & Roger, Amaury & Carme, Bernard & Nacher, Mathieu. (2011). Corruption Kills: Estimating the Global Impact of Corruption on Children Deaths. PloS one. 6. e26990. 10.1371/journal.pone.0026990.

Hope, K.R. (2018) Police corruption and the security challenge in Kenya, African Security, 11:1, 84-108, DOI: 10.1080/19392206.2017.1419650

Hwa-Young Lee, Bong-Ming Yang & Minah Kang (2016). Control of corruption, democratic accountability, and effectiveness of HIV/AIDS official development assistance, Global Health Action, 9:1, DOI: 10.3402/gha.v9.30306

Imam, Patrick & Jacobs, Davina. (2007). Effect of Corruption on Tax Revenues in the Middle East. Review of Middle East Economics and Finance. 10. 10.1515/rmeef-2014-0001.

Klitgaard, Robert. Controlling Corruption. Berkeley: University of California Press, 1988.

Kolstad, I., & Søreide, T. (2009). Corruption in natural resource management: Implications for policy makers. Resources Policy, 34(4), 214–226. doi:10.1016/j.resourpol.2009.05.001
Lavallée, Emmanuelle & Razafindrakoto, Mireille & Roubaud, Francois. (2008). Corruption and trust in political institutions in Sub-Saharan Africa. DIAL (Développement, Institutions & Analyses de Long terme), Working Papers.

Lily Fang & Josh Lerner & Chaopeng Wu & Qi Zhang, 2018. "Corruption, Government Subsidies, and Innovation: Evidence from China," NBER Working Papers 25098, National Bureau of Economic Research, Inc.

Lin, jiunn-cheng & Lee, Jun-Yen & Liu, Wan. (2021). Risk Analysis of Regions with Suspicious Illegal Logging and Their Trade Flows. Sustainability. 13. 3549. 10.3390/su13063549.
Lovei (2000). The Costs of Corruption for the Poor: The Energy Sector. Washington DC: World Bank Publication.

Marquette, H. & Peiffer, C. (2021). Corruption Functionality Framework. Global Integrity Anti-Corruption Evidence Research Programme: Working Paper 6. Available at: https://ace.globalintegrity.org/wp-content/uploads/2021/01/GI-ACE_Research-Paper-Corruption-Framework-1.pdf

Mauro, Paolo 1995. "Corruption and Growth." The Quarterly Journal of Economics, 110(3), 681 –712.
Mauro, Paolo, 1998. "Corruption and the composition of government expenditure," Journal of Public Economics, Elsevier, vol. 69(2), pages 263-279, June.

Mawejje, Joseph & Okumu, Ibrahim. (2016). Tax Evasion and the Business Environment in Uganda. South African Journal of Economics. 84. 10.1111/saje.12132.

Michael Connolly (2007) Measuring the Effect of Corruption on Sovereign Bond Ratings, Journal of Economic Policy Reform, 10:4, 309-323, DOI: 10.1080/17487870701552053
Mieszczanski, Elena, "Schooling Silence: Sexual Harassment and its Presence and Perception at Uganda's Universities and Secondary Schools" (2018). Independent Study Project (ISP) Collection. 2908. https://digitalcollections.sit.edu/isp_collection/2908

Mo, Pak. (2001). Corruption and Economic Growth. Journal of Comparative Economics. 29. 66-79. 10.1006/jcec.2000.1703.

Mostert S, Njuguna F, Olbara G, Sindano S, Sitaresmi MN, Supriyadi E, Kaspers G. (2015). Corruption in health-care systems and its effect on cancer care in Africa. Lancet Oncol. 2015 Aug;16(8):e394-404. doi: 10.1016/S1470-2045(15)00163-1. PMID: 26248847.
Mungiu, Alina. "Corruption: Diagnosis and Treatment." Journal of Democracy 17, no. 3 (2006): 86–99. https://doi.org/10.1353/jod.2006.0050.

Nurkholis Nurkholis, Muh Dularif & Ni Wayan Rustiarini | Collins G. Ntim (Reviewing editor) (2020) Tax evasion and service-trust paradigm: A meta-analysis, Cogent Business & Management, 7:1, DOI: 10.1080/23311975.2020.1827699

OECD (2016), Corruption in the Extractive Value Chain: Typology of Risks, Mitigation Measures and Incentives, OECD Development Policy Tools, OECD Publishing, Paris, https://doi.org/10.1787/9789264256569-en.

Offe, C. (2004). Political Corruption: Conceptual and Practical Issues. In János Kornai and Susan Rose-Ackerman (eds), Building a Trustworthy State in Post-Socialist Transition. Palgrave Macmillan. pp 77-99

Olken, B. A. (2006). Corruption and the costs of redistribution: Micro evidence from Indonesia. Journal of Public Economics, Volume 90, Issues 4–5, Pages 853-870, ISSN 0047-2727, https://doi.org/10.1016/j.jpubeco.2005.05.004.

Olken, B. A. (2007). Monitoring corruption: evidence from a field experiment in Indonesia. Journal of Political Economy, 115(2), 200–249. doi:10.1086/517935.

Onwujekwe O, Orjiakor CT, Hutchinson E, et al. (2019). Where do we start? Building consensus on drivers of health sector corruption in Nigeria and ways to address it. Int J Health Policy Manag. 2020;x(x):x–x. doi:10.15171/ijhpm.2019.12
Peiffer, C. Armytage, R., Marquette, H., & Gumisiriza (2020) "Uganda's Health Sector as a 'Hidden' Positive Outlier in Bribery Reduction" Development Policy Review. DOI: https://doi.org/10.1111/dpr.12533

Pendergast, S., Clarke, J., & Van Kooten, G. (2011). Corruption, Development and the Curse of Natural Resources. Canadian Journal of Political Science / Revue Canadienne De Science Politique, 44(2), 411-437. Retrieved March 26, 2021, from http://www.jstor.org/stable/41300548

Persson, Anna, Bo Rothstein, and Jan Teorell. "Why Anticorruption Reforms Fail-Systemic Corruption as a Collective Action Problem." Governance 26, no. 3 (2012): 449–71. https://doi.org/10.1111/j.1468-0491.2012.01604.x.

PPDA (2020) The Fourth Public Procurement Integrity Survey. PPDA, Kampala
Rijkers, Bob; Baghdadi, Leila; Raballand, Gael. 2015. Political Connections and Tariff Evasion : Evidence from Tunisia. Policy Research Working Paper;No. 7336. World Bank, Washington, DC.

Ritva Reinikka, Jakob Svensson, Local Capture: Evidence from a Central Government Transfer Program in Uganda, The Quarterly Journal of Economics, Volume 119, Issue 2, May 2004, Pages 679–705, https://doi.org/10.1162/0033553041382120

Rose-Ackerman, S. 1978. Corruption A Study in Political Economy. New York: Academic Press.
Rose-Ackerman, S. 1999. Corruption and Government Causes Consequences and Reform. Cambridge: Cambridge University Press.

Shafik, Nemat & Jalali, Jalaleddin, 1991. "Are high real interest rates bad for world economic growth?," Policy Research Working Paper Series 669, The World Bank.

Smarzynska, Beata K. and Wei, Shang-Jin, (2000), Corruption and Composition of Foreign Direct Investment: Firm-Level Evidence, No 7969, NBER Working Papers, National Bureau of Economic Research, Inc, https://EconPapers.repec.org/RePEc:nbr:nberwo:7969.

Søreide, Tina & Kolstad, Ivar. (2009). Corruption in Natural Resource Management: Implications for Policy Makers. Resources Policy. 34. 214-226. 10.1016/j.resourpol.2009.05.001.
Statnik, Jean-Christophe & Vu, Giang. (2019). Does corruption impact the demand for bank credit? A study of discouraged borrowers in Asian developing countries. Finance. 42. 10.3917/fina.413.0007
Suzuki, Tomoya. (2018). Corruption, interest rates and business cycles: comparison of emerging economies. Economic Change and Restructuring. 51. 10.1007/s10644-017-9206-5.
Swaleheen, Mushfiq. (2008). Corruption and saving in a panel of countries. Journal of Macroeconomics. 30. 1285-1301. 10.1016/j.jmacro.2007.05.002.

Tanzi, Vito. (1998). Corruption Around the World: Causes,Consequences, Scope, and Cures. IMF Staff Papers. 45. 1-1. 10.2307/3867585.

Teera, Joweria. (2003). Determinants of Tax Revenue Share in Uganda.
Theo Eicher & Cecilia García-Peñalosa & Tanguy Ypersele, 2009. "Education, corruption, and the distribution of income," Journal of Economic Growth, Springer, vol. 14(3), pages 205-231, September.
Transparency International (2017). The Potential of ICTs to Combat Land Corruption: A gendered

approach. Available at: https://landportal.org/sites/landportal.info/files/ICTS_Land_Corruption_Uganda_2017.pdf
Transparency International Uganda (2017). Land and Corruption: A Stakeholders Guide in the Fight against Corruption in Uganda's land sector. Available at: http://tiuganda.org/wp-content/uploads/2018/11/Land-and-Corruption-hand-book.pdf
Udenze, O. (2014). The Effect of Corruption on Foreign Direct Investments in Developing Countries. The Park Place Economist, 22, 17.

United Nations Children's Fund (UNICEF) (2013). Assessing child protection, safety and security issues for children in Ugandan primary and secondary schools. Research Briefing. Kampala: UNICEF Uganda. https://static1.squarespace.com/static/5614036de4b0014b6b21ce4f/t/5645e2c7e4b0639705d8c6df/1447420615859/Child+Protection%2C+Safety+%26+Security+in+Uganda+Schools.pdf

Vian, T. (2005). The sectoral dimensions of corruption: health care, Chapter 4 in Spector BI (ed.). Fighting corruption in developing countries. Bloomfield, CT: Kumarian Press Inc., 2005, p. 45-46.
Vian, Taryn. (2008). Review of Corruption in the Health Sector: Theory, methods and interventions. Health policy and planning. 23. 83-94. 10.1093/heapol/czm048.

Wei, Shang-Jin. "How Taxing Is Corruption On International Investors?," Review of Economics and Statistics, 2000, v82(1,Feb), 1-11

Welsch, Heinz, (2004), Corruption, growth, and the environment: a cross-country analysis, Environment and Development Economics, 9, issue 5, p. 663-693, https://EconPapers.repec.org/RePEc:cup:endeec:v:9:y:2004:i:05:p:663-693_00.

Witvliet MI, Kunst AE, Arah OA, Stronks K. Sick regimes and sick people: a multilevel investigation of the population health consequences of perceived national corruption. Trop Med Int Health. 2013 Oct;18(10):1240-7. doi: 10.1111/tmi.12177. PMID: 24016030.
World Bank (2019). Pension Systems in East Africa: A Deep Dive. Washington: World Bank Group. Available at: https://www.urbra.go.ug/download/pension-systems-in-east-africa-a-deep-dive-world-bank-2019/?wpdmdl=2855&masterkey=5e8aef0ea8b61

Zhang, H., An, R., & Zhong, Q. (2019). Anti-corruption, government subsidies, and investment efficiency. China journal of accounting research, 12, 113-133.

Zhuang, Juzhong & de Dios, Emmanuel & Martin, Anneli. (2010). Governance and Institutional Quality and the Links with Economic Growth and Income Inequality: With Special Reference to Developing Asia. Asian Development Bank, ADB Economics Working Paper Series. 193. 10.2139/ssrn.1619116.

Supported by


giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH