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# Corruption in Africa: effects on resource allocation and the role of leadership

Harouna Sedgo

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Membre de l'université Paris Lumières

## Harouna Sedgo

# Corruption in Africa: effects on resource allocation and the role of leadership

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doctorat de Sciences économiques de l'Université Paris Nanterre  
sous la direction de M. Luc Désiré Omgba (Université de Lorraine)

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*A ma mère, qui nous a quitté trop tôt,*

*A mon père*

*A ma famille*

*A tous ceux qui se battent pour faire du monde une meilleure place*



D'une manière générale, dans la littérature, un niveau élevé de corruption a un effet défavorable sur le développement économique. Reste que pour l'Afrique, la difficulté réside à mettre en relief les mécanismes sous-jacents liés à la corruption tant l'histoire, la géographie, les ressources naturelles, l'évolution des institutions, et bien d'autres facteurs s'entremêlent dans les performances économiques contemporaines des pays du continent. Cette thèse s'appuie sur ce constat, et se propose d'étudier la relation entre corruption et trois questions contemporaines qui se posent aux économies africaines – à savoir la réforme de l'état, l'emploi, le leadership-. Ainsi, dans le premier chapitre, les effets de la corruption sur la structure économique des dépenses publiques sont étudiés. Dans le deuxième, le rôle de la corruption sur les choix professionnels est mis en évidence. Le troisième chapitre s'interroge sur le rôle des dirigeants dans la lutte contre la corruption.

Plusieurs résultats découlent de ces études. (i) Sur le plan des dépenses publiques, une forte prévalence de la corruption en Afrique entraîne une distorsion des dépenses publiques au détriment des dépenses en capital. Plus spécifiquement, une hausse de la corruption d'un écart type est associée à une baisse de la proportion des dépenses en capital de 11 points de pourcentage. (ii) Sur l'emploi, il est mis sur pied une nouvelle mesure de la corruption des agents publics comme étant la différence entre le salaire perçu pour un poste donné et le salaire effectif du poste. Ainsi, en surestimant le salaire servi dans l'administration publique en lien avec la corruption, des chercheurs d'emplois choisissent de faire carrière dans l'administration publique au détriment des autres secteurs. Une hausse infinitésimale de la corruption accroît la probabilité de vouloir faire carrière dans le secteur public de 12.7%. (iii) Sur le rôle des dirigeants, il est démontré un effet substantiel du leadership du Capitaine Thomas Sankara et ses politiques anti-corruption sur la corruption au Burkina Faso de 1983 à 1987. En 1987, l'effet Sankara représente une



baisse de la corruption de 70% par rapport à sa prévalence de 1982. Sur la base de ces résultats, et en guise de recommandations, la thèse propose : (i) d'inscrire la lutte contre la corruption à la première page des politiques de développement en Afrique, la lutte anti-corruption pouvant à elle seule faire l'objet d'une politique économique ; (ii) de mettre les informations sur l'administration publique, en particulier les informations salariales, à la disposition des citoyens et baser au moins en partie la sélection des agents de l'État sur des caractéristiques anti-corruption (honnêteté vs tricherie, par exemple) ; (iii) de mettre en œuvre des procédures relatives à l'intégrité des leaders, et de sélectionner les leaders sur la base entre autres de leur programme de lutte contre la corruption.

*Keywords:* Corruption, Dépenses publiques, Choix professionnel, Administration public, Leadership, Capitaine Thomas Sankara, Afrique

*JEL codes:* D73, H5, J24, O55

## ABSTRACT

Generally speaking, in the literature, a high level of corruption harms economic development. However, for Africa, the difficulty lies in highlighting the underlying mechanisms related to corruption as history, geography, natural resources, institutional evolution, and many other factors intertwine in the contemporary economic performance of the continent's countries. This thesis builds on this observation and proposes to study the relationship between corruption and African economies' current issues: state capacity, employment, and leadership. Thus, in the first chapter, the effects of corruption on the economic distribution of public expenditure are examined. The second chapter highlights the role of corruption in occupational choices. The third chapter examines the role of leaders in combating corruption.

Several results emerge from these studies. (i) In terms of public spending, a high prevalence of corruption in Africa leads to a distortion of public expenditure away from capital spending. Specifically, a one standard deviation increase in corruption is associated with an 11-percentage point decrease in the proportion of capital spending. (ii) On employment, a new measure of public official's corruption is built as the difference between the salary perceived for a given position and the actual salary of the position. Thus, by overestimating the wage served in public administration in relation to corruption, job seekers choose to pursue a career in the civil service at the expense of other sectors. An infinitesimal increase in corruption rises the probability of selecting a career in the public sector by 12.7 percent. (iii) On the role of leaders, there is evidence of a substantial effect of the leadership of Captain Thomas Sankara and his anti-corruption policies on corruption in Burkina Faso from 1983 to 1987. In 1987, the Sankara's effect represented a decrease in corruption of 70 percent compared to its prevalence in 1982.

Based on these results, and by way of recommendations, the thesis proposes: (i) to

put the fight against corruption on the front page of development policies in Africa, as anti-corruption alone can be the subject of an economic policy; (ii) make information on public administration, especially salary information, available to citizens and base the selection of public officials at least in part on anti-corruption characteristics (e.g., honesty vs. cheating); (iii) implement procedures relating to the integrity of leaders, and select leaders based on, among other things, their anti-corruption program.

*Keywords:* Corruption, Public expenditures, Occupational choice, Civil service, Leadership, Captain Thomas Sankara, Africa

*JEL codes:* D73, H5, J24, O55

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## INTRODUCTION GÉNÉRALE

*"...ouvrir les esprits sur un univers de responsabilité collective pour oser inventer l'avenir."*

Thomas Sankara, président du Burkina Faso de 1983 à 1987, 4 Octobre 1984 à New York (39<sup>e</sup> session des Nations unies)

## 0.1 La Corruption en Afrique et dans le monde

«*La corruption n'a pas toujours sévi en Afrique*» (Collier 2000, p.191). Selon les données historiques de *Varieties of Democracy* (V-Dem), Figure 0.1, au début du 20e siècle, l'Afrique était encore le troisième continent le moins corrompu dans le monde après l'Océanie et l'Europe. La prévalence de la corruption y était relativement faible par rapport aux continents Américain et Asiatique. Cette prévalence de la corruption sur le continent Africain est restée stable et en dessous de la moyenne de l'indicateur jusqu'à la moitié du 20e siècle. A partir de cette période jusqu'au début du 21e siècle, la prévalence de la corruption s'est accélérée pour faire du continent africain le lieu où elle est le plus endémique au monde. S'il y a eu une augmentation mondiale de la corruption durant un siècle (Figure 0.2), l'accélération de sa prévalence a été particulièrement plus rapide en Afrique par rapport aux autres continents (Figure 0.1). Comme on peut le constater sur le graphique 1, la prévalence de la corruption s'est stabilisée autour de 0,4 (sur une échelle de 0 à 1, 1 étant le niveau le plus élevé de la corruption) entre 1900 et 1959 en moyenne bi-décennales et a atteint 0,5 sur la période 1960-1979, puis 0,6 sur la période 1980-1999 avant de s'établir à 0,7 sur la période 2000-2020. Partant d'une classification des pays selon leur niveau de corruption entre 2000 et 2020 (Figure 0.3), les indicateurs de la corruption de *Varieties of Democracy* (V-Dem) et de World Governance Indicators (WGI) de la Banque Mondiale conviennent que le Botswana et le Cap-Vert sont les pays où la prévalence de la corruption est la plus faible en Afrique. Toujours selon ces indicateurs, seulement 5 à 9 pays sur les 54 africains ont un niveau de corruption en dessous de la moyenne des indicateurs. L'observation de la figure 0.4 montre une variation hétérogène de la corruption en Afrique entre 1996 et 2020. Si elle a augmenté dans certains pays, en revanche elle a baissé dans d'autres pays.

L'introduction générale de cette thèse, consacrée à la corruption en Afrique, est structurée autour de cinq points. Nous proposons une revue de littérature des facteurs corrélés avec la corruption en Afrique dans la section 2. La section 3 présente la spécificité de la thèse. La méthodologie utilisée est présentée dans la section 4. La structure de la thèse et la contribution des chapitres sont présentées dans la section 5.

## 0.2 Les facteurs derrière la corruption en Afrique

Quoique l'accélération de la prévalence de la corruption en Afrique soit récente, son caractère endémique contemporain interroge la littérature sur les facteurs derrière ce degré

Figure 0.1: Évolution de la corruption par continent de 1900 à 2021 (en moyenne bi-décennales)

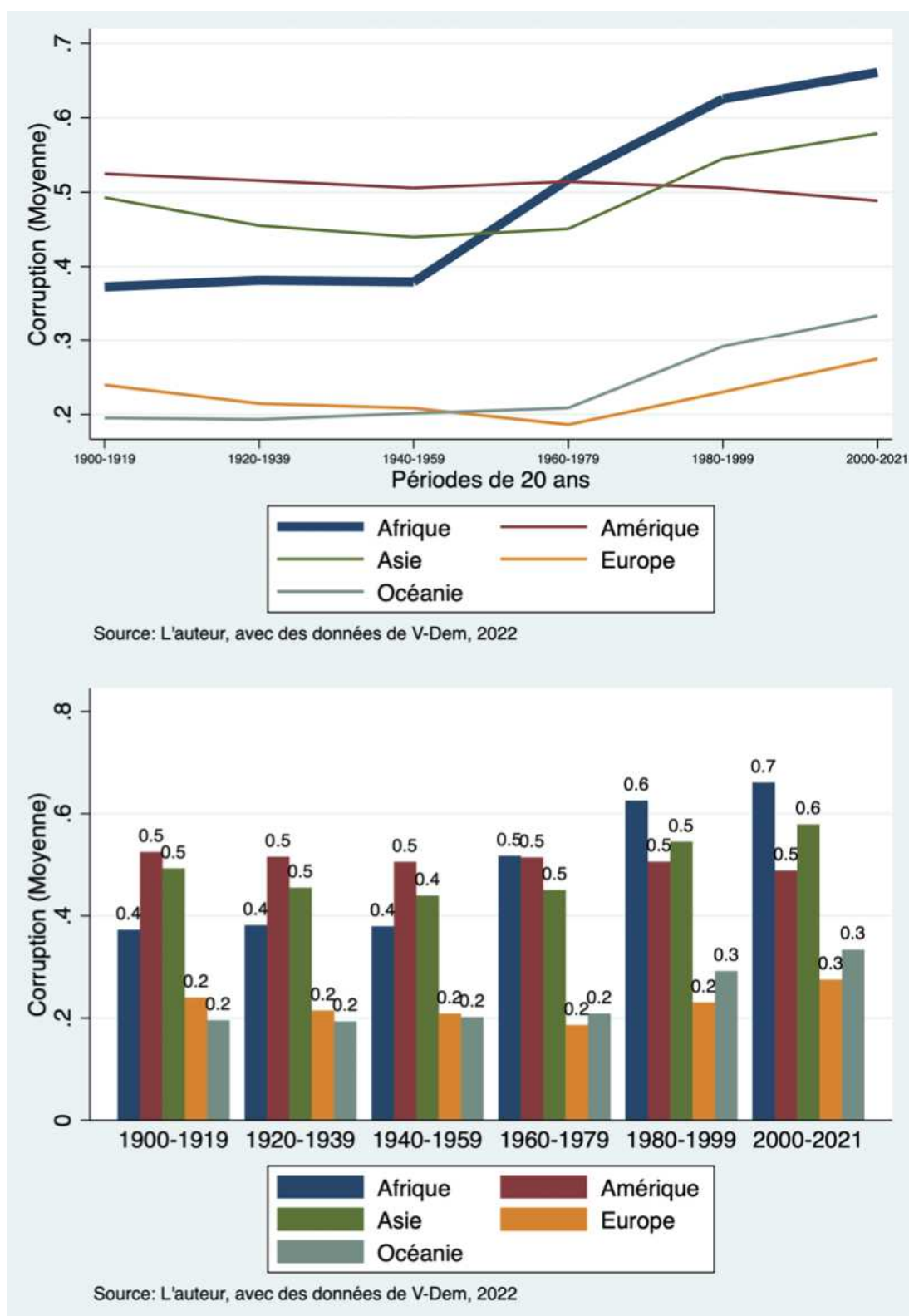
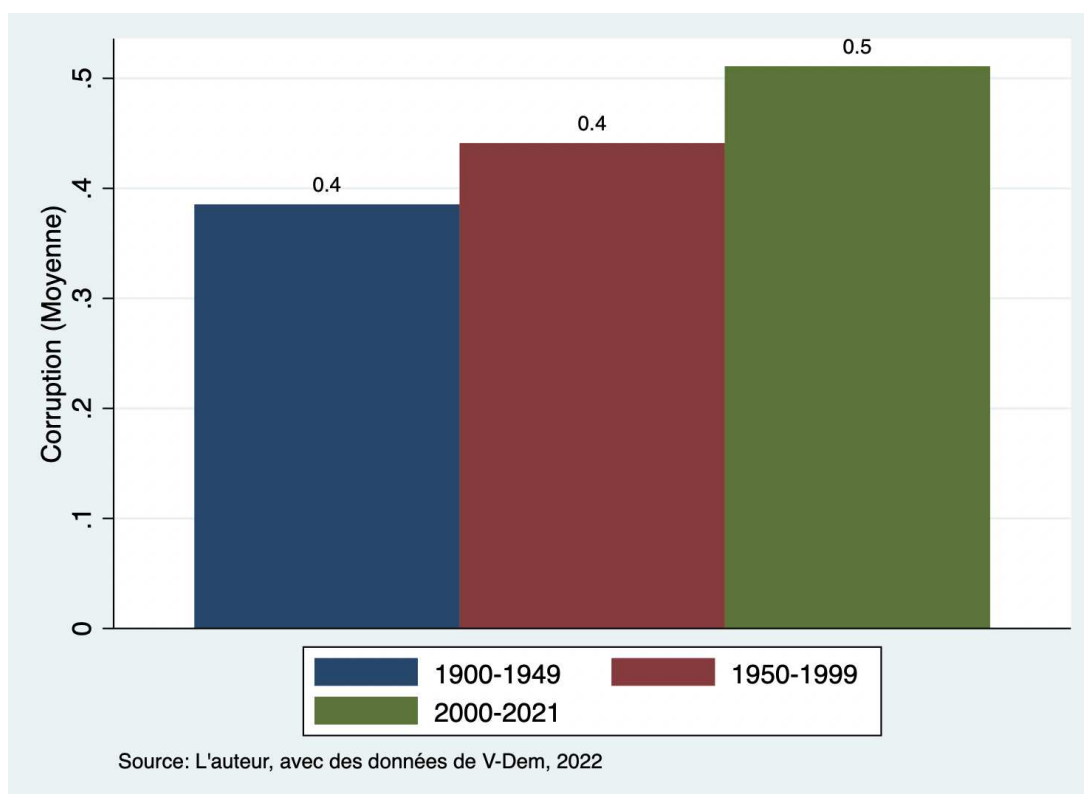




Figure 0.2: Évolution de la corruption dans le monde de 1900 à 2021



élevé de la corruption dans le continent. Dans la littérature, plusieurs facteurs sont à l'œuvre, en particulier des facteurs d'origines historiques et institutionnelles.

### 0.2.1 Les facteurs d'origines historiques

Sur le plan historique, deux événements majeurs se distinguent par leur ampleur et leur impact sur les institutions africaines (Nunn 2008, Acemoglu & Robinson 2015). Il s'agit notamment de l'esclavage qui s'est étendu sur plus de cinq siècles notamment de 1400 à 1900 et la colonisation impérialiste<sup>1</sup>.

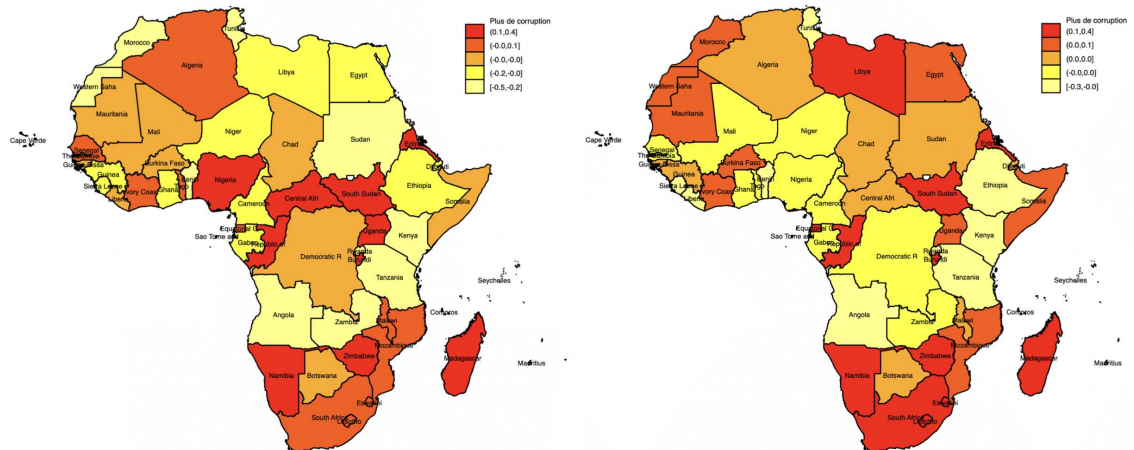
#### 0.2.1.1 Esclavage et corruption en Afrique

L'esclavage a été une source d'influence et de reformatons des institutions africaines sur au moins cinq siècles. Il a contribué au développement de la corruption à travers deux voies : Premièrement, la production des esclaves a impliqué de la corruption. En effet, *"l'esclavage était de la corruption : il impliquait le vol, les pots-de-vin et l'exercice de la force brute ainsi que des ruses. L'esclavage peut donc être considéré comme l'une des sources des*

<sup>1</sup>Olsson (2004) identifie trois vagues de colonisation en lien avec l'hétérogénéité du processus : la colonisation mercantiliste entre 1500 et 1830 (Amérique Latine), la colonisation impérialiste entre 1885 et 1960 (Afrique) et un processus intermédiaire, la colonisation graduelle (Australie, Nouvelle Zélande, Canada, USA et certains pays d'Asie).



Figure 0.4: Variation de la corruption par pays entre 1996 et 2020 selon les indicateurs de V-Dem (gauche) et de WGI de la banque Mondiale (droite)



Source: L'auteur, avec des données de V-Dem, 2022

*origines précoloniales de la corruption moderne*”(Manning 1990, p.124). Deuxièmement, les méthodes de production des esclaves ont également contribué au développement de la corruption. Ces méthodes ont impliqué notamment des guerres, des procédures légales et des kidnappings (Manning 1983) contribuant à la détérioration des normes et contraintes qui organisent la vie politique, économique et sociale et a donc permis le développement de la corruption en Afrique. Par exemple, Nunn (2008) établit une corrélation négative entre intensité de l’esclavage et le développement des États précoloniaux en Afrique. En examinant les canaux de transmissions des effets de l’esclavage, Nunn & Wantchekon (2011) trouvent que l’esclavage a altéré les normes culturelles et les institutions politiques et économiques en Afrique. L’instabilité politique et la fragmentation ethnique insufflé par l’esclavage (Whatley & Gillezeau 2011, Michalopoulos & Papaioannou 2020) est de nature à favoriser également la pratique de la corruption.

### 0.2.1.2 Colonisation et corruption en Afrique

La colonisation européenne a marqué un temps de rupture et de troubles institutionnelles en Afrique. Cette discontinuité institutionnelle et la gestion coloniale ont favorisé l’émergence de la corruption à travers trois sources principales :

(i) En premier lieu, la colonisation a créé un terreau fertile à la corruption à travers l’usage détourné du pouvoir et des institutions locaux. En effet, bien que l’administration coloniale représente la superstructure du pouvoir colonial, les peuples africains avaient leurs propres institutions qui régulent leur vie politique, économique et social (Oloruntimehin 1983). Les représentants de l’administration coloniale (le gouverneur général,

gouverneurs et les fonctionnaires) avaient besoin de s'appuyer sur ces institutions et les chefs locaux pour exercer leur pouvoir non seulement pour des raisons pratiques mais aussi pour des raisons économiques (Acemoglu et al. 2014, Betts et al. 1987, Oloruntimehin 1983). Ainsi, la transformation de l'institution des chefs locaux en un instrument au service uniquement de l'administration coloniale va créer une situation favorable au développement de la corruption. Selon Acemoglu et al. (2014), l'établissement de l'autorité coloniale, notamment britannique pour le cas de la Sierra Leone, a ébranlé les contre-pouvoirs préexistants. Pour ces auteurs, le modèle institutionnel colonial a rendu des chefs locaux moins redevables envers leur peuple qu'à la période précoloniale. Ces derniers, désormais plus autoritaires, n'étaient plus qu'au service de l'administration coloniale (Betts et al. 1987). Ali et al. (2020) confirment cette idée. Ils évaluent l'impact du système colonial britannique sur la corruption des leaders locaux dans 21 pays africains avec des données d'enquête microéconomiques de Afrobaromètre. Pour ces auteurs, le système colonial britannique a renforcé le pouvoir des leaders locaux et ébranler leur redevabilité envers la population locale. Ali et al. (2020) à l'aide de méthode de régression discontinue trouvent que les leaders locaux sont perçus comme plus corrompus par les citoyens dans les pays anglophones que dans les pays francophones, ce qui réduit la confiance des citoyens aux leaders anglophones.

(ii) En deuxième lieu, la colonisation a apporté la corruption à travers les méthodes adoptées pour soudoyer et soumettre les chefs locaux et les peuples colonisés (Mulinge & Lesetedi 1998, Mulinge et al. 2002). En effet, la technique de diviser pour régner a été utilisée avec des faveurs accordées à une tribu ou une ethnie (des opportunités économiques) aux détriments des autres pour l'atteinte d'un double objectif : assurer la loyauté envers l'administration coloniale et susciter des rivalités afin d'éviter l'unité qui pourrait ébranler le pouvoir colonial. A titre d'exemple Mulinge & Lesetedi (1998) citent entre autres l'alliance britannique avec le peuple Ngonde au Nyassa nord en Nyassaland (Malawi), les Baganda en Uganda, les Tutsis au Rwanda et au Burundi, les Ibo au Nigéria, les Shona au Zimbabwe. La pratique du « diviser pour régner » a favorisé l'émergence du tribalisme (ethnicité) et du népotisme que les élites africaines ont eu tendance à perpétuer (Mulinge & Lesetedi 1998, Khalil Timamy 2005). En outre, l'ethnicité et le favoritisme ont entraîné l'expansion des détournements de deniers publics et de la mauvaise gestion notamment avec le clientélisme dans les recrutements de la fonction publique. C'est l'exemple du Kenya sous Arap Moi (avec sa tribu pastorale Kalenjin) et du Tchad sous Idriss Déby Itno.

(iii) En troisième lieu, l'administration coloniale a introduit de nouvelles opportunités

de rente qui ont alimenté les comportements de capture et de corruption. C'est l'exemple de l'introduction de la taxe d'habitation et puis la taxe de capitation payée en argent (Mulinge & Lesetedi 1998) et même de l'administration publique (Khalil Timamy 2005). La taxation de capitation avait pour but de supporter le coût de l'administration et de recueillir de la main d'œuvre pour les travaux agricoles et miniers. Elle représente 39% des revenus de l'Afrique-Occidentale française (AOF) entre 1907 et 1957 (Huillery 2014). Pour assurer la collecte de ces recettes, l'administration coloniale charge les chefs de cette tâche en les motivant d'une partie des taxes collectées. Cette pratique de récompenses des collecteurs (chefs locaux) devenant la principale méthode d'accumulation de richesse a conduit à des abus de pouvoir au détriment du peuple. En Bechuanaland (Botswana), les chefs sont récompensés par 10% des taxes collectées dans leurs zones (Mulinge & Lesetedi 1998).

Pour résumer, l'institution de l'héritage colonial à travers la culture administrative, la technique de diviser pour régner et la structure constitutionnelle héritées des colons ont assuré la persistance de la corruption, à travers la dépendance du chemin, en Afrique.

### 0.2.2 Les facteurs institutionnels

Les institutions sont des contraintes humaines informelles (sanctions, tabous, coutumes, traditions et codes sociétaux) et formelles (constitutions, lois, droit de propriété) qui structurent l'interaction humaine notamment politique, économique et sociale (North 1991, 1994). Ces institutions déterminent ainsi les coûts de transactions et le progrès économique (Williamson 2000, North 1991). Pour North (1991), les institutions ont été façonnées pour répondre aux besoins de régulation de la société. Ainsi, la prévalence de la corruption dans une société dépend des normes et contraintes qui y sont instituées. Nous retenons ici un double aspect de l'interaction entre institutions et corruption.

Le premier aspect fait référence à la nature spécifique de la fonction publique et bureaucratique. Banerjee (1997) explique la présence de la corruption par (i) le fait que le gouvernement intervient dans des situations de défaillance du marché c'est-à-dire des situations où les citoyens ont un consentement à payer plus élevé que leur capacité à payer et (ii) la présence de problème d'agence au sein du gouvernement. L'auteur mobilise un modèle à trois types d'agents, les bureaucrates, les citoyens et le gouvernement chargé de l'allocation optimale des biens publics. Il suppose l'existence d'asymétrie d'information entre le gouvernement et les bureaucrates concernant le mécanisme d'allocation du bien public et entre les bureaucrates et les citoyens par rapport à leur consentement à payer. En simulant le modèle dans une situation où le gouvernement n'est plus soucieux du bien-être

(cherche à faire du profit), les résultats indiquent que la corruption et la lourdeur bureaucratique disparaissent. Ainsi, pour [Banerjee \(1997\)](#), l'existence du conflit d'intérêt dans le gouvernement est l'élément clé. Les résultats montrent également que la corruption et les lourdeurs bureaucratiques sont plus probables dans les pays en développement où la capacité à payer est inégalement répartie et est relativement plus faible par rapport au consentement à payer, et où les biens à allouer sont relativement rares. Dans la même direction, selon [Collier \(2000\)](#), la corruption en Afrique est en lien avec les opportunités qui proviennent de la surrégulation, l'expansion du secteur public, l'augmentation des marchés publics et la faiblesse du monitoring.

Sur le plan empirique, l'instabilité politique et une démocratie non interrompue sur des décennies sont mises en évidence comme des facteurs corrélés à la corruption dans un pays ([Serra 2006](#), [Treisman 2000](#)). En effet, en testant la sensibilité des déterminants de la corruption mises en évidence dans la littérature, [Serra \(2006\)](#) trouve que cinq variables sont véritablement corrélées à la corruption dont l'instabilité politique et la démocratie non interrompue sur une longue période.

D'autre part, la capacité des États en lien avec la crise de légitimité socio-culturelle et de leadership exacerbe la corruption ([Englebert 2000](#), [Mbembe 1992](#)). Pour [Englebert \(2000\)](#), la mauvaise gouvernance en Afrique résulte d'une crise de légitimité. En cherchant à mesurer l'effet de la légitimité, c'est-à-dire la congruence entre les États pré et post coloniaux, sur la qualité de la gouvernance, [Englebert \(2000\)](#) montre que la légitimité verticale (le consensus sur le droit de régner) et la légitimité horizontale (le consensus sur la communauté nationale) affecte positivement la qualité de la gouvernance en Afrique. Ses résultats indiquent que le consensus social (la communauté nationale) est particulièrement déterminant pour la formation de la capacité de l'État que le consensus historique sur l'autorité politique (dimension verticale). Dans le même sens, [Khalil Timamy \(2005\)](#) explore les motivations de la corruption des leaders africains et indiquent que la perception de l'État et ses ressources comme une force extraterrestre est l'un des héritages criminels de la colonisation. Pour lui, l'expérience colonial amène les peuples africains à prendre l'institution de l'État (colonial) comme une force d'usurpation de leurs ressources générant la perception des ressources de l'État comme appartenant au gouvernement ou une force extérieure entraînant la corruption systémique. En effet, l'État colonial a été un instrument d'aliénation et de contrainte. Par conséquent, le processus d'appropriation sociétale de l'État tarde à se réaliser. Dans ce contexte, le processus de légitimation de l'institution étatique nécessite un leadership exemplaire qui permet aux populations de réaliser toute

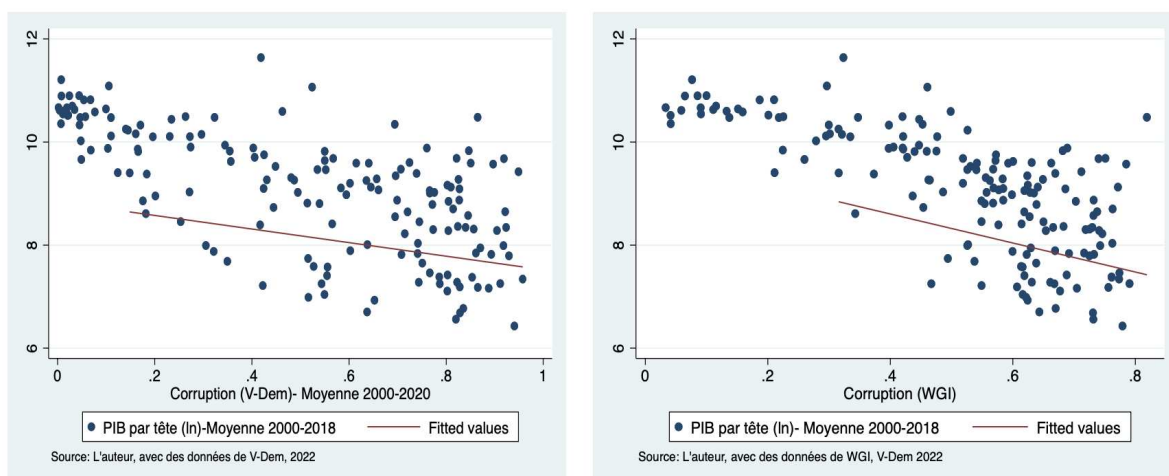
l'utilité de l'État. C'est le fondement de l'un des chapitres de la thèse.

### 0.3 Spécificité de la thèse

De ce qui précède, plusieurs facteurs sont associés à la corruption, mais l'intérêt de l'étude de la corruption ne se résume pas à rechercher les facteurs qui sont derrière la corruption, il se situe également sur les conséquences que pourraient avoir la corruption dans les pays.

La prévalence de la corruption est négativement corrélée à la croissance économique et le développement du continent. En effet, les figures 0.5 présentent une corrélation négative entre le PIB par tête des pays africains et leur niveau de corruption mesurée par deux indicateurs différents : l'indicateur de political corruption de V-Dem (Varieties of democracy) et celui de WGI (World Governance Indicators) de la Banque Mondiale. Ces figures semblent indiquer que les pays ayant une prévalence de la corruption élevée ont un PIB par tête relativement faible.

Figure 0.5: Corrélation entre le PIB par tête et l'indicateur de corruption de V-Dem (gauche) et l'indicateur de corruption de WGI de Banque Mondiale (droite)



La littérature économique empirique confirme que la corruption érode la performance économique. Mauro (1995) montre, sur un échantillon de pays développés et en développement dans le monde, que la corruption réduit la croissance économique. Aidt et al. (2008a) et Aidt (2009a) trouvent également que la corruption affecte négativement la performance économique. Récemment, Uberti (2021), affiche une évidence historique, sur la période 1790 à 2010, de l'effet néfaste de la corruption sur la croissance économique. Avec les effets fixes et la méthode des variables instrumentales, l'auteur trouve que la corruption est plus dommageable pour la croissance économique dans les pays démocratiques (où la corruption a tendance à se décentraliser) que dans les pays autocratiques (où la corruption a

tendance à se centraliser). Les résultats de [Uberti \(2021\)](#) mettent définitivement en doute la théorie de «grease the wheels»<sup>2</sup> de la corruption.

Si l'effet néfaste de la corruption sur la prospérité économique est empiriquement soutenu, les canaux à travers lesquels elle agit sur la performance économique restent encore à mettre en évidence. La littérature sur le sujet indique entre autres que la corruption : (i) affecte négativement la capacité de l'État à mobiliser des ressources publiques ([Bird et al. 2014](#)), agit sur la structure des dépenses publiques par secteurs ([Hessami 2014](#), [Delavallade 2006](#), [Mauro 1998](#)), réduit la croissance et la profitabilité des firmes ([Fisman & Svensson 2007](#)) et réduit le capital social notamment la confiance ([Banerjee 2016](#)). Pour des pays en voie de développement comme ceux d'Afrique, la capacité de l'État à allouer les ressources de façon efficiente est déterminante pour la performance économique ([Olken & Pande 2012](#)).

Nous focalisons notre attention sur les effets de distorsion de la corruption dans l'allocation des ressources en nous appuyant sur la question de recherche suivante : quel est l'impact de la corruption dans l'allocation des ressources en Afrique ? Nous postulons qu'en raison de sa nature illégale et de l'accès différencié à la rente, la corruption des agents publics affecte l'efficience dans l'allocation des ressources. En clair, le besoin de secret dans la pratique de la corruption détermine l'allocation des ressources en lieu et place de l'optimalité économique. Cette idée constitue l'hypothèse principale de cette thèse.

Pour l'évaluer, nous étudions les effets de la corruption sur l'arbitrage entre dépenses en capital et dépenses courantes d'une part, et d'autre part, sur le choix professionnel en vue d'explicitier les canaux par lesquels la mauvaise gouvernance affecte la performance économique en Afrique.

Après cet intérêt de notre thèse sur les conséquences de la corruption sur les économies africaines, nous poursuivons l'analyse en questionnant le rôle du leadership africain dans la lutte contre la corruption. Pour ce faire, nous procédons à l'évaluation de l'impact de la politique anti-corruption du président Thomas Sankara au Burkina Faso. L'intérêt d'une telle démarche réside notamment dans la manière dont le pouvoir est distribué en Afrique. En effet, la plupart des régimes en Afrique sont présidentiels ou semi-présidentiels avec d'importants pouvoirs accordés au président. Dès lors, le rôle du président dans une problématique aussi capitale qu'est la corruption devient central.

En somme, l'objectif de la thèse est d'évaluer l'effet de la corruption sur l'arbitrage entre dépenses en capital et dépenses courantes, de proposer une mesure de la corruption des

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<sup>2</sup>Pour cette théorie, voir [Leff \(1964\)](#), [Huntington \(1968\)](#), [Lui \(1985\)](#)



fonctionnaires, de mobiliser cette mesure pour évaluer l'incidence de la corruption dans l'administration publique sur le choix professionnel des individus et en fin d'examiner une politique de lutte anti-corruption basée sur le leadership d'un dirigeant africain, le président Sankara.

## 0.4 Méthodologie

Après spécification d'analyse, cette thèse utilise une approche empirique en vue de répondre aux différentes questions de recherche ci-dessus mentionnées. Pour ce faire, il est essentiel de mesurer la corruption et de mobiliser des stratégies d'identifications appropriées permettant d'évaluer les effets causaux.

La mesure de la corruption constitue un défi. Une mesure idéale de la corruption pourrait être la quantité de pots-de-vin échangée entre les agents publics et les citoyens dans un pays pour une année donnée. [Olken & Barron \(2009\)](#) et [Sequeira & Djankov \(2014\)](#) utilisent des données d'observations directes de la corruption collectées dans les points de contrôle respectivement en Indonésie et aux ports africains de Maputo (Mozambique) et de Durban (Afrique du Sud). [McMillan & Zoido \(2004\)](#) documentent également les montants des pots-de-vin du cas Vladimiro Montesinos Torres au Pérou, chef du service secret du président Alberto Fujimori (Président du Pérou entre 1990 et 2000). Les pots-de-vin soudoyés aux hommes politiques et juges atteignent entre 3000 à 50 000 \$US par mois. Les médias d'information ont été également capturés par des paiements qui pouvaient même atteindre 1 500 000 \$US. Cependant, en raison de la nature illégale et secrète de la corruption, ces types de mesures par l'observation directe sont difficiles à obtenir. La littérature mobilise d'autres types de mesures pour capturer l'étendue de la corruption. En générale, 5 stratégies sont mises à contribution : (i) la mesure de la corruption à travers des enquêtes auprès des individus ou les entreprises qui paient les pots-de-vin. [Jensen et al. \(2010\)](#), utilisent ces types de données d'enquête, collectées auprès de 44000 entreprises dans 72 pays entre 2000 et 2005, pour évaluer le biais de réponses des entreprises en lien avec la répression politique des libertés. [Svensson \(2003\)](#) utilise cette mesure pour évaluer les coûts de la corruption sur les affaires en Ouganda ; (ii) la mesure de la corruption par soustraction c'est-à-dire en faisant la différence entre les montants avant et après la corruption. Cette méthode est utilisée par [Reinikka & Svensson \(2004\)](#) pour mesurer l'érosion des fonds entre le déblocage par le gouvernement et leurs réceptions par les écoles. C'est également la méthode utilisée par [Olken \(2007\)](#) qui évalue la corruption par les dépenses manquantes dans le secteur des routes en Indonésie en faisant la différence entre ce que chaque équipe

d'implémentation de projet rapporte comme dépenses réalisées et les dépenses réelles issues de l'estimation d'un ingénieur indépendant. Nous utilisons cette stratégie dans le chapitre 2 en proposant une nouvelle méthode pour mesurer la corruption des fonctionnaires publics par la différence entre le salaire perçu pour un poste donné et le salaire effectif du poste y compris les indemnités. Cette mesure permet ensuite d'évaluer l'impact de la corruption sur le choix professionnel ; (iii) la mesure de la corruption basée sur la théorie d'équilibre du marché et les données sur les activités. [Fisman \(2001\)](#) utilise cette stratégie pour déterminer la valeur des connexions des entreprises avec le président indonésien Suharto ; (iv) l'usage des données d'audites. [Bologna & Ross \(2015\)](#) utilisent des données d'audites aléatoires pour mesurer les effets de la corruption sur les affaires dans des municipalités brésiliennes et (v) la mesure de la corruption par les enquêtes de perception. [Mauro \(1995\)](#), [Aidt \(2009b\)](#) et [Uberti \(2021\)](#) utilisent ce type d'indicateurs subjectifs pour mesurer la corruption. Nous mobilisons également des indicateurs de perceptions de la corruption dans notre investigation. Nous avons mis à contribution les indicateurs de World Governance Indicators de la Banque Mondiale et de V-Dem (Varieties of Democracy) dans le cadre du chapitre 1 et de V-Dem seulement pour le chapitre 3 en raison de l'absence d'autres indicateurs sur la période d'étude. Ce type de mesure est le plus utilisé dans la littérature en raison de sa disponibilité et sa large couverture mais rencontre beaucoup de critiques en lien avec le fait que ce n'est que des perceptions c'est -à-dire des indicateurs subjectifs. Cependant, pour [Cooray et al. \(2017\)](#), les données de perception sont particulièrement pertinentes si l'étude concerne des institutions publiques. Avec ces mesures de la corruption en main, nous utilisons principalement deux stratégies d'identification quasi-expérimentales pour s'assurer que l'effet évalué est causal.

En premier lieu, la méthode des variables instrumentales notamment les doubles moindres carrés sont mises à contribution dans les chapitres 1 et 2. Cette méthode permet de résoudre la problématique de l'endogénéité et a l'avantage de ne pas être sensible à la spécification de la variable explicative endogène ([Lewbel et al. 2012](#), [Dong & Lewbel 2015](#)). En général, il y a trois sources d'endogénéité : la double causalité ou causalité inverse, les erreurs de mesures et le biais des variables omises. Nous étudions, dans le premier chapitre, l'impact de la corruption sur la proportion des dépenses en capital en panel. Si la corruption peut affecter la structure des dépenses, l'allocation des dépenses publiques à des activités à rente élevée peut alimenter la corruption dans l'administration publique. En outre, la mesure de la corruption peut être biaisée par d'autres éléments notamment la performance économique en lien avec sa nature de données de perception. Pour tenir

compte de ces sources potentielles d'endogénéité, nous utilisons la redevabilité et la liberté de presse (sans sa dimension politique) comme instruments de la corruption.

Nous évaluons, dans le chapitre 2, l'effet de la corruption sur le choix professionnel des individus. Ici également, nous ne pouvons écarter une possibilité d'endogénéité. La mesure soustractive de la corruption utilisée peut être corrélée à un facteur inobservable qui explique également le choix professionnel de l'individu. Des erreurs potentielles de mesure ne sont pas également à écarter. Pour tenir compte de cette problématique et évaluer l'effet causal de la corruption sur le choix professionnel, la distance du département de résidence par rapport aux côtes pondérée par le nombre d'années vécu dans ledit département est utilisé comme instrument de la corruption. L'usage de cet instrument est basé sur l'idée que la distance par rapport aux côtes a déterminé l'intensité de l'esclavage subie par le département et l'esclavage a créé des conditions favorables à l'explosion de la corruption.

En second lieu, nous mobilisons la méthode de contrôle synthétique dans le chapitre 3 pour examiner l'impact du leadership de Thomas Sankara sur la corruption au Burkina Faso. Cette méthode est basée sur l'idée que la combinaison d'unités permet de reproduire les caractéristiques de l'unité d'intérêt qu'une seule unité et elle est pertinente pour cette étude. Elle permet de construire un Burkina Faso synthétique (contrefactuel) à partir de la combinaison des autres pays africains qui retrace la corruption du Burkina Faso avant Thomas Sankara. Si le Burkina Faso et le Burkina Faso synthétique sont identiques, tout changement dans la trajectoire de corruption du Burkina Faso après la prise du pouvoir de Thomas Sankara est attribuable à son leadership. Cette méthode requiert une longue période prétraitement pour s'assurer de la qualité de l'ajustement. La prise en compte de toute la période d'existence des données nous permet d'avoir une période prétraitement d'au moins 20 ans (1960-1981). La méthode de contrôle synthétique à l'avantage d'éviter l'extrapolation hors du support des données, permet d'obtenir un ajustement transparent et assure le lien entre étude qualitative et quantitative. Elle permet également de ne pas tenir compte du résultat dans la phase de conception, d'obtenir un contrefactuel transparent, et facilite l'interprétation et l'évaluation du contrefactuel en lien avec la parcimonie des unités contributrices.

Cette thèse utilise à la fois une approche macroéconomique et une approche microéconomique pour enrichir l'analyse. Elle mobilise des données primaires et secondaires. Les données primaires proviennent des enquêtes. Les données secondaires proviennent principalement des institutions internationales (Comité africain de coordination de la statistique (CACCS) de l'Union Africaine, La Banque Mondiale), de gouvernements et d'autres organ-

ismes (V-Dem Institute, Center for Systemic Peace). Ces données, qui peuvent présenter des insuffisances, ont permis d'enrichir la littérature.

## 0.5 Structure de la thèse et contribution des chapitres

La thèse est articulée en trois chapitres. Le premier chapitre étudie la sensibilité de la structure économique des dépenses publiques à la corruption. A l'aide des données désagrégées sur les finances publiques des pays africains, que nous avons compilé à partir des annuaires statistiques, nous testons l'hypothèse d'une sensibilité différenciée des dépenses en capital et des dépenses courantes dans un panel de pays africains. L'argument est qu'il semble plus bénéfique pour les fonctionnaires de manipuler les dépenses publiques en faveur des dépenses courantes étant donné que ces dernières sont plus ouvertes à une allocation discrétionnaire que les dépenses en capital où l'allocation nécessite des procédures plus formelles et traçables y compris des appels d'offre. A travers différentes spécifications et méthodes d'estimation, y compris les effets fixes, les variables instrumentales et les tests de sensibilité, nous établissons un rapport entre la forte prévalence de la corruption et la faiblesse de la part des dépenses publiques en capital en Afrique.

L'apport majeur de ce chapitre réside dans l'évaluation de la distorsion causale de la corruption dans l'allocation des dépenses publiques en Afrique. Nous distinguons deux approches concernant l'allocation optimale des dépenses publiques sur le plan de la répartition par fonction économique. D'une part, la corruption provoque une hausse des dépenses en capital improductives réduisant la croissance économique (Mauro 1996, Tanzi & Davoodi 1997) et d'autre part, la corruption accroît les dépenses courantes au détriment des dépenses en capital affectant négativement également la performance économique (Collier & Hoeffler 2005). Cette apparente divergence met en évidence deux points : (i) un besoin d'évidence causale pour confirmer la direction de la distorsion et (ii) que l'effet de la corruption dépend peut-être du contexte institutionnel (Aidt et al. 2008b, Méndez & Sepúlveda 2006). Ainsi, cette étude répond à ces deux challenges et met à contribution de nouveaux éléments pour explorer le lien entre corruption et la distribution économique des dépenses publiques à travers le cas de l'Afrique.

Le deuxième chapitre évalue l'effet incitatif de la corruption sur le choix professionnel entre le secteur public et les autres en Afrique. Notre hypothèse est que la prévalence de la corruption brouille le signal du salaire effectif dans l'administration publique, étant donné que le niveau de vie des agents corrompus reflète leur revenu total qui inclue les pots-de-vin, et par conséquent y attire les individus non employés. Avec des données d'enquêtes

et des informations sur les salaires effectifs par poste, y compris les différentes indemnités, nous fournissons une nouvelle mesure de la corruption des fonctionnaires publics. Nous établissons alors un lien robuste entre cette mesure de la corruption et le choix de l'administration publique pour sa carrière professionnelle au Cameroun. Nous documentons que des chercheurs d'emplois, en surestimant le salaire servi dans le secteur public en lien avec la corruption, choisissent de faire carrière dans l'administration publique au détriment d'autres secteurs. Cette connexion peut expliquer en partie les contraintes liées au marché de l'emploi et la ruée vers l'administration publique en Afrique.

Ce chapitre a deux apports principaux : (i) la mesure de la corruption des agents de l'administration publique et (ii) l'évaluation de l'effet causal de cette corruption sur le choix professionnel. (i) La mobilisation de données microéconomiques a permis de construire une nouvelle mesure de la corruption des agents de l'État. Elle consiste en la différence entre le salaire perçu pour un poste donné dans la fonction publique et le salaire effectif du poste. En effet, la mesure de la corruption reste une question ouverte dans la littérature. La nature illicite et secrète de la corruption et de sa conception théorique généralement réductrice (centrée sur les transactions financières) entraînent des difficultés de mesure, d'évaluation de ses effets et de ses causes (Banerjee et al. 2012, Shleifer & Vishny 1993). Cette mesure de la corruption est mise à contribution pour l'évaluation de son effet sur le choix professionnel.

(ii) Au regard de l'effet de la corruption dans l'allocation des dépenses publiques, l'on peut également émettre en hypothèse que la corruption pourrait affecter l'allocation d'autres types de ressources telles que les ressources humaines. Sur ce point, il est à noter que les études concernant les contraintes associées au marché de l'emploi en Afrique mettent en évidence généralement l'inadéquation entre emploi et formation (Morsy & Mukasa 2019). Mais, bien que cette considération soit importante, nous argumentons que la corruption peut être l'une des contraintes. En particulier, la corruption peut introduire des distorsions dans la décision des chercheurs d'emploi, en les attirant vers le secteur public en lien avec le salaire perçu qui, en réalité est lié (au moins pour partie) à la prévalence de la corruption.

Plusieurs études antérieures s'intéressent à la relation entre la rente et distribution des talents sur le plan théorique (Murphy et al. 1991, 1993) et le lien entre rente, gouvernance, revenu anticipé et choix du domaine d'étude sur le plan empirique (Ebeke et al. 2015, Beffy et al. 2012). Cependant, l'impact de la corruption sur le choix professionnel n'est pas encore empiriquement validé. Notre résultat apporte une première réponse à ce constat.

Le troisième chapitre se penche sur l'apport du leader national dans la lutte contre la corruption. Il documente les politiques anti-corruption de Thomas Sankara et évalue l'impact de son leadership sur la corruption au Burkina Faso. Président du « pays des hommes honnêtes » (Burkina Faso) entre 1983 et 1987, Thomas Sankara est l'une des personnalités légendaires de l'Afrique contemporaine. Notre hypothèse est qu'à travers son leadership exemplaire et son monitoring de la corruption, Thomas Sankara a contribué à la moralisation et à l'assainissement de l'administration publique au Burkina Faso. A l'aide de la méthode de contrôle synthétique, nous construisons un contrefactuel pour le Burkina Faso à partir des autres pays africains sur la base de la corruption avant l'arrivée au pouvoir du Thomas Sankara appelé Burkina Faso synthétique. La différence entre le Burkina Faso et le Burkina Faso synthétique permet de mettre en évidence un effet substantielle du leadership du Capitaine Thomas Sankara sur la corruption au Burkina Faso de 1983 à 1987. Le leader influence le choix de la trajectoire institutionnelle d'un pays.

La contribution de ce chapitre concerne les leviers de lutte anti-corruption. Nous montrons pour la première fois qu'un leadership national exemplaire avec des politiques anti-corruption vigoureuses est une cure pour la corruption. La mesure de l'effet Sankara a permis d'établir ce résultat pour le Burkina Faso entre 1983 et 1987.

En somme, les résultats établis par la thèse mènent à plusieurs recommandations de politiques qui pourraient concourir à une allocation efficace des ressources budgétaires et humaines et à des résultats probants dans la lutte contre la corruption en Afrique.

La conclusion générale de la thèse synthétise nos principaux résultats et y dérive les implications de politiques économiques.

Figure 0.6: Organisation de la thèse et principaux résultats

Question de recherche	<b>Quels sont les effets de la corruption dans l'allocation des ressources et le rôle du leadership en Afrique ?</b>		
Sujet	Corruption et structure des dépenses publiques	Corruption et distribution des ressources humaines	Rôle du leadership dans la lutte anti-corruption
Chapitre	Chapitre 1	Chapitre 2	Chapitre 3
Article	Corruption and distortion of public expenditures: Evidence from Africa	Corruption and occupational choice: Evidence from Sub-Saharan Africa	Corruption and leadership in Africa: Evidence from Burkina Faso
Résultats	Une forte prévalence de la corruption en Afrique entraîne une distorsion des dépenses publiques au détriment des dépenses en capital. Plus spécifiquement, une hausse de la corruption d'un écart type est associée à une baisse de la proportion des dépenses en capital de 11 points de pourcentage.	Il est mis sur pied une nouvelle mesure de la corruption des agents publics comme la différence entre le salaire perçu pour un poste donné et le salaire effectif du poste. Cette mesure permet de montrer qu'en surestimant le salaire servi dans l'administration publique en lien avec la corruption, des chercheurs d'emplois choisissent de faire carrière dans le secteur public au détriment d'autres secteurs.	Il est mis en évidence un effet substantiel du leadership du Capitaine Thomas Sankara et ses politiques anti-corruption sur la corruption au Burkina Faso de 1983 à 1987. En 1987, l'effet Sankara représente une baisse de la corruption d'environ 70% par rapport à sa prévalence de 1982.
Conclusion	La corruption entraîne des distorsions dans l'allocation des ressources budgétaires et humaines en Afrique. Du fait de l'accès différencié à la rente, la corruption défavorise les dépenses en capital et entraîne une allocation des ressources humaines en faveur de l'administration publique au détriment des autres secteurs. Par ailleurs, le leadership peut jouer un rôle crucial dans la lutte anti-corruption en Afrique.		

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## CHAPTER 1

# CORRUPTION AND DISTORTION OF PUBLIC EXPENDITURES: EVIDENCE FROM AFRICA

1

*"...the efficiency costs of corruption can be quite severe, as corruption may raise the marginal tax rate of firms, decrease business activity, raise the marginal costs of public funds, make certain government projects economically unviable, and undo the government's ability to correct externalities, leading to inefficient outcomes."*

Olken and Pande ([Olken & Pande 2012](#), p.481)

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<sup>1</sup>Paper published in *International Tax and Public Finance* in January 2022 and co-authored with Luc Désiré Omgba (BETA-CNRS, Lorraine University, Nancy, France)

## 1.1 Introduction

Africa exhibits the lowest percentile rank of control of corruption in the world. According to the World Governance Indicators of the [World Bank \(2019\)](#), the continent is ranked in the 31st percentile in 1996-2018 in control of corruption, while the world average percentile rank is 50th over the same period. In parallel, the GDP per capita of the Sub-Saharan Africa in 2018 is about \$1659.95 in constant terms, which is 6.56 times less than the world average ([World Bank 2020](#)). This development gap requires specific investments in human capital, innovation and infrastructure that could be difficult to finance if the constrained resources of African states is mis-allocated through corruption. As an illustrative example, the African Development Bank (AfDB) estimates that Africa is losing about \$148 billion, or about 6% of 2015 GDP, each year due to corruption (AfDB, 2015).

Corruption is defined as the abuse of public service for private interests ([Shleifer & Vishny 1993](#), [Treisman 2000](#)). Even if the theoretical effect of corruption on economic performances is somewhat ambiguous<sup>2</sup>, empirical research mainly suggests that corruption negatively affects economic performance ([Aghion et al. 2016](#), [Mauro 1995](#), [Bologna & Ross 2015](#), [Cooray & Schneider 2018](#), [Méon & Sekkat 2005](#)), and one of the underlying mechanisms is the erosion of state capacity.

According to [Olken & Pande \(2012\)](#), corruption distorts public action, increases the costs of public interventions, makes some public projects economically unviable and limits the state's regulatory capacity. In addition, because of the need for secrecy and the differential ease of access to rent, corruption can lead to distortions in public action, including the allocation of public expenditure ([Shleifer & Vishny 1993](#)). Thus, corruption affects the sectoral composition (i.e education, health, defense etc.) of public expenditures, and this has clearly been established by several studies ([Hessami 2014](#), [Delavallade 2006](#), [Mauro 1998](#)).

However, to the best of our knowledge, the potential effect of corruption on the trade-off between capital and current expenditures has never been explicitly investigated, and even less so on African states. Consequently, this paper aims to fill this gap.

Specifically, we investigate the distorting impact of corruption on the share of capital expenditure. For this purpose, we compile disaggregated data on public finances for African countries, and using the fixed effects and instrumental variable approach, we test the effect of corruption on the trade-off between capital and current expenditures. The

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<sup>2</sup>For the positive effect of corruption, see for example [Leff \(1964\)](#), [Huntington \(1968\)](#), [Lui \(1985\)](#). For the negative effect, see [Krueger \(1974\)](#), [Shleifer & Vishny \(1993\)](#).

results demonstrate that a high prevalence of corruption distorts the composition of public expenditures at the expense of the share of capital expenditure. This result is in line with our theoretical argument, which is that it seems more beneficial for corrupt bureaucrats to manipulate public spending in favor of current expenditure since the latter is known to be more open to the use of discretionary allocation than capital expenditure, where allocation procedures are more formal and traceable with open tendering.

In its focus on the proportion of capital expenditure, this paper follows the literature on the importance of the trade-off between current and capital expenditures for economic development. According to Barro (1991), capital expenditure is a strategic variable for economic growth and long-term development. Thorat & Fan (2007) also find that public investment lifted more than 500 million people out of poverty in China and India from the 1950s to the late 1990s. For these authors, agricultural productivity growth, the main source of poverty reduction in China and India, has been boosted by public investment in R&D and infrastructures.<sup>3</sup> However, none of these related works examine the relationship between corruption and the trade-off between capital and current expenditures. This paper addresses this gap.

Through the investigation of the effect of corruption on economic variables, this paper follows the strand of the literature that links corruption and economic performance (Lambdsdorff 2003, d'Agostino et al. 2016, Wu et al. 2017, Mauro 1995, Castro et al. 2014). However, the mechanisms of action are not well known, particularly regarding African countries. This work highlights one of the channels through which corruption affects economic performance: the distortion of public resource allocation.

It is worth noting that the interest to investigate the relationship between corruption and the structure of public expenditure stems from the importance given to the composition of public spending on economic growth. It is thus argued that not only the level of expenditure but also its composition can affect economic growth (Devarajan et al. 1996, Dessus & Herrera 2000). In this context, through its effect on public expenditure, corruption can affect economic growth (Delavallade 2006, Del Monte & Papagni 2001, Dzhumashev 2014b,a, 2016, Rajkumar & Swaroop 2008). Two approaches can be considered regarding the distinction on the optimal distribution of public expenditure. A functional approach, which generally find that corruption will reduce social expenditure, health and education, in favor of military spending. This will affect the accumulation of human capital and economic growth (Mauro 1998, Blackburn et al. 2006, de la Croix & Delavallade 2007). The other

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<sup>3</sup>Such as roads, irrigation, electricity, communication and education



approach is based on the economic distribution of public expenditure - capital expenditure and current expenditure-. The results of this other approach diverge with regard to the category of expenditure affected by corruption. On the one hand, corruption leads to an increase of unproductive capital expenditure which negatively affects growth (Mauro 1996, Tanzi & Davoodi 1997). But on the other hand, they stimulate current spending to the detriment of capital spending, which also restricts economic growth (Collier & Hoefler 2005). This apparent contradiction on the direction of distortion between capital and current expenditures, highlights two points. First, there is a need of more evidence to confirm the direction of the distortion. Second, the impact of corruption may depend on institutional context (Aidt et al. 2008, Méndez & Sepúlveda 2006). This paper attempts to address these two points. Thus it provides new elements that explore the relationship between corruption and the economic distribution of public expenditure through the specific case of Africa over the period 2000-2016.

Indeed, this focus on Africa offers the possibility of testing the relationship between corruption and distortion of public spending in a particular institutional context of countries which present similarities. Almost all African countries lived under autocracy throughout the 1970s and 1980s, then transitioned to democracy in the 1990s. Democracy presupposes the regular holding of competitive elections. Generally, politicians' choices will be based on short-term spending in order to achieve their electoral objectives (Rogoff 1990). We argue that this trend can be reinforced in these newly democratic states, given the weak institutions and the dependence on natural resources. In such a context, it can be easy for bureaucrats to take advantage of opportunities for corruption through increased current spending. For example, in Cameroon, an African country severely marked by corruption - 11th percentile of the WGI corruption control index (2020) -, the World Bank (2018) notes that the government of Cameroon allocates a disproportionate share of its budget for general and financial administration. This category represented 19% of total spending between 2013 and 2015 (World Bank 2018). This is done through the purchase of goods and services, through transfers, but also through excessive reliance on non-wage compensation on the part of bureaucrats. Thus, for example, any official who attends meetings of an official committee and a working group receives a daily allowance of 90 USD to 360 USD per session, so there is a multiplication of such meetings (World Bank 2018). We generalize this observation through an empirical test on a unique sample of data collected on African countries over the period 2000-2016.

To sum up, we posit that by nature, corruption could lead to manipulation of public

spending to the detriment of capital expenditure, due to the less discretionary allocation of this type of expenditure. Indeed, capital expenditure is made up of major investment projects whose allocation requires calls for tender, a procedure that limits information asymmetry and increases the risk of sanctions (Cartier-Bresson 2008). On the other hand, current expenditure is dominated by simplified and more discretionary contracts. Thus, information asymmetry is higher, the risk of punishment is lower and the opportunity for corruption is also higher. We test this proposition on a sample of 48 African countries over the period 2000-2016, and find that a high prevalence of corruption distorts the composition of public expenditures at the expense of the share of capital expenditure. More precisely, an increase in corruption by one standard deviation is associated with a decrease in the proportion of capital expenditure from 29% to 18%, i.e. 11 percentage points.

The remainder of the paper is as follows. Section 2 briefly reviews the literature on corruption and public expenditures. Section 3 presents the data and methodology devoted to the empirical test. Section 4 presents the results of the effect of corruption on the public expenditures trade-off in Africa. Finally, section 5 concludes.

## 1.2 Literature on corruption and public spending

The growth of the African population requires a continuous increase in the provision of public services. From 1960 to 2018, the African population more than quadrupled (4.5 times according the data of WDI (2020)), rising from 283 million to 1.27 billion. In 2018, the population growth rate remains high, at 2.3%. African countries therefore need capital expenditure to increase access to basic public services, unlike developed countries (Coulibaly et al. 2020). This situation calls for an understanding of the factors behind the allocation between capital expenditure and current expenditure.

To date, several studies have explored the link between corruption and public expenditure, focusing specifically on the sectoral composition. The main result is that corruption distorts public spending in favor of sectors where opportunities for corruption are greater, at the expense of the optimal allocation of public resources (Mauro 1998, Delavallade 2006). In a sample of 64 developed and developing countries over the period 1996-2001, Delavallade (2006) finds that corruption distorts public spending to the detriment of the social sectors (Education, Health, Social Protection) and in favor of the public service and security, culture, fuel and energy, and defense sectors. These results are also found by Mauro (1998) for education and Gupta et al. (2001) for defense. In a sample of 120 developed and developing countries over the period 1985 to 1998 with cross-sections and panels, Gupta

*et al.* (2001) show that corruption increases the share of the military sector's spending and arms procurement as a share of total expenditures and GDP.

More recently, *Hessami* (2014), on a sample of 29 OECD countries over the period 1996 to 2009 also finds that corruption increases the proportion of spending on health and environmental protection. An increase in corruption by one unit is associated with an increase of 0.39 and 0.07 percentage points respectively in the share of expenditures allocated to the health and environmental protection sectors.

On the other hand, a second strand of the literature shows that corruption affects public investment as a share of GDP. *Tanzi & Davoodi* (1997, 1998), *Keefer & Knack* (2007) and *Baliamoune-Lutz & Ndikumana* (2008) explore the impact of good governance on public investment as a proportion of GDP. In a sample of developed and developing countries, in cross-sectional terms over the period 1974-1998, *Keefer & Knack* (2007) find that public investment (as a percentage of GDP and total investment) is high in countries with poor governance quality. According to *Keefer & Knack* (2007), this result indicates that governments are using public investment to increase their rent opportunity. In addition, *Baliamoune-Lutz & Ndikumana* (2008) argue that corruption positively affects public investment as a percentage of GDP.

However, looking more deeply, recent studies exhibit a threshold effect on this relationship. For example, *Palguta & Pertold* (2017) indicate that public procurement values are manipulated to stay below the tender requirement threshold in a study on public procurement in the Czech Republic. Their analysis, based on data from 45,000 contracts with a value of more than US\$52 billion in the Czech Republic, shows that the introduction of the threshold above which competitive tendering is mandatory leads to a distortion in public procurement with a grouping just below the threshold, particularly for works and service contracts whose real value is difficult to predict. The authors also find that market manipulation is associated with an increase in the likelihood of contracts being awarded to anonymous firms. *Palguta & Pertold* (2017) interpret this behavior as an attempt by public officials to hide their rent-seeking behavior. In the same vein, *Coviello & Mariniello* (2014)'s analysis shows that the publicity requirement, which is often associated with the tender threshold, fuels competition and reduces the public bill in the case of Italy. Their empirical work focuses on 17,512 public contracts with values between 200,000 and 800,000 euros, with a publicity threshold of 500,000 euros.

The contribution of this study is to determine how corruption affects the trade-off between capital and current expenditure in African countries. This purpose is not present in

the aforementioned studies. Specifically, the paper aims to understand the extent of the distorting impact of corruption in terms of a composition, which is crucial for developing countries since capital expenditure is strategic to economic development (Barro 1991). The rationale is that because of the need for secrecy of the practice of corruption (Shleifer & Vishny 1993), it could lead to a distortion of the structure of public spending at the expense of capital spending. The allocation of capital expenditure is less discretionary than current expenditure.

### 1.3 Empirical analysis

As indicated above, this paper investigates the impact of corruption on the structure of public spending. For this purpose we rely on the following equation:

$$CEP_{it} = \alpha_0 + \beta Corruption_{it} + \gamma X_{it} + \mathbf{C}_i + \mathbf{T}_t + u_{it} \quad (1.1)$$

*CEP* (Capital Expenditure Proportion) refers to the share of capital expenditure in total expenditures or in current expenditure. *Corruption* refers to the corruption indicator and  $X_{it}$  is a set of explanatory variables.  $\mathbf{C}_i$  represents the country-specific effect and  $\mathbf{T}_t$  the temporal fixed effect. In the following, we present the data and the variables.

#### 1.3.1 Data

Our sample covers 48 African countries (table 1.12 in appendix) over the period 2000 to 2016. Based on statistical yearbooks of the African Statistical Coordination Committee (ASCC), we compiled disaggregated data on public finances and inflation for African countries. The ASCC was set up by the African Development Bank (AfDB), the African Union Commission and the United Nations Economic Commission for Africa. Public finances data are expressed in local currency. Since we are interested in the structure of public spending, this does not influence our results.

Data on corruption and democracy come from the World Bank's World Governance Indicators database and from the Center for Systemic Peace (CSP), respectively. The lack of data on corruption for 2001 is offset by averaging those for 2000 and 2002.

We use World Development Indicators (WDI) data for the other explanatory variables. These include GDP per capita in purchasing power parity, the share of the population aged 0-14 years, the share of the urban population, the net official development assistance per capita, the proportion of the population with access to electricity, and the share of natural

resource rents in GDP. The descriptive statistics of all variables are provided in table 1. The data show a relatively low dispersion for the corruption index and capital expenditure (% of total). The minimum level of corruption is 0.26 and the maximum is 0.86 on a scale of 0 to 1. Its standard deviation is 0.12. Capital expenditure (% of total) shows a minimum of 1.5% and a maximum of 87.8% with a standard deviation of 14%.

### 1.3.2 Variables and descriptive statistics

We now examine our variables of interest: corruption and the proportion of capital expenditures (% of total expenditures or % of current expenditure). In addition to these variables, several explanatory variables are taken into account for the empirical strategy. The summary statistics are in table 1.1.

#### 1.3.2.1 Measuring corruption

An ideal measure of public corruption could be the frequency or amounts of bribes exchanged per year in a country between private agents and public officials based on direct observation. Indeed, [Olken & Barron \(2009\)](#) and [Sequeira & Djankov \(2014\)](#) provide cases of direct observation of bribe payments by truck drivers at checkpoints in Aceh province in Indonesia and at the ports of Maputo in Mozambique and Durban in South Africa respectively. However, such direct observation data are rare due to the nature of corruption and the need for secrecy. The literature therefore uses approximation measures.

[Olken & Pande \(2012\)](#) identify five strategies: (i) Measurement through a survey of companies or individuals who pay bribes. This measure was used by [Svensson \(2003\)](#) to estimate the cost of bribes on businesses in Uganda; (ii) the subtractive corruption estimate, which is the difference between the amount before and after corruption. This method was used by [Reinikka & Svensson \(2004\)](#) to estimate the erosion of funds between their release by the central government and their receipt by schools, by [Fisman & Wei \(2004\)](#) to measure tax evasion in China and by [Olken \(2007\)](#) to estimate corruption in the road sector in Indonesia; (iii) the third strategy is to estimate corruption based on market equilibrium theory and data on market activities ([Fisman 2001](#)); (iv) the fourth measure is the use of audit data ([Bologna & Ross 2015](#)) and (v) the last measure uses perception surveys ([Aidt 2009](#), [Keefer & Knack 2007](#), [Mauro 1995](#)). These approximation strategies have led to spectacular progress in the empirical study of corruption, particularly at the macroeconomic level.

For this study, we use perception data such as the World Bank's World Governance

Indicators as a proxy for corruption. The World Bank's World Governance Indicators assess the quality of governance through survey data from companies, experts and citizens in developed and developing countries (WGI, 2019). Corruption here "reflects perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as capture of the state by elites and private interests" (WGI, 2019). The measurement of corruption through perception is relevant, especially when the study is about public institutions (Cooray et al. 2017).

Since our study is in panel, and covers the period 2000-2016, it is not possible for us to use corruption perception index (CPI) variable of Transparency International on the basis of the result of Gründler & Potrafke (2019). They found that "*Studies using the CPI in panel data models ignored that the CPI was not comparable across countries and over time before 2012. In particular, including fixed period effects in panel data models does not solve the incomparability problem because the CPI in individual years before the year 2012 included data for different components and time periods to measure perceived corruption across continents*" (Gründler & Potrafke 2019, p.1).

We prefer World Bank indicators to other indicators, due to its availability for all countries in our study sample and its relative suitability for our data profile. However in robustness checks, we use other sources of the corruption variable, including the V-Dem Dataset (Coppedge et al. 2019).

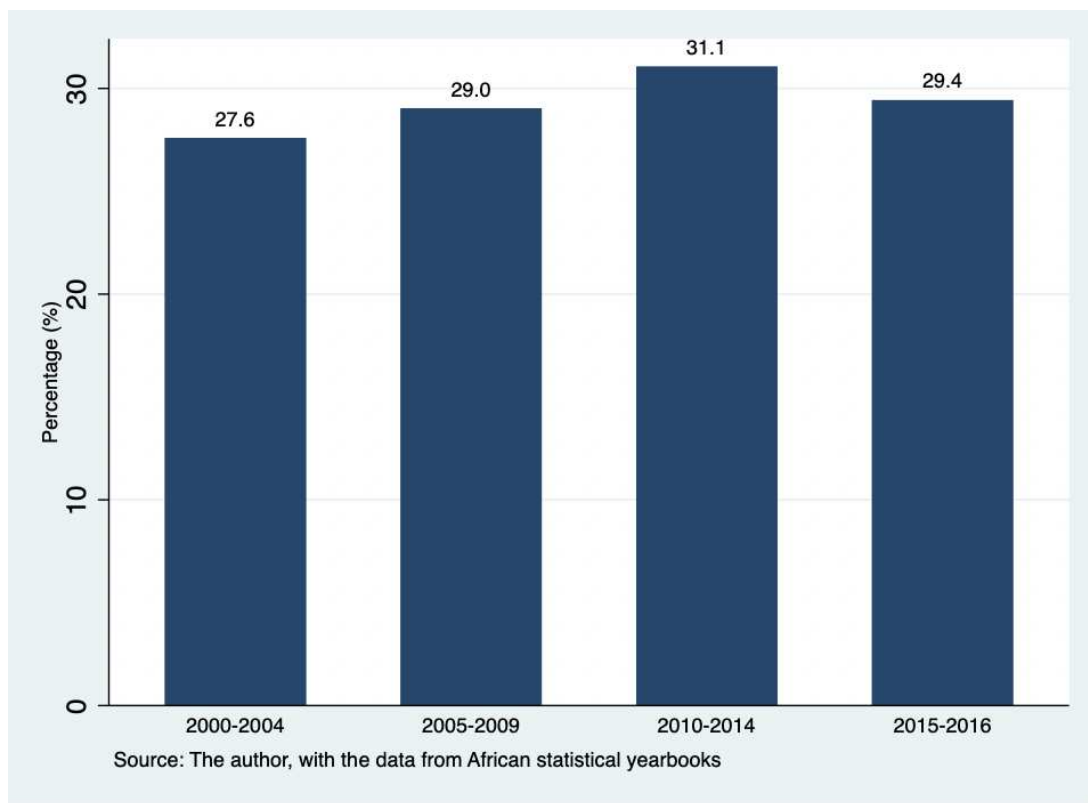
The control of corruption is measured on a scale from -2.5 (high level of corruption) to 2.5 (no corruption). To facilitate the interpretation of the results, the indicator is transformed<sup>4</sup> on a scale from 0 (no corruption) to 1 (high prevalence of corruption). Over the period 2000 to 2016, the least corrupt countries on average are Botswana (0.31), Cape Verde (0.35) and the Seychelles (0.42), while the most corrupt countries are Equatorial Guinea (0.81), the Democratic Republic of Congo (0.78) and Chad (0.77). The average corruption rate of the study sample (0.62) over the period 2000-2016 is above the average of the indicator (0.5), suggesting that corruption levels are above average in Africa.

### 1.3.2.2 Dependent variables

The capital expenditure proportion (CEP) in total expenditures and net lending is our dependent variable. It corresponds to the "expenditures for acquisition of fixed capital assets, stocks, land or intangible assets plus unrequited transfers for the purpose of permitting the recipient to acquire such assets." These assets must be intended for use for more than one

<sup>4</sup>by applying this formula:  $(\text{Max}(\text{Control of corruption}) - \text{Control of corruption}) / (\text{Max}(\text{Control of corruption}) - \text{Min}(\text{Control of corruption}))$

Figure 1.1: Capital Expenditure Proportion (% of total) in Africa over the period 2000-2016



year in the process of production ([Yearbook 2018](#)). Over the period of study, the average capital expenditure share is 29.3% of total expenditures and net lending for the whole of Africa. Figure 1.1 shows that the proportion of capital expenditure increases over the period 2000-2004 to 2010-2014 from an average of 28% of total expenditure to 31%. However, it begins to decline from the 2010-2014 period onwards, falling to 29% over the 2015-2016 period. South Africa (5.5%), Egypt (12%) and Mauritius (13%) have the lowest shares of capital expenditure while Equatorial Guinea (71.8%), Sao Tome and Principe (49.5%) and Ethiopia (47.2%) have the highest shares of capital expenditure.

We also use the proportions of capital expenditure in the current expenditure as dependent variable for the robustness check. Current expenditure "includes all non-repayable payments by government, whether required or unrequired, other than capital expenditure or grants" ([Yearbook 2018](#)). They include wages and salaries, and operating expenses among others. South Africa (96.1), Sudan (89.2%) and Egypt (87.6%) have the highest shares of current expenditure (% of total expenditures and net lending). The lowest shares are recorded in Equatorial Guinea (28.2%), Sao Tome and Principe (49%) and Ethiopia (52.5%). The average of the sample is 70% of total expenditures.

### 1.3.2.3 The control variables

The control variables include economic variables (GDP per capita, tax effort, inflation), demographic variables (share of population aged 0-14 years, share of urban population), a variable indicating the level of infrastructure in the country (share of population with access to electricity) and three variables indicating natural resources abundance (natural resource rents to GDP), net official development assistance (ODA) and democracy.

Democracy is an indicator that incorporates the existence of institutions and procedures through which citizens express their preferences, the presence of institutionalized constraints on the executive and the guarantee of civil liberties (CSP, 2021). This index goes from 0 to 10 with three special cases: -66 for “foreign interruption” periods, -77 for “interregnum or anarchy” periods and -88 for “transition” periods.

Table 1.1: Summary statistics for all countries in the sample

	<b>N</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>Min.</b>	<b>Max.</b>
Capital expenditure (to total expenditure)	816	.2925398	.1396435	.0147118	.8779011
Corruption	816	.6152653	.1181479	.2566526	.8611746
Tax revenue (% of GDP)	814	18.19484	9.263828	4.069502	62.46405
GDP per capita (PPP)	799	4958.814	5990.59	545.6888	40015.82
Inflation rate	816	8.532843	25.91259	-9	550
Population from 0 to 14 (% of total)	816	40.97691	6.589149	18.9088	50.23148
Urban population (% of total)	816	41.28419	17.47065	8.246	88.559
Net ODA per capita	816	65.21754	75.39738	-11.96667	691.9246
Access to electricity (% of total population)	816	41.29958	29.78109	2.902384	1005
Natural resource rents (% of GDP)	808	12.33562	12.10461	.0011475	61.94497
Democracy	771	-.0985733	18.26253	-88	10

### 1.3.3 Identification strategy

We estimate the impact of corruption on the proportion of capital expenditure through equation (1).

Our focus is on the distorting effect of corruption on the composition of public expenditure by economic function. According to [Delavallade \(2006\)](#), the allocative effect of corruption only appears when one looks at the fiscal structure. Thus, we relate capital expendi-



ture to total expenditures and net lending instead of GDP. The ratio of public expenditure to GDP can be broken down as follows:

$$\frac{CE}{GDP} = \underbrace{\frac{TE}{GDP}}_{(1)} * \underbrace{\frac{CE}{TE}}_{(2)} \quad (1.2)$$

With CE= Capital Expenditure, TE= Total Expenditures et GDP= Gross Domestic Product we use (2) as our dependent variable, capital expenditure proportion (CEP). We calculate the proportion of capital expenditure by relating capital expenditure to total expenditures and net lending.

We expect corruption to affect negatively the proportion of capital expenditure, highlighting its distorting effect on public expenditure at the expense of capital expenditure. We also expect a negative effect of inflation, GDP per capita, and the proportion of the population with access to electricity on the proportion of capital expenditure.

Inflation rate is an indicator of economic conditions. GDP per capita measures the level of development. The proportion of the population with access to electricity indicates the level of infrastructure in the country. It is worth noting that the more developed a country is, the more likely it is to increase its current expenditure and invest less in infrastructure. In addition, in times of poor economic conditions, capital expenditure acts as an adjustment variable, particularly in developing countries (Bhattacharyya & Collier 2014).

The tax effort (tax revenues as a percentage of GDP), the proportions of the population aged 0-14 years and the urban population and democracy should positively affect the proportion of capital expenditure. An increase in the tax effort loosens the budgetary constraint and therefore favors the allocation of public expenditure to capital expenditure. The higher the proportion of the population aged 0-14 years, the greater the need for school construction and therefore for an increase in capital expenditure. A high proportion of the urban population in developing countries favors capital investment. Indeed, it has significant power to demand investment from the political authorities since in Africa, power is regularly lost due to the urban constraint (e.g. Burkina Faso in 1966 and 2014, Algeria and Sudan in 2019). Democracy should favor an optimal allocation of public expenditure, i.e. in favor of the proportion of capital expenditure to the detriment of current expenditure (Dizaji et al. 2016).

Natural resource rents are expected to have a negative effect on the proportion of capital expenditures. Indeed, the work of Bhattacharyya & Collier (2014) shows that natural resource rents reduce the public capital stock, highlighting a "policy-based curse". This effect can occur through three channels: (i) weak monitoring of public resource manage-

ment (Collier & Hoeffler 2009), (ii) selection of unscrupulous politicians (Bhattacharyya & Collier 2014), and (iii) voracity in the case of a power contest between rival groups in a context of weak rule of law (Tornell & Lane 1999).

However, a potential problem that could bias our results is the two endogeneity issues including dual causality and measurement errors. Indeed, while corruption affects the structure of public expenditure, one can argue that the allocation of public resources to high-rent activities can create a favorable situation for the exchange of bribes. Second, since we use perception data, the measurement of corruption can be biased by the country's economic performance.

To counter this potential problem and identify the causal effect, we estimate the equation using the instrumental variable method (the two-stage least squares estimation). This method has the advantage of not being sensitive to the specification of the endogenous explanatory variable (Lewbel et al. 2012, Dong & Lewbel 2015). To do this, accountability is used as an instrument. This instrument has been used by Aidt et al. (2008), and Aidt (2009), to measure the impact of corruption on economic growth. According to Aidt et al. (2008), rulers have an incentive to extract the maximum amount of rents, and society, whether democratic or not, develops institutions to hold them accountable and reduce corruption. In democratic societies, elections play this role and in non-democratic societies constraints can appear in the form of the threat of putsch or popular revolt, as noted by Acemoglu & Robinson (2001). For example, in South Africa, Jacob Zuma was ousted from power in February 2018 due to corruption. The Nkandla scandal (the renovation of Zuma's private residence with public funds), his collusion with the Gupta family with the awarding of public contracts are among other elements of corruption that led to his downfall.

A good instrument must have two characteristics: it must be strongly correlated to the explanatory variable suspected of endogeneity, and must influence the explained variable only through its effect on the endogenous explanatory variable. We expect accountability to be negatively correlated with the corruption variable.

The statistics of the first stage allow validation of the explanatory power of the instrument. In addition, accountability should not affect the structure of public expenditures. An accountable government allocates and implements public resources in accordance with the social interest. Here, we use the voice and accountability index of the World Bank as a proxy of accountability to identify the causal effect of corruption on the capital expenditure proportion. It "reflects perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of as-

sociation, and a free media". This indicator measures the ability of citizens to hold leaders accountable for their actions. This empirical strategy leads to the results below.

## 1.4 Results

### 1.4.1 Preliminary evidence

Figure 1.2 and figure 1.3 provide a visual analysis of the relationship between corruption and the proportion of capital expenditure. These figures display the evolution of corruption and the share of capital expenditure in Rwanda and Mozambique.

Rwanda is ranked as a leader in institutional and policy quality according to the World Bank's Country Policy and Institutional Assessment (CPIA) in Sub-Saharan Africa in 2019. It scored 4 out of 6. Rwanda also is the top African country that has seen a phenomenal reduction in its level of corruption since 1996. Today, this country ranks among the five (5) least corrupt countries in Africa, whereas in 1996 it was among the most corrupt. The graph 1.2 shows a decline in corruption from 0.62 in 2000 to 0.37 in 2016 for Rwanda. In the same period, the country experienced an increase in the proportion of capital expenditure from 31% to 39% of total expenditure.

On the contrary, in Mozambique (figure 1.3), where corruption increased from 0.59 in 2000 to 0.68 in 2016 (1 is the highest level), capital expenditure decreased by 11 percentage points from 39% in 2000 to 28% in 2016.

The evidence seems to show a relationship between corruption and the share of capital expenditure.

### 1.4.2 Basic results

We start with the estimation of equation (1) by fixed effects to see if corruption influences the proportion of capital expenditure. The Hausman test indicates a preference for fixed effects. Table 1.2 reports the results of estimates of the distorting effect of corruption on the proportion of capital expenditure. In model 1, corruption is the single explanatory variable. In model 2 we add tax effort, GDP per capita in purchasing power parity(log), inflation rate, share of the population aged 0 to 14, proportion of the urban population, net official development assistance (log) and the share of the population with access to electricity. Model 3 adds natural resource rents and Model 4 adds democracy.

The results show that corruption is negatively and significantly correlated to the share of capital expenditure at the 1% error threshold in all models. With alternative dependent

Figure 1.2: Corruption and Capital Expenditure Proportion in Rwanda

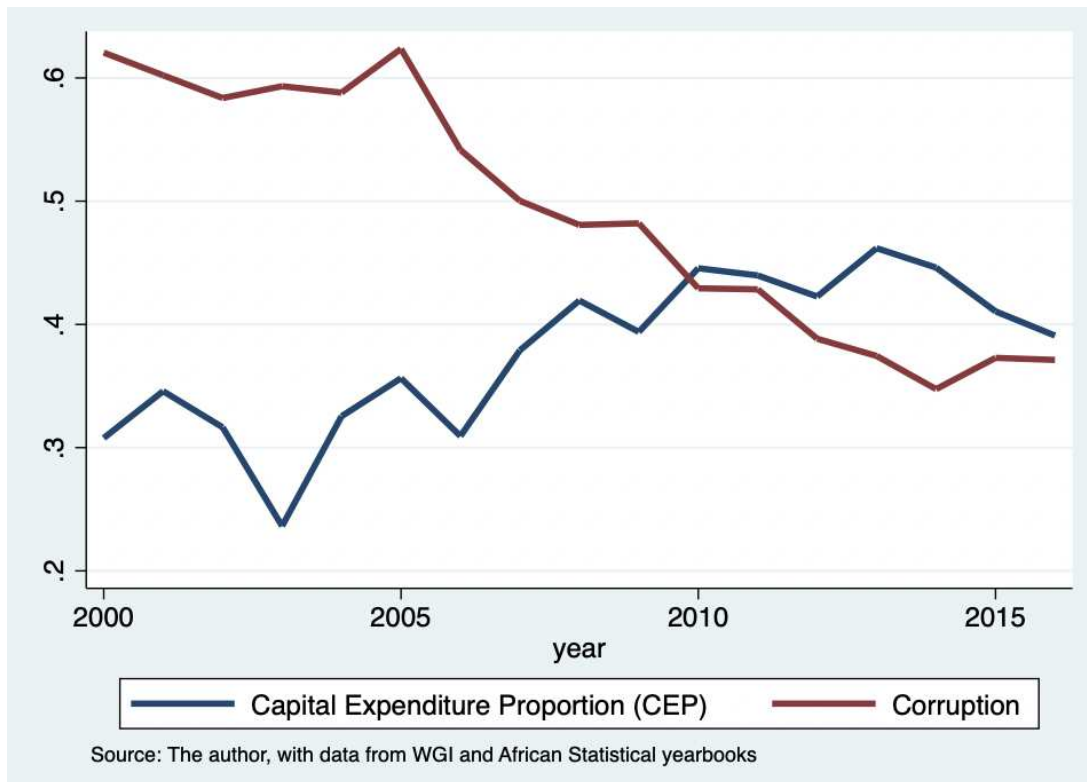
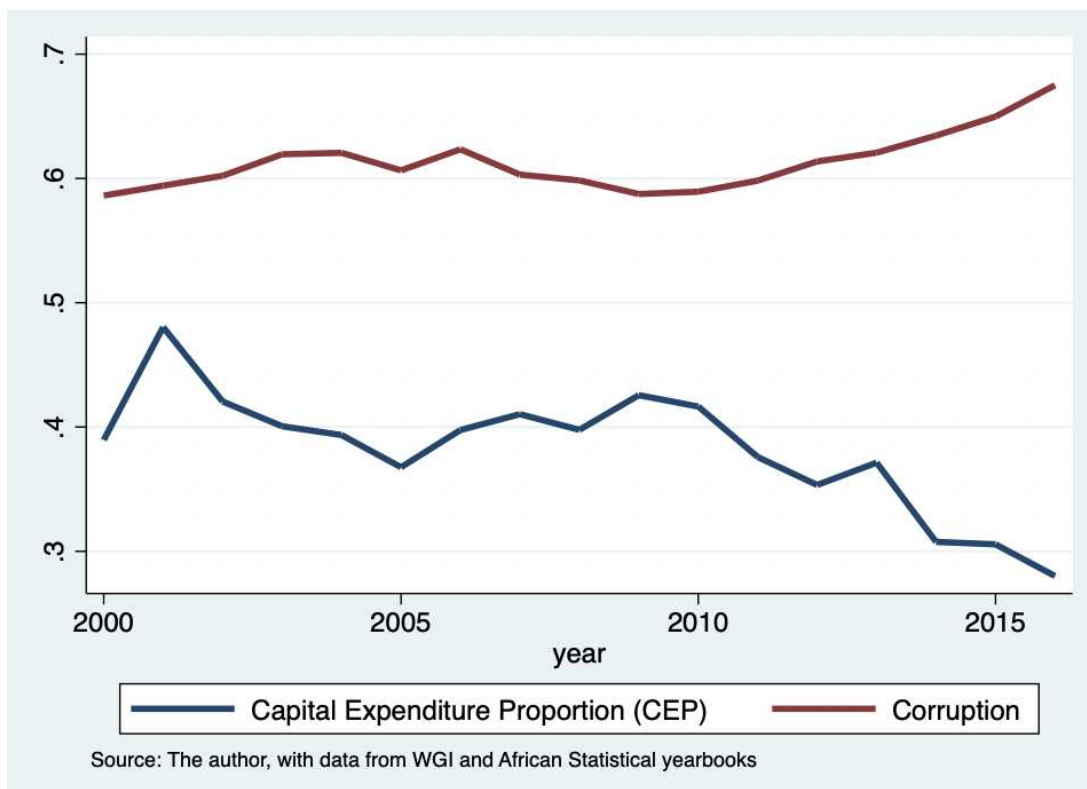


Figure 1.3: Corruption and Capital Expenditure Proportion in Mozambique



variable, the results are still significant<sup>5</sup>.

Even if fixed effects have the advantage of purging country-specific and time-invariant effects, other potential limitations associated with empirical studies may be of concern for this study. They include alternative scenarios, and methodology.

Table 1.2: Corruption and capital expenditure proportion: fixed effects estimation

<i>Dependent variable: capital expenditure (to total)</i>				
	(1)	(2)	(3)	(4)
Estimator	FE	FE	FE	FE
Corruption	-0.417*** (0.0835)	-0.307*** (0.0845)	-0.292*** (0.0844)	-0.276*** (0.0860)
Tax revenue to GDP (%)		0.00341*** (0.000725)	0.00373*** (0.000772)	0.00383*** (0.000783)
GDP per capita PPP(log)		0.0261 (0.0290)	-0.00997 (0.0304)	-0.0164 (0.0304)
Inflation rate (%)		-0.000320*** (0.000115)	-0.000381*** (0.000114)	-0.000314*** (0.000115)
Population 0 to 14 (%)		0.00666** (0.00290)	0.00689** (0.00286)	0.00746** (0.00293)
Urban population share (%)		0.00464*** (0.00177)	0.00177 (0.00192)	0.00238 (0.00203)
Net ODA per capita (log)		0.00408 (0.00596)	0.00655 (0.00593)	0.00456 (0.00612)
Access to electricity(%)		0.00191*** (0.000698)	0.00239*** (0.000699)	0.00254*** (0.000711)
Resource rents to GDP(%)			-0.00166*** (0.000555)	-0.00170*** (0.000554)
democracy				0.000526*** (0.000182)
Constant	0.527*** (0.0522)	-0.326 (0.291)	0.0353 (0.308)	0.0319 (0.313)
Country FE	YES	YES	YES	YES
Time FE	YES	YES	YES	YES
Observations	816	795	789	756
F-stat	3.57	4.54	4.38	4.39
P-value	0.0000	0.0000	0.0000	0.0000
F test that all $u_i=0$	36.85	33.39	31.36	30.61
P-value	0.0000	0.0000	0.0000	0.0000
R-squared within	0.0748	0.1311	0.1325	0.1431
Number of country	48	48	48	46

Robust standard errors in parentheses  
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

### 1.4.3 Alternative scenarios

#### 1.4.3.1 Democracy regimes

We use an alternative measure of democracy to check whether the effect of corruption on the share of capital expenditure is resistant to different democratic regimes. Thus, we convert the polity2 scores variable from polity IV database into regime categories in a

<sup>5</sup>Total expenditures here include capital expenditure, current expenditure and net lending. Although net lending accounts for less than 1% of total expenditures on average over the period, its variability could lead to an underestimation or overestimation of the trade-off effect between capital and current expenditures. To account for this potential problem, we relate capital expenditure directly to current expenditure. The estimation results with the proportion of capital expenditure in current expenditure as the dependent variable are reported in the appendix, Table 1.11. Corruption significantly reduces the proportion of capital expenditure in current expenditure. The coefficients are even slightly larger than those in Table 1.2.

suggested three-part categorization of "autocracies" (-10 to -6), "anocracies" (-5 to +5), and "democracies" (+6 to +10). Polity 2 index varies between negative values (-10 (complete autocracy)) and positive ones (+10 (complete democracy)). The three dummies are then multiplied by the corruption variable to account for the interaction effect.

The results are shown in Table 1.3. The second model takes into account the three democratic regimes, namely autocracy, democracy with anocracy as the reference variable. The third model takes into account these democratic regimes by adding their interactions with corruption. The negative effect of corruption on the proportion of capital expenditure remains significant, indicating that an increase in corruption reduces the share of capital expenditure in total expenditure. As we can see, autocracy is negative but not significant. Its interaction with corruption is also insignificant. However, democracy is significantly positive in model 2 but becomes significantly negative in model 3 when its interaction with corruption is taken into account. This result seems to indicate that democracy negatively affects the proportion of capital expenditure, but, in the presence of corruption, it becomes favorable to capital expenditure compared to an anocratic regime.

#### 1.4.3.2 Natural resources

We now consider total natural resource rents, oil rents, mineral rents and forest rents. The objective is to see whether the negative impact of corruption on the proportion of capital expenditure does not come from natural resources.

Table 1.4 presents the results of the estimation taking into account natural resources and its components. The negative impact of corruption on the proportion of capital expenditure remains significant in all models. This shows that the negative effect of corruption is not due to natural resources. Natural resource rents have a significant negative effect, indicating that natural resources reduce the share of capital expenditure. The adverse effect of natural resource rents on the proportion of capital expenditure is consistent with the findings of resource curse literature (Robinson et al. 2006, Bhattacharyya & Collier 2014). Natural Resource rents are more easily appropriated than other fiscal resources (Torvik 2002, Tornell & Lane 1999, Omgba 2009). This allows a greater possibility of discretionary allocation, in particular for electoral purposes (Rogoff 1990, Omgba 2009). This easily involves an increase in current expenditure such as increased social transfers, massive recruitment into public services or even higher civil service wages at the expense of capital spending (Rogoff 1990, Robinson et al. 2006). We can therefore expect a positive relationship between natural resource rents and the share of current expenditure. This

Table 1.3: Corruption and capital expenditure proportion: fixed effects estimation with democracy regime categories

<i>Dependent variable: capital expenditure (to total)</i>			
	(1)	(2)	(3)
Estimator	FE	FE	FE
Corruption	-0.292*** (0.0770)	-0.263*** (0.0813)	-0.418*** (0.0860)
Autocracies		-0.000700 (0.0152)	-0.0232 (0.116)
Autocracies*corruption			0.0258 (0.189)
Democracies		0.0281** (0.0125)	-0.244*** (0.0647)
Democracies*corruption			0.424*** (0.101)
Tax revenue to GDP (%)	0.00373*** (0.000839)	0.00415*** (0.000883)	0.00419*** (0.000901)
GDP per capita PPP(log)	-0.00997 (0.0379)	-0.00987 (0.0386)	-0.000724 (0.0386)
Inflation rate (%)	-0.000381*** (8.94e-05)	-0.000370*** (8.43e-05)	-0.000356*** (8.42e-05)
Population 0 to 14 (%)	0.00689** (0.00333)	0.00752** (0.00343)	0.00771** (0.00341)
Urban population share (%)	0.00177 (0.00179)	0.00318* (0.00181)	0.00373*** (0.00181)
Net ODA per capita(log)	0.00655 (0.00621)	0.00450 (0.00643)	0.00415 (0.00659)
Access to electricity(%)	0.00239*** (0.000859)	0.00262*** (0.000876)	0.00280*** (0.000873)
Resource rents to GDP(%)	-0.00166** (0.000711)	-0.00180** (0.000730)	-0.00169** (0.000739)
Constant	0.0353 (0.378)	-0.0710 (0.391)	-0.0659 (0.389)
Country FE	YES	YES	YES
Time FE	YES	YES	YES
Observations	789	756	756
F-stat	5.29	4.95	5.40
P-value	0.0000	0.0000	0.0000
Adjusted R-squared	0.715	0.706	0.711
Number of country	48	46	46

Robust standard errors in parentheses  
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

amounts to a negative relationship between natural resource rents and the share of capital expenditure ceteris paribus.

A decomposition of the natural resource rents shows that it is the mineral resource rents that mainly derive this negative effect as the mineral rents exhibit a high level of appropriability (Boschini et al. 2007). Indeed, the mineral rents are negative and significant, whereas the oil rents and forest rents, although negative, are never significant. This result indicates that, in addition to the adverse effect of corruption, natural resource rents negatively affect the proportion of capital expenditure in resource-rich countries, especially in countries rich in mineral rents.

Table 1.4: Corruption and capital expenditure proportion: fixed effects with resource rents and its components

<i>Dependent variable: capital expenditure (to total)</i>					
Estimator	(1)	(2)	(3)	(4)	(5)
	FE	FE	FE	FE	FE
Corruption	-0.276*** (0.0789)	-0.298** (0.131)	-0.273*** (0.0783)	-0.301*** (0.0762)	-0.280*** (0.0799)
Tax revenue to GDP (%)	0.00383*** (0.000848)	0.00358** (0.00151)	0.00347*** (0.000796)	0.00358*** (0.000794)	0.00361*** (0.000916)
GDP per capita PPP(log)	-0.0164 (0.0369)	-0.0150 (0.0867)	0.0264 (0.0376)	0.00105 (0.0411)	-0.0247 (0.0416)
Inflation rate (%)	-0.000314*** (8.39e-05)	-0.000278** (0.000113)	-0.000274*** (8.63e-05)	-0.000292*** (8.60e-05)	-0.000332*** (8.84e-05)
Population 0 to 14 (%)	0.00746** (0.00340)	0.00678 (0.00776)	0.00865** (0.00350)	0.00699** (0.00352)	0.00762** (0.00340)
Urban population share (%)	0.00238 (0.00177)	0.00189 (0.00362)	0.00581*** (0.00189)	0.00558*** (0.00193)	0.00258 (0.00188)
Net ODA per capita (log)	0.00456 (0.00645)	0.00374 (0.0115)	0.00285 (0.00674)	0.00231 (0.00681)	0.00456 (0.00648)
Access to electricity(%)	0.00254*** (0.000872)	0.00254 (0.00198)	0.00213** (0.000912)	0.00198** (0.000916)	0.00253*** (0.000887)
Resource rents to GDP (%)	-0.00170** (0.000713)				
oil rents to GDP(%)		-0.00128 (0.00128)			-0.00122 (0.00115)
Mineral rents to GDP(%)			-0.00243** (0.00109)		-0.00194* (0.00107)
Forest rents to GDP(%)				-0.00268 (0.00202)	-0.00268 (0.00207)
Democracy	0.000526*** (0.000197)	0.000521** (0.000216)	0.000553*** (0.000190)	0.000466** (0.000192)	0.000525*** (0.000199)
Constant	0.0319 (0.376)	0.0742 (0.870)	-0.473 (0.394)	-0.164 (0.422)	0.0906 (0.420)
Country FE	YES	YES	YES	YES	YES
Time FE	YES	YES	YES	YES	YES
Observations	756	756	762	762	756
F-stat	5.13	8.94	5.28	5.11	4.93
P-Value	0.0000	0.0000	0.0000	0.0000	0.0000
Adjusted R-squared	0.708	0.705	0.715	0.713	0.707
Number of country	46	46	46	46	46

Robust standard errors in parentheses  
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

### 1.4.3.3 Alternative measure of corruption

The corruption index is subject to measurement error. For an additional robustness check, we use an alternative measure of corruption from the V-Dem (Varieties of Democracy) database (Coppedge et al. 2019). V-Dem has three corruption indicators: Political corruption index, Executive corruption index and Public sector corruption index. Public sector corruption is more suitable for our hypothesis. This indicator is constructed from survey data based on the question "To what extent do public sector employees grant favors in exchange for bribes, kickbacks, or other material inducements, and how often do they steal, embezzle, or misappropriate public funds or other state resources for personal or family use? It ranges from less corrupt (0) to more corrupt (1). The results are presented in Table 1.5. With this alternative measure of corruption from V-Dem, the result remains robust and confirms the main conclusion.



Table 1.5: Corruption and capital expenditure proportion: fixed effects estimation with alternative measures of corruption (V-dem data) and the two dependent variables

<i>Dependent variable: capital expenditure (to total(1) and to current expenditure(2))</i>		
	(1)	(2)
Estimator	FE	FE
Public sector corruption	-0.0808** (0.0411)	-0.209* (0.118)
Tax revenue to GDP (%)	0.00392*** (0.000838)	0.0142*** (0.00359)
GDP per capita PPP(log)	0.00684 (0.0350)	0.306 (0.200)
Inflation rate (%)	-0.000351*** (8.72e-05)	-0.000364* (0.000218)
Population 0 to 14 (%)	0.00753** (0.00334)	0.0251** (0.0123)
Urban population share (%)	0.00167 (0.00178)	-0.0121* (0.00649)
Net ODA per capita(log)	0.00524 (0.00642)	0.0448 (0.0333)
Access to electricity(%)	0.00269*** (0.000859)	0.0121*** (0.00338)
Resource rents to GDP(%)	-0.00199*** (0.000684)	-0.00428 (0.00348)
Democracy	0.000627*** (0.000198)	0.00100** (0.000419)
Constant	-0.243 (0.341)	-3.098* (1.842)
Country FE	YES	YES
Time FE	YES	YES
Observations	756	756
F-stat	4.22	2.69
P-value	0.0000	0.0000
Adjusted R-squared	0.705	0.765
Number of country	46	46

Robust standard errors in parentheses  
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

#### 1.4.3.4 Five-year averages

Given the slow evolution of the quality of institutions, we make five-year averages. The choice of five-years average is quite frequent for macroeconomic regressions in panel study (Levine 2005, Brock & Durlauf 2005). Against this study, one can argue that a yearly panel on institution or governance variables such as corruption can give misleading responses on a process of institutional or governance change that needs much more time to operate. Moreover, the possible annual variability for macroeconomic variables such as public expenditure could potentially induce the same fallacious answers. To ensure that these concerns do not concern our results, we therefore proceed to estimates on a panel of five-years average . Our results are unchanged.

The results of the estimation by fixed effects are recorded in table 1.6. These results are consistent with our baseline results. Corruption is associated with a significant decrease in the proportion of capital expenditure.

Table 1.6: Corruption and capital expenditure proportion: fixed effects estimation with five-year averages

<i>Dependent variable: capital expenditure (to total)</i>				
	(1)	(2)	(3)	(4)
Estimator	FE	FE	FE	FE
Corruption	-0.525*** (0.148)	-0.429*** (0.164)	-0.394** (0.169)	-0.361* (0.186)
Tax revenue to GDP (%)		0.00357** (0.00149)	0.00517*** (0.00195)	0.00531*** (0.00199)
GDP per capita PPP(log)		-0.0448 (0.0777)	-0.0699 (0.0755)	-0.0606 (0.0763)
Inflation rate (%)		-0.000690*** (0.000242)	-0.000818*** (0.000242)	-0.000507 (0.000329)
Population 0 to 14 (%)		0.00827 (0.00700)	0.00831 (0.00657)	0.0104 (0.00687)
Urban population share (%)		0.00308 (0.00356)	0.00105 (0.00304)	0.00208 (0.00329)
Net ODA per capita(log)		0.00349 (0.0159)	0.0118 (0.0153)	0.00951 (0.0171)
Access to electricity(%)		0.00372** (0.00174)	0.00411** (0.00161)	0.00434*** (0.00165)
Resources rents to GDP(%)			-0.00252* (0.00148)	-0.00258* (0.00148)
democracy				0.000798* (0.000434)
Constant	0.598*** (0.0900)	0.230 (0.804)	0.439 (0.781)	0.223 (0.820)
Country FE	YES	YES	YES	YES
Time FE	YES	YES	YES	YES
Observations	192	189	188	180
F-stat	4.37	5.05	5.09	4.71
Adjusted R-squared	0.0023	0.0000	0.0000	0.0000
Number of country	48	48	48	46

Robust standard errors in parentheses  
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

#### 1.4.4 Two-stage least squares estimation and sensitivity analysis on the instrument

In this subsection, we conduct a two-stage least squares estimation and sensitivity analysis on the instrument to the violation of the exclusion restriction condition using the plausible exogenous method of [Conley et al. \(2012\)](#) and the imperfect instrument method proposed by [Nevo & Rosen \(2012\)](#).

##### 1.4.4.1 Two-stage least squares estimation

To confirm that this effect is causal, we use the two-stage least squares method. Accountability (voice and accountability) is used as an instrument. The results of the first stage show that the instrument is negatively and significantly correlated with corruption at conventional error thresholds. The Fisher test (F-test stat) is significant at the 1% threshold and its statistics are well above 10 as suggested by [Stock et al. \(2002\)](#) and [Staiger & Stock \(1997\)](#) to validate the explanatory power of the instrument. The Kleibergen-Paap LM statistic, Sanderson-Windmeijer tests and Cragg-Donald Wald F statistic reject the null

hypothesis (Ho) of under-identification and poor identification of the estimated equation. Thus, our instrument has significant explanatory power for corruption. Its uniqueness does not allow us to obtain Hansen's statistics (Hansen J statistic) for the overidentification test.

The results show coefficients that are always significant and higher with the instrumental variable method (Table 1.7) than the fixed effects method (Table 1.2). Indeed, a high prevalence of corruption reduces the proportion of capital expenditure. An increase in corruption by one standard deviation is associated with a decrease in the proportion of capital expenditure from 29% to 18%, i.e. a decrease of 11 percentage points. This result is in line with our prediction that the prevalence of corruption could lead to a reduction in the proportion of capital expenditure due to its less discretionary allocation and the higher risk of corrupt practice in this category of expenditure.

The explanatory variables generally have the expected signs (Table 1.7), except access to electricity. The existence of significant infrastructure (measured by the proportion of the population with access to electricity), the tax effort, the proportion of the population aged between 0 and 14 and the share of the urban population have a positive and significant effect on the proportion of capital expenditure. However, we expected a large infrastructure network to have a negative effect on the proportion of capital expenditure.

A high level of development (measured by GDP per capita) and inflation (measuring unfavorable economic conditions) significantly reduce the proportion of expenditure dedicated to public investment. Natural resources, although having a negative sign, are not significant now. The Official Development Assistance per capita values are not also significant.

#### 1.4.4.2 Sensitivity analysis on the instrument

We use accountability as an instrument to assess the causal effect of corruption on the proportion of capital expenditures. To provide a basis for confidence in the validity of our results, we use two methods to analyze the sensitivity of the results to the violation of the instrument's exclusion restriction condition. These are the method proposed by Conley et al. (2012) and the method proposed by Nevo & Rosen (2012).

##### The approach of Conley et al. (2012)

Conley et al. (2012) propose an alternative approach for inferences with plausibly exogenous instruments. Plausibly exogenous means that the direct effect of the instrument on the outcome variable ( $\gamma$ ) is close to zero (0) but perhaps not exactly zero (Conley et al. 2012).

Table 1.7: Corruption and capital expenditure proportion: Instrumental Variables Estimation

<i>Dependent variable: capital expenditure (to total)</i>				
	(1)	(2)	(3)	(4)
Estimator	IV	IV	IV	IV
Corruption	-0.653** (0.279)	-0.988*** (0.285)	-1.106*** (0.288)	-0.938*** (0.268)
Tax revenue to GDP (%)		0.00319*** (0.000807)	0.00308*** (0.000908)	0.00342*** (0.000888)
GDP per capita PPP(log)		-0.0310 (0.0457)	-0.0847* (0.0454)	-0.0750* (0.0439)
Inflation rate (%)		-0.000251*** (9.27e-05)	-0.000292*** (9.48e-05)	-0.000250*** (8.88e-05)
Population 0 to 14 (%)		0.00633* (0.00357)	0.00630* (0.00355)	0.00656* (0.00355)
Urban population share (%)		0.00605*** (0.00200)	0.00312* (0.00189)	0.00372** (0.00187)
Net ODA per capita(log)		8.06e-05 (0.00708)	0.00109 (0.00698)	-0.000572 (0.00706)
Access to electricity(%)		0.00151* (0.000910)	0.00195** (0.000885)	0.00204** (0.000875)
Resource rents to GDP(%)			-0.000958 (0.000787)	-0.00113 (0.000773)
democracy				0.000462** (0.000197)
Country FE	YES	YES	YES	YES
Time FE	YES	YES	YES	YES
Observations	816	794	788	755
F-test stat (first stage)	67.47	63.40	63.02	69.08
P-value	0.0000	0.0000	0.0000	0.0000
Sanderson-Windmeijer (sw)	69.00	65.51	65.22	71.70
Sw p-value	0.0000	0.0000	0.0000	0.0000
Kleibergen-Paap LM stat	65.38	61.11	60.74	64.43
P-value	0.0000	0.0000	0.0000	0.0000
Cragg-Donald Wald F statistic	81.47	74.42	74.68	73.71
Number of country	48	47	47	45
Robust standard errors in parentheses				
*** p<0.01, ** p<0.05, * p<0.1				

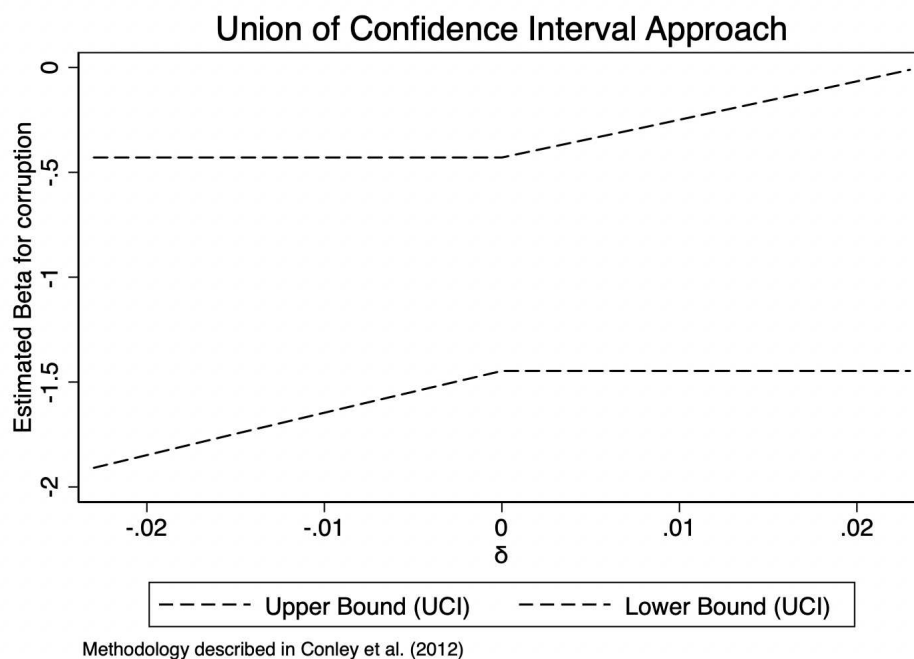
Note: Regressions include "accountability" as instrument.

This assumption allows the exclusion restriction condition to be relaxed and inferences to be made. [Conley et al. \(2012\)](#) show three strategies for deriving the confidence interval of  $\beta$  (coefficient of corruption) by relaxing the exclusion restriction condition. These strategies require different levels of information: (i) the first approach is the Union of Confidence Intervals (UCI) which requires prior information about  $\gamma$ , the local-to-zero approach, which requires the distribution of  $\gamma$  in addition; and the Bayesian analysis approach, which requires specification of the distribution of  $\gamma$ , information about the error term, and the other model parameters. Here, we mobilize the first approach, which requires only the specification of the  $\gamma$  support. The limitation of the [Conley et al. \(2012\)](#) method is that it does not indicate the value, range, or distribution of  $\gamma$  ([van Kippersluis & Rietveld 2018](#)). We select  $\gamma$  values symmetrically around zero.

We consider column 4 of Table 1.7 to explore the possible violation of the exclusion restriction condition with the [Conley et al. \(2012\)](#) test. This approach derives a 95% confidence interval for the coefficients of interest at the second stage, taking into account a

potential direct effect of the instrument on the outcome variable at the second stage. For our case, the maximum direct effect of the instrument, accountability, beyond which the 95% confidence interval of the corruption parameter includes zero (0), is 0.023 (Figure 1.4 below). Given that the standard deviation of the proportion of capital expenditure is 0,14 and the standard deviation of the instrument is 0.69, a coefficient of 0.024 means that one standard deviation of the instrument leads to 0.02 standard deviations change in the proportion of capital expenditure. This means that to deny the causal effect of corruption on the proportion of capital spending, much of the effect of the instrument, accountability, on the proportion of capital spending would have to be through a channel other than corruption. The estimation results with the instrument are robust to a slight relaxation of the exclusion restriction condition. To validate the robustness of our results to violation of the exclusion restriction condition, we also use the approach of [Nevo & Rosen \(2012\)](#).

Figure 1.4: [Conley et al. \(2012\)](#) Union of Confidence Interval Approach for  $\beta$  with  $\gamma = 0.023$



### The strategy of [Nevo & Rosen \(2012\)](#)

[Nevo & Rosen \(2012\)](#) propose a strategy for deriving confidence intervals for the true values of the parameters of interest with an imperfect instrument (IIV) by relaxing the exclusion restriction condition. Indeed, the exclusion restriction condition that stipulates the absence of correlation between the instrument and the error term is replaced by the assumption that the correlation between the instrument and the error term on the one hand, and the correlation between the endogenous explanatory variable and the error term,

on the other hand, are of the same sign and that the first correlation is relatively weak compared to the second. The assumption that the imperfect instrument is less endogenous than the (endogenous) treatment variable is intuitive and allows the correlation between the imperfect instrument and the error term to be bounded between 0 and the correlation between the endogenous treatment variable and the error term.

Clarke & Matta (2018) make available an algorithm to implement this method on Stata. For the implementation, two situations were considered: On the one hand, we assume that only hypothesis 3 (A3) of Nevo & Rosen (2012) is satisfied, i.e., the correlation between the instrument and the endogenous treatment variable (corruption) with the error term are in the same direction. On the other hand, we assume that hypothesis A3 and hypothesis 4 of Nevo & Rosen (2012) (A4) are all satisfied. We also consider the possibility that the correlation regarding A3 might be positive or negative to derive the bounds of the confidence intervals. The negative correlation between accountability (IIV) and corruption allows for two bounds.

The results in Table 1.8 suggest that even after relaxing the instrument's exclusion restriction condition, we cannot reject the negative effect of corruption on the proportion of capital expenditure in Africa. The causal effect of corruption on capital spending is therefore robust.

Table 1.8: Instrumental Variables Estimation: Sensitivity analysis with Nevo and Rosen (2012)'s Imperfect IV bounds

<i>Variable of interest: Corruption; dependent variable: capital expenditure (to total)</i>				
	(A3 only)	(A3 only)	(A3 and A4)	(A3 and A4)
	Lower Bound(CI)	Upper Bound(CI)	Lower Bound(CI)	Upper Bound(CI)
Correlation between accountability and corruption with the error term is positive	[-1.4468758	-.12151701]		
Correlation between accountability and corruption with the error term is negative	[-.43080035	-.42934367]		
Correlation between accountability and corruption with the error term is positive			[-1.4468758	-.24558478]
Correlation between accountability and corruption with the error term is negative			[-.62217891	-.42934367]

Bounds of corruption coefficients

### 1.4.5 Further robustness check

We use two strategies to test the robustness of the causal effect of corruption on the proportion of capital expenditures: An alternative instrument from the literature that is the

press freedom and interactive-fixed effects method proposed by Bai (2009).

#### 1.4.5.1 With alternative instrument from the literature: press freedom

We also use another instrument from the literature to confirm our results. This is freedom of the press. Press freedom was used by Zakharov (2019) as an instrument of corruption to measure the effect of corruption on investment across Russian regions. Here, we use Freedom House data for press freedom. Freedom House assesses press freedom across three dimensions: legal environment (with 30 as score), political environment (with 40 as score), and economic environment (with 30 as score). Thus, the Freedom House press freedom index is measured on a scale of 0 to 100, with 100 being no freedom of the press.

Press freedom must have two qualities to be a good instrument. (i) It must be correlated with corruption. The literature shows that a free press reduces corruption (Dutta & Roy 2016, Brunetti & Weder 2003, Freille et al. 2007, Hamada et al. 2019). (ii) Press freedom must also be exogenous. The fact that press freedom includes the political environment can be problematic for the exclusion restriction condition. Indeed, politicians may reduce press freedom to facilitate their practice of corruption. Thus, unlike Zakharov (2019), we remove the political dimension in the press freedom indicator. This avoids the potential correlation of corruption with unobservables related to the political dimension of press freedom. The press freedom we use as an instrument ranges from 0 to 60, with 60 indicating no press freedom at all.

Table 1.9 presents the estimation results with press freedom as the instrument. The results of the first stage indicate that press freedom (without the political dimension) is significantly and positively correlated with corruption at the conventional threshold. The positive sign of press freedom means that an absence of press freedom increases corruption (more press freedom reduces corruption). The Kleibergen-Paap LM statistic, Sanderson-Windmeijer tests, and Cragg-Donald Wald F statistic reject the hypothesis of under-identification and poor identification of the estimated equation. But the F test statistic, although significant, is not above 10 as suggested by Stock et al. (2002) for models 2, 3, and 4. This could mean that the instrument is not very strong for these models.

The results are consistent with those obtained with accountability as the instrument. The effect of corruption is significant and negative, indicating that an increase in corruption reduces capital expenditures. The results, therefore, hold with another instrument of the literature.

Table 1.9: Corruption and capital expenditure proportion: Instrumental Variables Estimation with press freedom as instrument

<i>Dependent variable: capital expenditure (to total)</i>				
	(1)	(2)	(3)	(4)
Estimator	IV	IV	IV	IV
Corruption	-1.255*	-2.061**	-2.366**	-2.503**
	(0.735)	(0.998)	(1.039)	(1.203)
Tax revenue to GDP (%)		0.00284***	0.00206	0.00247*
		(0.00101)	(0.00143)	(0.00141)
GDP per capita PPP(log)		-0.121	-0.200*	-0.214*
		(0.0995)	(0.110)	(0.122)
Inflation rate (%)		-0.000142	-0.000153	-9.74e-05
		(0.000131)	(0.000147)	(0.000151)
Population 0 to 14 (%)		0.00580	0.00537	0.00443
		(0.00441)	(0.00467)	(0.00527)
Urban population share (%)		0.00826**	0.00521*	0.00690*
		(0.00324)	(0.00314)	(0.00378)
Net ODA per capita(log)		-0.00621	-0.00737	-0.0127
		(0.00948)	(0.0105)	(0.0123)
Access to electricity(%)		0.000879	0.00127	0.000862
		(0.00118)	(0.00121)	(0.00142)
Resource rents to GDP(%)			0.000137	0.000234
			(0.00135)	(0.00149)
democracy				0.000312
				(0.000270)
Country FE	YES	YES	YES	YES
Time FE	YES	YES	YES	YES
Observations	816	794	788	755
F-test stat(first stage)	12.34	8.86	9.50	7.44
P-value	0.0005	0.0030	0.0021	0.0066
Sanderson-Windmeijer (sw)	12.62	9.16	9.84	7.72
Sw p-value	0.0004	0.0025	0.0017	0.0055
Kleibergen-Paap LM stat	12.59	9.32	10.00	7.72
P-value	0.0004	0.0023	0.0016	0.0055
Cragg-Donald Wald F statistic	14.44	10.18	10.53	8.15
Number of country	48	47	47	45
Robust standard errors in parentheses				
*** p<0.01, ** p<0.05, * p<0.1				
Note: Regressions include "press freedom" (without his political dimension) as instrument.				

#### 1.4.5.2 With interactive-fixed effects method proposed by Bai (2009)

To reinforce the results of the double least squares and to test the robustness of the causality, we use the interactive-fixed effects method proposed by Bai (2009). For Bai (2009), the interactive effects represent unobservable common shocks with heterogeneous cross-sectional effects. This method has the advantage of taking into account unobservables and their potential correlation with regressors, which could be a source of endogeneity. For Moon & Weidner (2015), the interactive fixed effect allows the heterogeneity of the data to be captured more flexibly by allowing the common temporal shocks to affect the cross-sectional units with individual sensitivity. This estimator is also valid in the presence of auto-correlation and heteroskedasticity of unknown forms in both dimensions. This method was used among others by Kim & Oka (2014) to evaluate the impact of divorce law reform on the divorce rate in the United States, and by Gobillon & Magnac (2016) for regional policy evaluation in France. Table 1.10 presents the results of the estimation by



the interactive fixed effects. The impact of corruption is negative and significant. It confirms the causality of the relationship between corruption and the proportion of capital expenditure and its robustness.

Table 1.10: Corruption and capital expenditure proportion: interactive fixed effects estimation

<i>Dependent variable: capital expenditure (to total)</i>				
	(1)	(2)	(3)	(4)
Estimator	IFE	IFE	IFE	IFE
Corruption (WGI)	-0.388*** (0.105)	-0.366*** (0.101)	-0.402*** (0.0938)	-0.398*** (0.0944)
Tax revenue to GDP (%)		0.00336*** (0.000775)	0.00240*** (0.000761)	0.00298*** (0.000759)
GDP per capita PPP(log)		0.247*** (0.0510)	0.169*** (0.0515)	0.165*** (0.0527)
Inflation rate		-0.000261** (0.000116)	-0.000367*** (0.000102)	-0.000346*** (0.000105)
Population 0 to 14 (%)		0.00478 (0.0102)	-0.00471 (0.00581)	-0.00871 (0.00648)
Urban population share (%)		-0.0239*** (0.00843)	-0.0165*** (0.00636)	-0.0138** (0.00629)
Net ODA par capita(log)		-0.00189 (0.00552)	-0.00587 (0.00544)	-0.0114** (0.00554)
Access to electricity(%)		-0.00190* (0.00103)	-0.00265** (0.00102)	-0.00258** (0.00101)
Resource rents to GDP(%)			-0.00115** (0.000580)	-0.00142** (0.000580)
democracy				-9.60e-05 (0.000176)
Constant	0.531*** (0.0648)	-0.660 (0.641)	0.153 (0.523)	0.240 (0.544)
Observations	816	794	788	755
Number of factor	2	2	2	2
Standard errors in parentheses				
*** p<0.01, ** p<0.05, * p<0.1				

## 1.5 Conclusion

In this study, we carried out an empirical analysis of the distorting impact of corruption on the composition of public spending by economic function in Africa. Our results show that corruption distorts the structure of public expenditure to the detriment of capital spending.

Using panel data with fixed effects and two-stage least square methods, it is established that corruption significantly reduces the proportion of capital expenditure as a percentage of total and current expenditures. An increase in corruption by one standard deviation is associated with a decrease in the proportion of capital expenditure from 29% to 18%, i.e. a decrease of 11 percentage points. The negative impact of corruption on the proportion of capital expenditure is robust to distinguishing between different democratic regimes, using an alternative dependent variable, using the public sector corruption variable from the V-Dem database, computing five-year average data, using alternative instrument and using interactive fixed effects estimations. This misallocation of public resources is a source of inefficiency in African countries. These results, combined with those of Barro (1991) and Bose et al. (2007) who argue that only capital spending is conducive to economic growth, partly explain the tragedy of economic development in Africa. Our results therefore highlight one of the channels through which corruption affects economic performance, particularly in Africa.

According to our findings, strong anti-corruption measures should be encouraged in Africa because they offer prospects for increasing the proportion of public investment, which is conducive to public service access and long-term economic development. The results also recommend that greater attention be paid to the proportion of capital expenditure in public development policies, particularly in resource-rich countries.

Controlling corruption could be a key to boosting economic performance in Africa. Studies that highlight the determinants of corruption, specifically in Africa, would thus serve to better characterize the phenomenon and examine more promising anti-corruption prospects.

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## 1.6 Appendix

### 1.6.1 Estimation with alternative dependent variable: capital expenditure proportion in current expenditure

See table 1.11

Table 1.11: Corruption and capital expenditure proportion: fixed effects estimation with alternative dependent variable

<i>Dependent variable: capital expenditure (to current expenditure)</i>				
	(1)	(2)	(3)	(4)
Estimator	FE	FE	FE	FE
Corruption	-1.128*** (0.233)	-0.468** (0.236)	-0.535** (0.229)	-0.440* (0.234)
Tax revenue to GDP (%)		0.0173*** (0.00407)	0.0139*** (0.00364)	0.0141*** (0.00368)
GDP per capita PPP(log)		0.662*** (0.256)	0.270 (0.202)	0.270 (0.204)
Inflation rate (%)		-2.09e-05 (0.000235)	-0.000422** (0.000214)	-0.000297 (0.000207)
Population 0 to 14 (%)		0.0213* (0.0126)	0.0233* (0.0120)	0.0253** (0.0126)
Urban population share (%)		0.0274** (0.0140)	-0.0127* (0.00677)	-0.0108* (0.00655)
Net ODA per capita(log)		0.0219 (0.0315)	0.0435 (0.0308)	0.0451 (0.0330)
Access to electricity(%)		0.00504 (0.00404)	0.0114*** (0.00343)	0.0119*** (0.00353)
Resources rents to GDP(%)			-0.00357 (0.00357)	-0.00378 (0.00358)
Democracy				0.000768** (0.000390)
Constant	1.131*** (0.157)	-6.886*** (2.612)	-2.531 (1.908)	-2.752 (1.952)
Country FE	YES	YES	YES	YES
Time FE	YES	YES	YES	YES
Observations	816	795	789	756
F-stat	3.05	4.11	3.56	3.42
P-value	0.0000	0.0000	0.0000	0.0000
Adjusted R-squared	0.669	0.711	0.763	0.764
Number of country	48	48	48	46

Robust standard errors in parentheses  
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

### 1.6.2 Countries of the study sample

See table 1.12

Table 1.12: Sample composition

<b>African countries</b>
Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cabo Verde, Cameroon, Central African Republic, Chad, Comoros, Congo, Cote d Ivoire, Democratic Republic of the Congo, Djibouti, Egypt, Equatorial Guinea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea Bissau, Kenya, Lesotho, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, South Africa, Sudan, Swaziland, Tanzani, Togo, Tunisia, Uganda, Zambia



## CHAPTER 2

# CORRUPTION AND OCCUPATIONAL CHOICE: EVIDENCE FROM SUB-SAHARAN AFRICA

*"Vous ne pouvez pas accomplir des changements fondamentaux sans une certaine dose de folie. Dans ce cas précis, cela vient de l'anticonformisme, du courage de tourner le dos aux vieilles formules, du courage d'inventer le futur."*

Thomas Sankara, président du Burkina Faso de 1983 à 1987

## 2.1 Introduction

Africa is facing high unemployment problems. According to the Brookings Institution, 20 million new jobs are needed every year to absorb the demand (Fox & Gandhi 2021, Coulibaly & Page 2021). However, the current labor market is only capable of absorbing half of this figure. Putting such millions of young people in a position of vulnerability each year leads to serious consequences that these countries are experiencing, including security shocks, migration etc.

Studies that investigate the constraints related to the labor market in Africa generally point to the mismatch between jobs and educational training (Morsy & Mukasa 2019). While these considerations are important, this study argues that governance consideration, particularly corruption, can be an overlooked constraint associated with the labor market in Africa. In particular, we argue that corruption creates distortions in the decisions of job seekers and leads to inefficient allocation of resources. Job applicants could thus be attracted to a sector whose financial representation is mainly due to corruption, such as the public sector in Africa.

Studying the effects of corruption on talent allocation is not a new topic in the literature (Murphy et al. 1991, Shleifer & Vishny 1993, Echazu & Garoupa 2010, Ebeke et al. 2015). However, measuring corruption remains to be extensively studied in the literature, as there is a lack of consensus on corruption variables (Olken & Pande 2012, Banerjee et al. 2012). Furthermore, the effect of corruption on incentives of job seekers between the civil service and the other employment sectors is not yet empirically examined.

In this study, we investigate these questions in two ways. First, we propose a new measure of corruption. Second, we empirically show that this measure of corruption affects the job seekers' incentives.

To do so, we take advantage of microeconomics survey data conducted in 2017 in Cameroon. This survey covers the country's two main cities, Yaoundé (political capital) and Douala (economic capital). These data include the expected wage of the individual for a position he/she thinks he/she can occupy in the public service given his/her level of education, qualification, and experience. Then, we measure corruption by the difference between the perceived wage and the actual wage of the public service position. The perceived wage here, is the expected wage of the individual in the position. Indeed, the prevalence of corruption in the civil service creates a "fog" effect on the actual wage served due to wage information asymmetries in the public administration (Finan et al. 2017). This "fog" effect leads to the overestimation of the effective wage in the civil service by aspiring employees

since the standard of living of civil servants does not reflect their actual wage. The standard of living of corrupt public officials would reflect their actual wages plus the income from corruption. Thus, the overestimation of civil service salaries by aspiring employees is related to corruption in the sector.

We find a robust positive relationship between corruption and the choice of the public service as the sector for the desired job. Individuals who most overestimate the remuneration, wish to pursue their professional career in the public service.

We use several strategies to assess the robustness of this positive relationship between corruption and the choice of public administration for one's professional career.

On the one hand, we explore alternative scenarios: (i) we take into account the characteristics of the individual's father, notably his/her level of education and the organization in which he/she works, to rule out a possible link between parental characteristics, wage overestimation, and occupational choice; (ii) by excluding individuals where the job they think they could do in the public service given their skills is in that of government official, since we were unable to obtain official data on the pay of these officials; (iii) and by conducting a placebo test with a dependent variable (Any company), which takes one (1) if the individual is indifferent about the company he/she wants to practice his/her desired job in and zero (0) otherwise.

On the other hand, we use the instrumental variables method to assess the causal effect of corruption on the public service choice for one's desired job. The instruments are the distance of the department of residence from the coast weighted by the number of years lived in that department. The distance from the coast determines the intensity of slavery (Nunn & Wantchekon 2011), and slavery has created favorable conditions for the rise of corruption. The effect of corruption on public service choice remains positive and significant, indicating that individuals who overestimate public service pay self-select into public administration.

This work contributes to three main strands of the literature. First, as we mentioned above, there is a lack of consensus in the measures of governance's indexes, especially corruption. A point of dispute, is the difference between the perception and the reality (Olken 2009). This study proposes a new measure of public official's corruption that should extend contribution on direct measures of corruption (Olken 2007, Svensson 2003).

Second, by assessing the effect of corruption on occupational organization choice, this paper adds to the literature on corruption, rent-seeking, and the allocation of talent (Murphy et al. 1991, Acemoglu & Verdier 1998, Ebeke et al. 2015), however with a focus on job

seekers in Africa. This is a point that has not yet been empirically examined in this strand of literature.

Finally, this paper contributes to the recent growing literature on the economics of State personnel (Finan et al. 2017, Hanna & Wang 2017, Dal Bó et al. 2013, Olsen et al. 2019, Ashraf et al. 2020). This literature focuses, among other things, on the characteristics of agents or aspirants to State employment and their link to staff performance, the role of incentives ( financial and non-financial) in the performance of agents (Khan et al. 2016, 2019, Huillery & Seban 2021), and the mechanisms for monitoring public service delivery (Ferraz & Finan 2008, Olken 2007, Huillery & Seban 2021). In this paper, we support the idea that the standard of living of civil servants does not reflect their actual wage. Thus the rush to the civil service in developing countries may be explained, in part, by the overestimation of civil service salaries by aspiring employees as a result of corruption, but this aspect has not yet been addressed by this strand of literature.

The paper is structured as follows. Section 2 presents the literature related to the topic of the paper. Section 3 deals with the theoretical framework. Section 4 documents the empirical strategy and presents the data and the methods used. Section 5 presents the results, and section 6 concludes.

## **2.2 Corruption, rent-seeking and the allocation of talents in the literature**

Institutions provide the incentive structure of the economy and thus determine the allocation of resources (North 1991, 1994). Two strands of the economic literature focus on talent allocation, rent-seeking, and corruption.

The first branch directly links talent allocation, rent-seeking, and economic growth by distinguishing between two types of sectors and agents: the productive sector made up of entrepreneurs, and the rent-seeking sector (public administration) made up of rent-seekers.

On the theoretical level, Murphy et al. (1991) indicate that the allocation of talent to the rent-seeking sector is harmful for several reasons: (i) the expansion of the rent-seeking sector absorbs resources, including labor, and reduces income, (ii) the taxes imposed by the rent-seeking sector on the productive sector reduces the incentive to produce, leading to a reduction in income as well, and (iii) the allocation of the most talented to the detriment of the productive sector reduces innovation, the rate of technological progress and thus

economic growth.

In a two-sector model, [Murphy et al. \(1991\)](#) show that the determinant of talent allocation is the relative reward between sectors. For a given sector to be attractive to the most talented, it must have attractive compensation contracts relative to other sectors, i.e. alternative opportunities are key determinants of talent allocation ([Murphy et al. 1991](#)). [Baumol \(1990\)](#) supports this idea and states that entrepreneurs still exist, but their allocation across productive and unproductive activities varies over time and across societies. For [Baumol \(1990\)](#), the allocation of entrepreneurial activities into productive or unproductive activities depends on the "rules of the game" that prevail in society. If the rules of the game do not allow enrichment by productive activities or if society views them as a disgrace, entrepreneurs who are talented in productive activities and/or others who are more talented in rent-seeking activities will be attracted by the relative gains in unproductive activities. [Acemoglu & Verdier \(1998\)](#), introduce the issue of efficiency wages as a means to prevent corruption but at a double cost: the disincentive cost of taxes for entrepreneurs and the misallocation of talent related to the attractiveness effect of the public sector because of rent.

[Acemoglu & Verdier \(1998\)](#) consider an economy involving contractual problems among entrepreneurs. The production process involves two agents who need the State to guarantee the remuneration of inputs from the first agent's investment<sup>1</sup>. Due to information asymmetry, the public agent could abuse its power by colluding with one of the agents. Given the cost of preventing corruption and protecting property rights, socially optimal resource allocation implies partial protection of property rights and some corruption. According to [Acemoglu & Verdier \(1998\)](#), in link with entrepreneurial productivity, it may be optimal for developing countries (with few productive investment opportunities) to have a low level of property rights protection with corruption.

To sum up, [Murphy et al. \(1993\)](#) point out two reasons why rent-seeking is so costly for economic growth. (i) Increasing rent-seeking activity may make rent-seeking more attractive than productive activities involving a multiple equilibrium situation with low property rights protection that coexists with a low output. (ii) Rent-seeking by public servants undermines innovation and economic growth.

Empirically, some works show that rent attracts talent ([Ebeke et al. 2015](#)) and a good allocation of talent induces economic growth ([Strenze 2013](#)). In a sample of 69 developing countries and over the 2000-2008 period, [Ebeke et al. \(2015\)](#) find that in the presence of

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<sup>1</sup>and delivered to the second agent



poor institutions, oil rents encourage students to study law, business, and social sciences at the expense of engineering, manufacturing, and construction. This means that in the presence of bad institutions and oil rent, law, business, and social science professions become more attractive careers with the possibility of access to rent. Furthermore, [Strenze \(2013\)](#), in a cross-sectional study, finds out that a society that allocates its talent efficiently, i.e. the most talented individuals are assigned to the most complex jobs, tends to have strong economic performance.

The second strand of the literature on talent allocation is related to the personnel economics of the State. On the one hand, there is evidence that corruption and political connections affect public officials' selection and quality. Indeed, the discretionary power of politicians in the recruitment of public officials can introduce friction in the selection process if political connection and corruption take precedence over ability ([Colonnelli et al. 2020](#)). Using the regression discontinuity design method by comparing supporters of winning political parties with supporters of losing parties in municipal elections, [Colonnelli et al. \(2020\)](#) find that supporters connected to winning parties have 10.5 percentage points higher probability of being employed in the public sector in Brazilian municipalities over the 1997-2014 period. This increase represents 47% compared to the control group. The investigation of [Colonnelli et al. \(2020\)](#) shows that patronage is the mechanism behind this result. Results also suggest that the least competent individuals have a higher probability of benefiting from their political connections. Furthermore, [Mocetti & Orlando \(2019\)](#) use data from the Italian Labour Force Survey (LFS) and the Survey on Household Income and Wealth (SHIW) with the instrumental variables method and find a negative relationship between the level of education and the probability of working in the public sector, especially for higher-skilled jobs, in areas with high levels of corruption. They also find that a high level of corruption is associated with a high probability of mismatch between the level of education and the needs of the job (usually in the form of undereducation). For [Mocetti & Orlando \(2019\)](#), the high prevalence of corruption reduces the level of effort of public agents compared to private agents as measured by the number of hours worked in the case of Italy.

On the other hand, behavioral economics investigations, which mainly use field experiments to characterize individuals, show that dishonest and corrupt individuals tend to be more sensitive to pecuniary gain ([Barfort et al. 2019](#)), less pro-social ([Hanna & Wang 2017](#)) and self-select the sector with the most attractive salaries ([Barfort et al. 2019](#), [Hanna & Wang 2017](#)).

**Barfort et al. (2019)** conduct a field experiment with law, economics, and political science students at the University of Copenhagen in Denmark. They use a 'dice' game to measure honesty and a 'dictator game' to measure the propensity to be pro-social. These authors find that individuals with higher financial motivation are dishonest and are less likely to choose a career in the public sector where the wage level is relatively low compared to the private sector. **Barfort et al. (2019)** show that the selection pattern is that more financially motivated and dishonest individuals self-select out of the civil service with a low wage level compared to the private sector by analyzing a series of counterfactual questions of job preference as a function of salary. In a similar study of 669 students in 7 universities in India (in their final year of university), **Hanna & Wang (2017)** find that dishonest and less pro-social students have a higher probability of choosing to work in public administration. Students who have some 'dice' points above the median are 6.2% more likely to desire a job in the public administration. In this country, the salary is relatively higher in the public sector than the private sector (**Finan et al. 2017**). Also, in India, **Banerjee et al. (2015)** conduct an experiment in which aspiring public and private sector employees play a kind of bribery game by mimicking a situation where a public official demands public resources to provide services to citizens. **Banerjee et al. (2015)** find that aspiring public servants are more corrupt than their colleagues of the private sector.

This study contributes to this literature by assessing the effect of corruption on professional trade-offs between the public sector and the other sectors in Africa. The idea is that corruption in the public sector can create an attractive effect for aspiring employees. This perspective is not present in the existing literature. This investigation is crucial for understanding the distorting impact of corruption on occupational choice and the rush towards the public sector in developing countries.

## **2.3 Theoretical framework**

In this section, we present the measure of corruption and postulate how it may affect the desire to work in the public sector to guide our empirical investigation. The interest of this paper is to measure corruption and its impact on the choice of public administration as a desired organization for one's professional career. To do so, corruption is approximated by the overestimation of the salary in the public service.

### 2.3.1 Theoretical concept on the measurement of corruption

The amount of bribes exchanged between public officials and citizens can be an ideal measure of corruption. Because of the information asymmetries and the need for secrecy that corruption requires (Shleifer & Vishny 1993), several proxies are used in the literature. Olken (2007) measures corruption by missing expenditure in the road sector in Indonesia by differentiating what each project implementation team claims to have spent and the actual expenditure based on an independent engineer's estimate. Our measure of corruption follows the approach taken by Olken (2007). Here, corruption is measured by the difference between the expected wage and the actual wage of the public service position. The expected wage can be considered as an estimate of the individual based on the standard of living of public officials already in the same position due to the informational asymmetry on the actual wage.

Indeed, in a situation of perfect information on public sector wage compensation, job aspirants would know the wage served in the public service for any position. But as Finan et al. (2017) point out, there is a lot of information asymmetry in public administration, especially in developing countries. In a situation of imperfect information, if public servants live solely on their salary, the overestimation of compensation by individuals should be close to zero on average. The overestimations and underestimations of the wage should be equal on average. Here, the average overestimation of salary in the civil service, considering all allowances (hardship, status, housing and car maintenance), is 72% in the study sample.

We consider a situation where the standard of living (the expenses they incur in terms of purchase of goods, services etc.) of the individuals reflects their income.  $R_{ij} = W_j + C_{ij}$ .  $R_{ij}$  represents the individual's total income, which is composed of two elements:  $W_j$  represents the basic salary and allowances that individuals receive (actual wage) based on their position in the public administration, and  $C_{ij}$  represents the income related to corruption.  $C_{ij}$  may be equal to 0 if the public official is not corrupted. The indices  $i, j$  represent the individual and the position in the public service, respectively.

$W_j$  varies according to the category of the position in the civil service, the level of responsibility, and the status of the ministry to which the individual belongs.  $C_{ij}$  varies positively with the rent opportunities associated with the position and negatively with the moral cost. The moral cost is the personal aversion to corruption and the moral of the society (Andvig & Moene 1990).

In an environment where the prevalence of corruption is high, moral cost decreases,

and corruption increases with opportunity (Andvig & Moene 1990, Murphy et al. 1993). In developing countries such as Cameroon, opportunities may vary by position but these are common because of the multiple interactions between public officials and citizens in delivering public services.

From the above, due to information asymmetries, corruption blurs information on the wage served in public administration through the standard of living. The standard of living of a non-corrupt official would reflect his/her actual wage. In this case, the actual wage equals the total income ( $R_{ij} = W_j$ ). In contrast, the standard of living of a corrupt public official would reflect his/her actual wage plus income from corruption. Here, the total income equals the actual wage plus the revenue from corruption.

An aspiring employee who estimates what he/she can earn in a given position based on the standard of living of a corrupt public official in that position leads to an overestimation of the position's wage. We approximate this overestimation of the public official's income by the wage that the individual expects in the job, i.e. the expected wage is approximately equal to  $R_{ij}$ , the official's total income. The data collection on the actual wage of the position ( $W_j$ ) makes it possible to compute the amount of corruption.  $R_{ij} - W_j = (W_j + C_{ij}) - W_j = C_{ij}$ .  $C_{ij}$  is our measure of corruption.

The overestimation of public service pay may distort the individual's decision-making and affect his/her career choice.

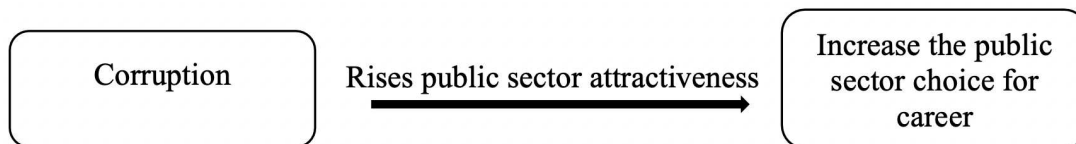
### 2.3.2 Corruption and choice of public service

Corruption affects the attractiveness of employment in the rent-seeking sector, the public administration (Murphy et al. 1993). Indeed, by changing the perception of the effective wage in the civil service, corruption affects the structure of relative reward among potential employment sectors. Thus, a rational individual with a high sensitivity to financial gain would be more attracted to the relatively high-rent sector, i.e. the civil service, than other employment sectors (see figure 2.1). According to Acemoglu (1995) and Murphy et al. (1991), individuals are attracted to the sector with the highest relative reward. Also, for Baumol (1990), the allocation of talent depends on the "rule of the game" in society, i.e. the distribution of potential gains. Thus, the more aspiring employees overestimate the pay level in public administration, the more they will want to make their professional careers in this sector. Obviously, this overestimation may not affect the choice of individuals who are less sensitive to pecuniary gains.

The objective is to assess the effect of the attractiveness of the public sector generated

by corruption with the overestimation of the salary within it on the desire to make a career in public administration. This situation may explain the weakness of the private sector in developing countries and the rush to the civil service.

Figure 2.1: Mechanism of corruption on occupational choice



## 2.4 Empirical analysis

We rely on the following equation to assess the impact of corruption on occupational sector choice:

$$PublicServiceCareer_i = \alpha_0 + \beta Corruption_i + \gamma X_i + \epsilon_i \quad (2.1)$$

The dependent variable, *PublicServiceCareer*, is a dummy variable that takes 1 if the individual wishes to pursue his/her desired job in the public administration and 0 otherwise. *Corruption* represents the variable of interest which is the overestimation of the wage of a public service position relative to the actual wage of the position.  $\beta$  is, therefore, the coefficient of interest that we want to measure.  $X_i$  represents the other explanatory variables that may potentially affect career choice outside of corruption. We will now present the data, the variables, and the identification strategy.

### 2.4.1 Data

This study uses primary microeconomics data from the Employment Policy Improvement Survey (EAPE) funded by the International Development Research Center (IDRC). These data were collected from June to September 2017 in Cameroon and, more precisely, in Yaoundé and Douala's cities.

The primary purpose of this survey is to provide data to assess the internal and external efficiency of public employment services in the different countries concerned to improve them. To this end, we collect information on the status concerning the various public employment services, detailed information on socio-demographic characteristics, employment history, general information on employment programs, main activity, labor market prospects, willingness to work in the public service or not, etc.

The sample for this survey was constructed from registration forms for Cameroon's National Employment Fund (FNE) from 2012 to 2015. These registration forms contain information on the level of education (primary, secondary and higher), gender (male/female), year of registration with the agency (2012, 2013, 2014, and 2015), and telephone numbers. This information was used for the stratification of the individuals to be surveyed. In addition, the sheets make it possible to distinguish two categories of individuals, individuals who have benefited from the intervention (candidate beneficiaries or treated) and individuals who are not (control group). We control for this treatment variables to rule out potential influence on our results.

The process of selecting individuals to be surveyed consists of a stratification by group (program beneficiaries, non-program beneficiaries) by level of education, sex, and year of registration. The group of non-beneficiaries is more extensive than the group of beneficiaries. Thus, the individuals of this group were drawn at random to respect the stratified proportions of the beneficiary applicants.

The people selected were contacted by telephone and interviewed in person. The information collected concerns the evolution of their socio-demographic characteristics since 2010, their professional career, their experience with the public employment agencies of the country they were surveyed, information on the training program received, their employment situation, their prospects in the public service, etc. Overall, the database contains about 3000 individuals. For this study, we restricted the sample to unemployed individuals (about 1000). The corruption measure and our research question is only relevant for this group of individuals. The employed individuals know the actual wage of their position and have already chosen their employment sector.

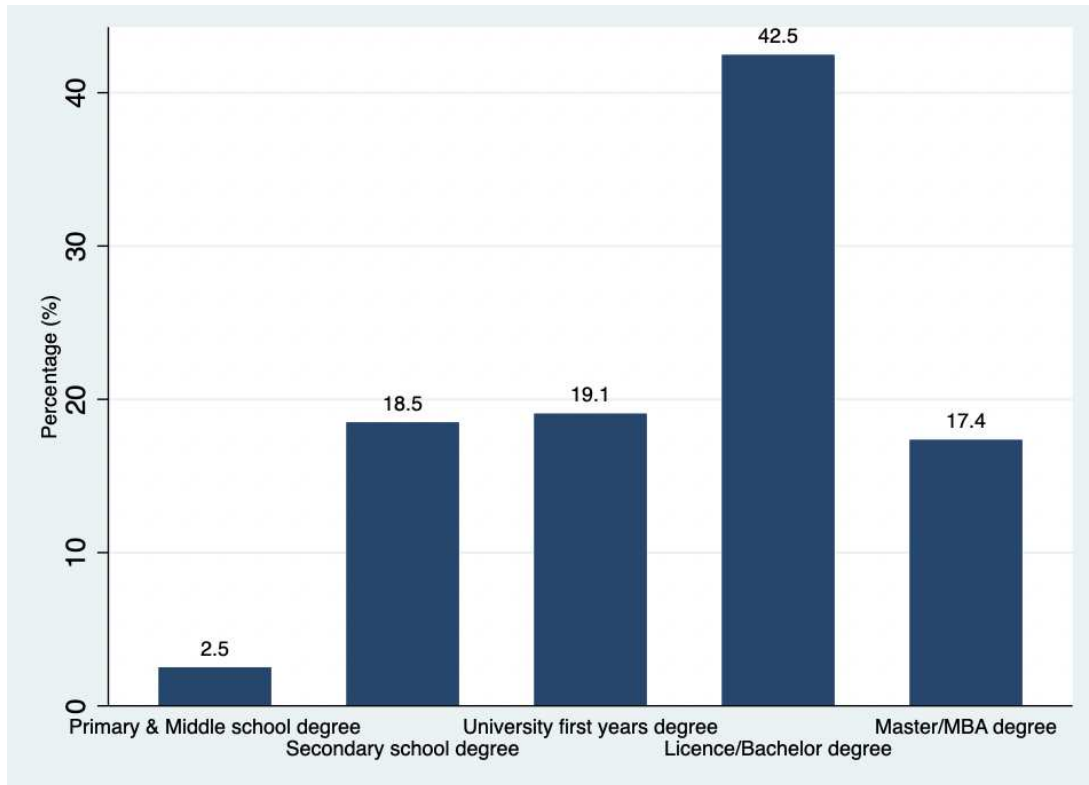
Our study sample includes 57% of women and 43% of men. Their age ranges from 18 to 59, with 90% less than 35. Regarding education, 17% of participants of our study sample have a master's degree, 43% have a bachelor's degree, 19% have a degree in the first two years of a university, 19% have a baccalaureate or professional study certificate, and less than 3% for the primary and middle school degree (see figure 2.2).

The summary statistics are in tables 2.7, 2.8 and 2.9 in the appendix.

To construct our variable of interest, which is corruption, we collected data on the effective wages and the various allowances per position from the Ministry of the Civil Service to compare with the wage expected by the individual. As we were unable to obtain updated data on the Cameroonian government's salaries, we used data from a book (Bidjocka 2016) to complete our data. We took data on the distance from departments of residence to the

coast from AIDDATA.

Figure 2.2: The sample individuals by attainment degree (%)



Source: The author, with survey data, 2017

## 2.4.2 Variables and descriptive statistics

We now examine our variables of interest.

### 2.4.2.1 Measuring corruption

We use the overestimation of the civil service wage as a proxy for corruption. Corruption is measured by the difference between the expected or anticipated salary and the actual salary of the position that the individual thinks he/she will be able to occupy in proportion to the latter.

The Cameroonian public administration includes two types of agents: civil servants and contractual agents. Civil servants are divided into six (6) categories per ministry ranging from category A2 (highest) to category D. The contractual agents are divided into contractual cadres, contractual and decisional agents with sub-categories.

To measure actual wages, the positions that individuals think they could hold in the civil service were classified into 36 ministries, including the Presidency of the Republic,

the Prime Ministry and a civil service ministry for positions that cannot be classified in a specific ministry.

The period of investigation corresponds to the third government of Prime Minister Philemon Yang which was formed on October 2<sup>nd</sup>, 2015 and replaced by the fourth government of the same Prime Minister on March 1<sup>st</sup>, 2018. Thus, the positions were classified according to the ministries in place at the time.

The remuneration of public officials includes basic wage and allowances. The amount of the basic wage depends on the category where the position belongs. We grouped the allowances into four types: hardship allowances, status allowances, housing allowances and vehicle maintenance allowances. Housing allowances are set at 20% of the basic salary of civil servants. The other allowances are paid in two ways: the common system administration and the special status administration. In the case of the administration with a common regime, these are essentially hardship allowances and vehicle maintenance allowances, the amount of which depends on the level of responsibility in the administration, starting with the head officer and ending with members of the government. As regards the administration with special status, there are 18 ministries including the Presidency of the Republic, the Prime Ministry and two directorates that are the General Delegation for National Security (GDNS) and the General Directorate for External Research (GDER). The status allowances include other allowances linked to the particular status of the Ministry or direction to which the post belongs. These include representation allowances, responsibility allowances, lump-sum allowances, police risk allowances, technicality allowances, etc. The status allowances may differ depending on the department and the category of the officer.

We use three measures of actual wage to compute corruption:

**Actual income 1**=basic wage only

**Actual income 2** = basic wage + hardship allowance + status allowance (representation allowance, responsibility allowance, the special status of the function etc.)

**Actual income 3**= basic wage + hardship allowance + status allowance + housing allowance + vehicle maintenance allowance

The distinction of the three measures allows for different considerations: The potential difference between basic wage and allowances and the difference between allowances. We consider hardship allowances and status allowances for actual income 2 before considering housing allowances and vehicle maintenance allowances for actual income 3 to account that the latter is directed towards specific expenses. This situation could introduce a constraint



on the use of income.

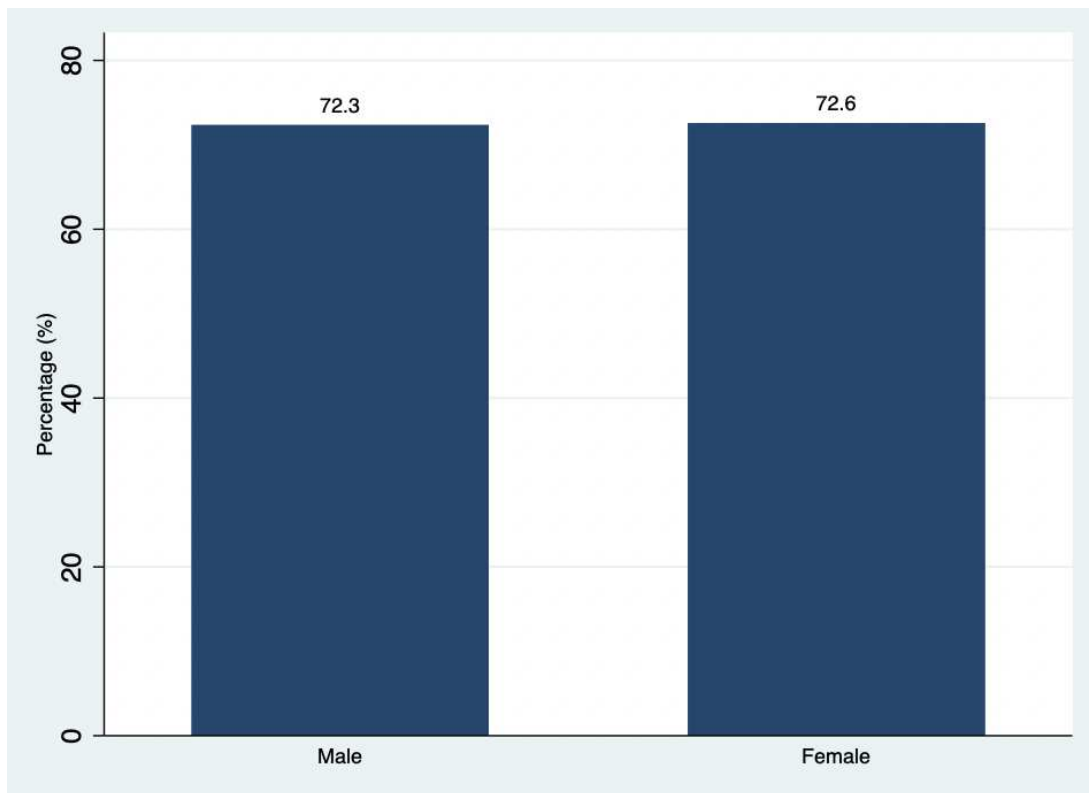
Corruption is obtained by taking the difference between the expected wage and the actual income to be the ratio of the actual income. The three measures of effective income allow for three measures of corruption (corruption 1, corruption 2, and corruption 3). These three measures of corruption provide confidence in the robustness of the results. In the study sample, the average corruption is 1.16, 1.05, and 0.72 for corruption 1, corruption 2, and corruption 3. This means, based on corruption 3, that the average overestimation of the expected wage compared to the actual wage is 72%. In the study sample, 20% of the individuals underestimate the wage while 80% of the individuals overestimate the wage in the public service. On average, female (72,6%) and male (72,3%) individuals overestimate the civil service wage on the same size (see figure 2.3).

Our measure of corruption is not the ideal one. It is an attempt to approximate corruption in the civil service. In this case, one can say that this measure is mainly related to information asymmetry about the expected wage as the individual may lack information to estimate the pay based on the standard of living of public officials far from him. If the case, those where the father work in the civil service should be more precise in estimating their expected wage. The overestimation of the civil service wage (corruption 3) by the father job company shows that individuals with fathers working in the civil service overestimate the salary on average by 72.9%, almost the average of the whole sample (72%). Their overestimation of the wage is higher than those with a father working in the public company, international institution, self-employed or domestic staff (see figure 2.4). Similarly, the more educated people should make fewer errors, and we should have a relatively small wage estimation gap as the education level increases. But here, this is not the case (see figure 2.5).

Moreover, computing the overestimation of wage by education level, we observe that the overestimation increases with degree level as the opportunity for corruption rises (see figure 2.5). Individuals with master or MBA degree have the highest overestimation of the civil service wage (90.5%), while those with primary school degrees have the lowest. This situation is what we expect as, in the civil service, the positions with master's or MBA requirements are strategic. They offer more opportunities to embezzle public funds or negotiate bribes.

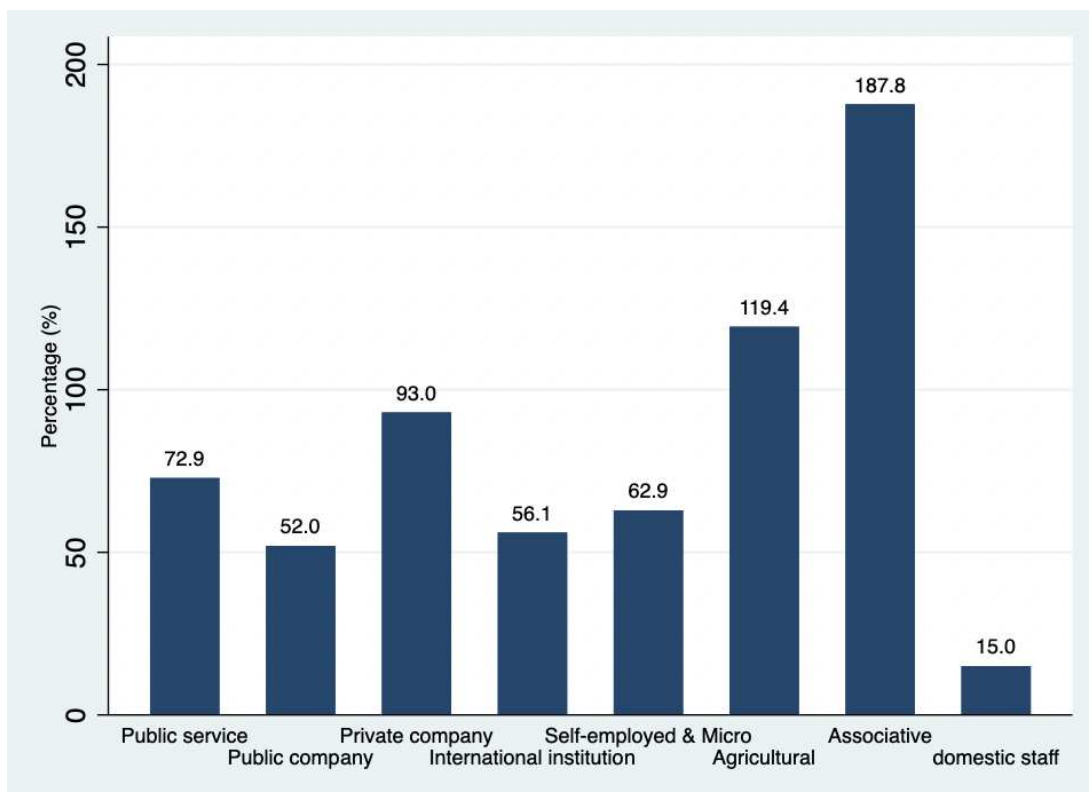
These statistics support our idea that the overestimation of the civil service wage is related to the prevalence of corruption in this sector, creating a disconnection between public officials' standard of living and their actual wages.

Figure 2.3: The overestimation of the civil service wage by gender (%)



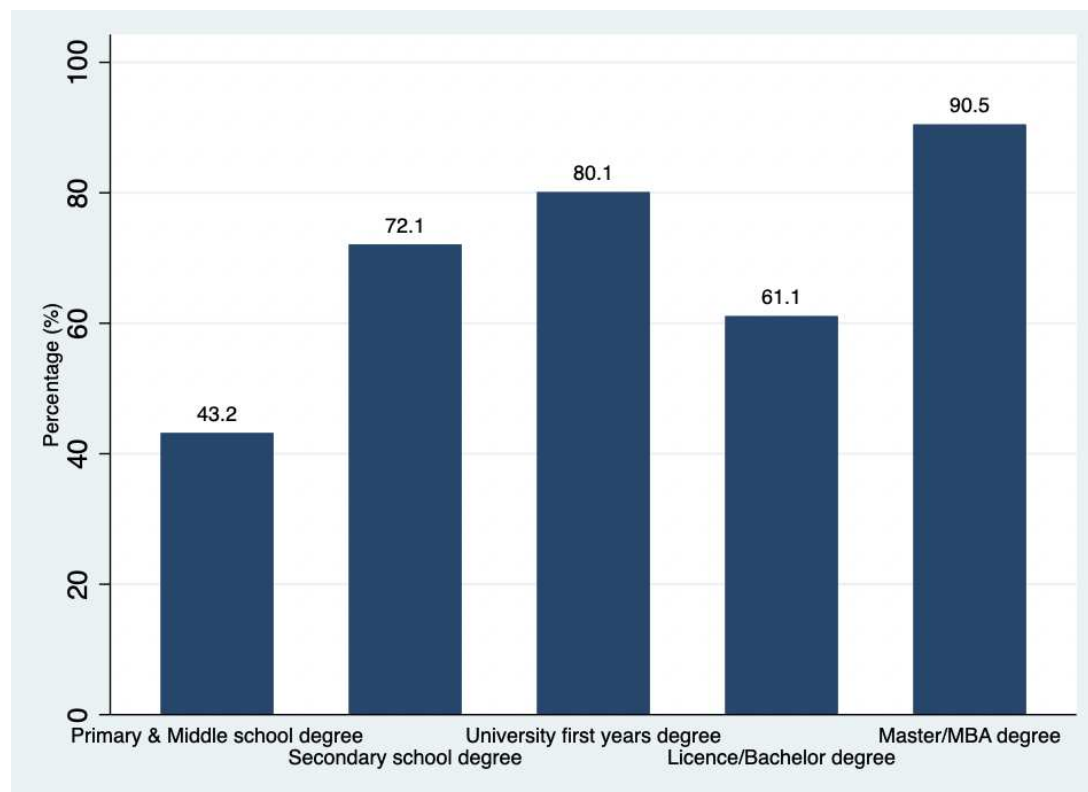
Source: The author, with survey data, 2017

Figure 2.4: The overestimation of the civil service wage by type of father job company (%)



Source: The author, with survey data, 2017

Figure 2.5: The overestimation of the civil service wage by attainment degree (%)



Source: The author, with survey data, 2017

#### 2.4.2.2 Dependent variable

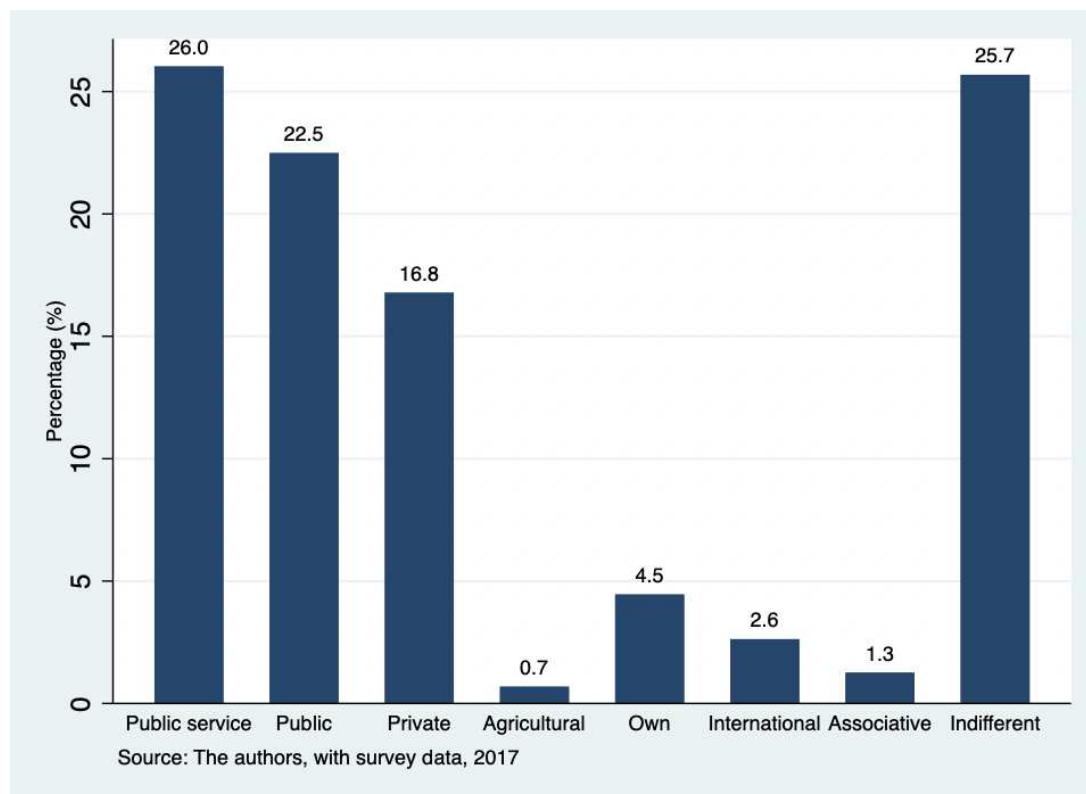
The dependent variable is constructed based on data from the question "In which type of company or organization would you like to do your desired job?" This question includes nine (9) choices. 1=Public administration; 2=Public enterprise; 3=Private non-agricultural enterprise; 4=Private agricultural enterprise; 5=Your own business/ self-employed; 6=International organization; 7=Associative enterprise; 8=Domestic; 9=Other. The dependent variable, public service career, is a dummy variable that takes 1 if the individual wishes to do the desired job in the public administration and 0 otherwise.

In the study sample (Figure 2.6), 26% of individuals wish to do their desired job in the public administration, 22% in a public company, 17% in a private non-agricultural company, 1% in an agricultural company, 4% in their own company, 3% in an international institution, 1% in an associative or cooperative company and 26% are indifferent (will accept a job in any kind of company).

#### 2.4.2.3 Control variables

The control variables include variables related to individual characteristics (age, gender, level of education, main source of income of the individual, status in the household, reli-

Figure 2.6: Proportion of individuals with respect to the company of desired job (%)



gion) and characteristics related to employment (experienced, whether the individual has taken steps to look for a job and/or to create his/her own business or not, the number of job applications in the last month, the number of exams for the public service in the last month and whether the job is full time, part time and so forth.

Concerning individual characteristics, six (6) variables are taken into account: (i) age, which may affect the possibility of entry into the public service; (ii) the individual's gender; (iii) the level of education measured by the individual's highest diploma. This variable comprises 10 modalities ranging from the Primary School Certificate (PSC) to the Doctorate/Ph.D. (highest diploma). All these variables are consistent with the literature (Dolton & Makepeace 1993, Chiswick & Taengnoi 2007); We also add (iv) the individual's main source of income, which comprises three modalities, namely family/relatives, work, and other; (v) the status in the household, which comprises 11 modalities; and (vi) the religion with eight modalities. An individual's position in the family and source of income could influence his/her professional choice as this situation may be a constraint. Religion allows us to take into account the historical context of the institution of public administration. The Europeans who established the civil service were Christians and being Christian could affect accessibility to the public service. The summary statistics are given in the appendices (tables 7, 8 and 9).

We follow the literature by adding employment-related characteristics (Dolton & Makepeace 1993, Ham et al. 2009). Four (4) variables are also taken into account: (i) The experience (the individual is experienced or not); (ii) the steps taken to look for a job and/or create one's own business or not, which includes four modalities; (iii) the number of job applications in the last month; and (iv) the number of competitive exams for the public service in the last month.

The data were collected to evaluate the effect of participating in the National Employment Fund (NEF) program. We introduce a variable called "Treated" that controls the benefit from the National Employment Fund program. This variable allows the control of the potential influence of benefiting from the National Employment Fund program with overestimating wage and employment sector choice.

With these data, we now look for a suitable strategy to identify the effect of corruption on occupational choice.

### 2.4.3 Identification strategy

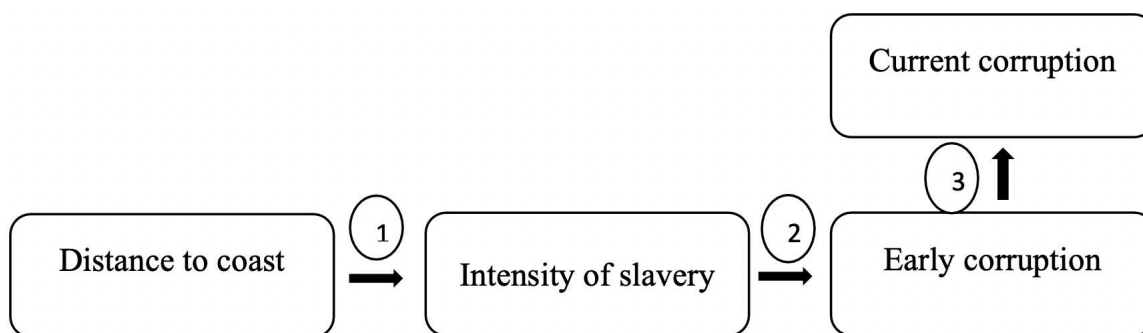
The impact of corruption on public service choice for one's professional career is estimated through equation (1) above using a linear probability model (LPM) and a Probit model. We expect a positive effect of corruption on the choice of the rent-seeking sector. This would indicate the attractiveness effect of the civil service with corruption. To counter a potential omitted variable bias, we control for many variables that can explain the choice of the employment sector. The control variables listed above are taken into account for this purpose. To account for a potential measurement problem of the variable of interest that could lead to an endogeneity problem, we used all three (3) corruption measures.

However, we cannot completely rule out the possibility of endogeneity. Measurement problems may still exist. Furthermore, corruption may be correlated with unobservable characteristics of the individual that also affect occupational choice leading to biased estimation results.

To assess the causal effect of corruption on the choice of rent-seeking sector, we use the instrumental variables method, including double least squares and the IV-Probit. To do so, we use the distance to the coast of the individual's department of residence weighted with the number of years lived in this department since 2010 as an instrument.

A good instrument has two (2) qualities: First, it must be strongly correlated with the explanatory variable suspected to be endogenous, here corruption. The distance to the coast was used as an instrument by Nunn & Wantchekon (2011) to measure the effect of

Figure 2.7: The three mechanisms of the instrument for corruption



slavery on trust in Africa. Our idea of using distance to the coast as an instrument for corruption is based on three mechanisms (see figure 2.7).

(1) Distance from the coast has determined the intensity of slavery, especially trans-Atlantic slavery. According to Nunn (2008), Cameroon was mainly involved in trans-Atlantic slavery and estimated the number of slaves extracted from Cameroon at 66 719. For Nunn & Wantchekon (2011) and Nunn (2008), the distance from the coast is negatively correlated with the number of slaves extracted, corroborating this hypothesis.

(2) Slavery has been a source of influence on African institutions for at least five (5) centuries, notably between 1400 and 1900. It contributed to the reformation of institutions, particularly the development of corruption, through two sources: (i) the production of slaves, which involved the use of corruption. For Manning (1990), slavery involved theft, bribery and trickery, and can be seen as a pre-colonial source of corruption. (ii) The second source is related to the method of slave production. Wars, legal proceedings, and kidnapping are the main processes of slave production (Manning 1983). These methods of slaves production contributed to the deterioration of institutions. Institutions are constraints that structure political, economic and social interaction (North 1991). Exploring the transmission channels of the effect of slavery, Nunn & Wantchekon (2011) indicated that slavery altered cultural norms within the most affected ethnic groups and deteriorated legal and political institutions. All of these elements created an environment for corruption to flourish during this period.

(3) This level of corruption may have persisted to the present day and partly determines the difference of corruption between localities more or less exposed to slavery. Indeed, Acemoglu et al. (2001) indicate that institutions could persist over time, while Nunn (2008) and Nunn & Wantchekon (2011) show the persistent effects of slavery to the present day.

The closer the individual's department is to the coast, the more intensive the practice of slavery is likely to have been and the more fertile the ground for corruption to develop.

A high level of corruption reduces the moral cost (Andvig & Moene 1990) and increases the likelihood that public officials will engage in corrupt practices (Murphy et al. 1993). This has the effect of blurring their actual wage because public officials engaged in corruption will have a standard of living totally disconnected from their effective wage, but it is related to their total income, which includes the effective wage and the income from corruption. This blurring of the actual wage increases the likelihood that the individual's wage will be overestimated if someone tries to estimate it based on their standard of living.

If this is the case, we expect that the distance to the coast weighted by the number of years lived in the current department of residence negatively affects the corruption (the overestimation of the civil service wage). This means that the further a person is from the coast, the less likely he/she will be corrupt. Weighting the distance to the coast with the number of years lived in the current department of residence allows the intensity of exposure to the treatment (in this case corruption) to be taken into account and allows the instrument to vary according to the individual.

Secondly, the instrument must be exogenous, i.e. it must not directly affect the dependent variable. This seems to be the case according to the literature. Three arguments support the exogeneity of distance from the coast as an instrument of corruption: first, Africa was not involved in any exchange system before slavery that could have changed the characteristics of the populations on the coasts compared to those in the interior of the continent (Nunn & Wantchekon 2011); second, the onset and intensification of slavery were due to exogenous factors. For Manning (1983), the high productivity of slave labor and the purchasing power of slave ownership in the New World generated a demand that led to a rise of the prices of slaves. According to Manning (1983), from the end of the 16th Century to the middle of the 18th Century, the rise in prices led to average annual growth in the slave trade of 2%. The price of slaves declined from the end of the 18th Century onwards (Manning 1983) and could partly explain the abolition of slavery. Finally, Nunn & Wantchekon (2011) test the persistence of the effects of slavery and find no correlation between distance from the coast and characteristics of European and Asian populations. This result reinforces the view that the instrument is exogenous.

Therefore, this instrument allows us to assess the causal effect of corruption.

## 2.5 Results

In this section, we present the results of the investigations, starting with the preliminary evidence.

## 2.5.1 Preliminary evidence

Figure 2.8 presents the average corruption (in %) by desired job organization. We can note two main points: first, the average expected wage in the civil service is overestimated in general. Second, individuals who choose the civil service as their desired job organization are the ones who overestimate the expected salary (in the civil service) the most on average. This overestimation is large and represents 119% of the actual salary paid in the civil service. However, the average overestimation of wages for individuals who wish to pursue a career in other organizations outside the public service or are indifferent is 53%. This overestimation is below the overall average of 72% in the sample with corruption 3 measure.

Distinguishing by gender, the distribution remains quite similar (figure 2.9). Women who want to work in public administration overestimate the salary in this sector by 129%. In comparison, those who want to work in other sectors or are indifferent to the employment sector overestimate it by only 51%. Men who want to do their desired job in the civil service overestimate the salary by 106%, and those who want to work in other sectors or are indifferent overestimate it by only 55%.

Figure 2.8: Overestimation of public service wage (%) by type of company of the desired job

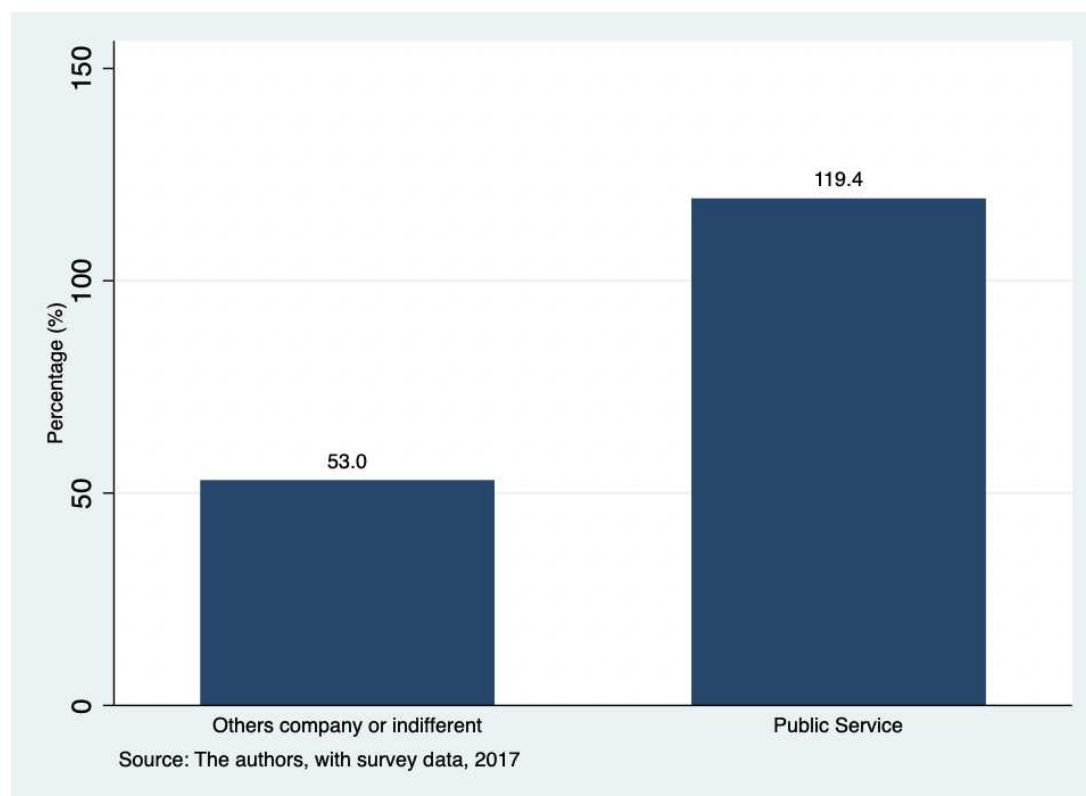
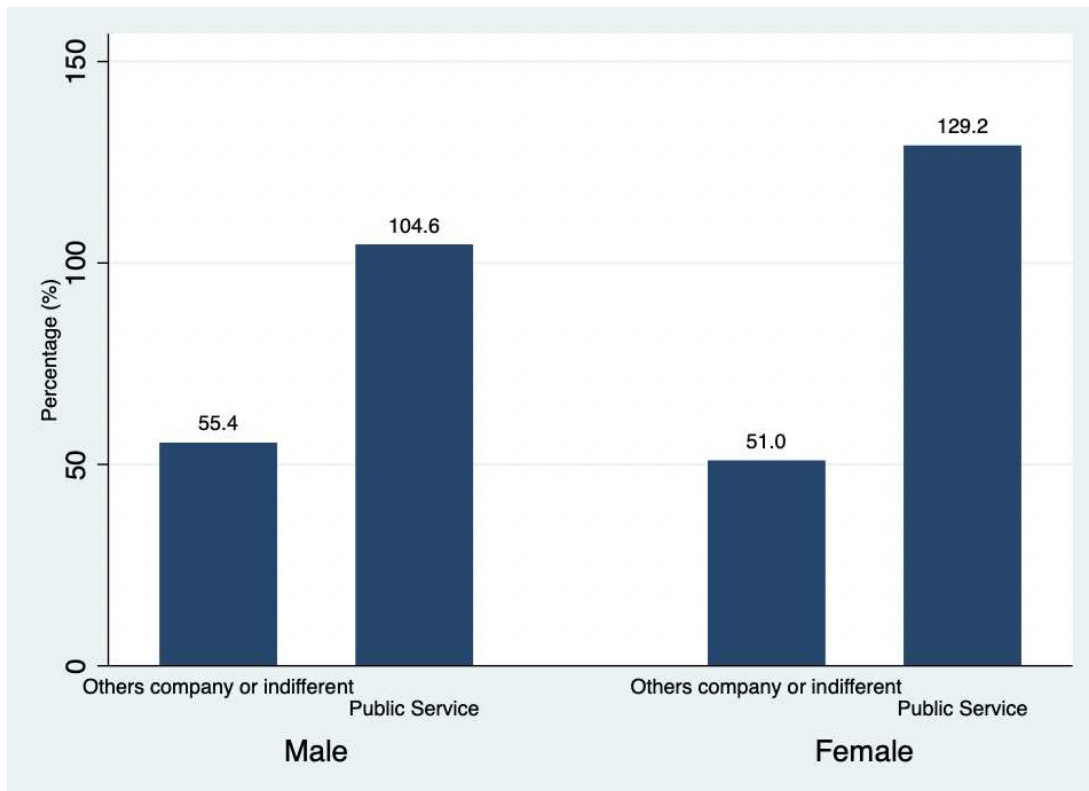




Figure 2.9: Overestimation of public service wage (%) by type of company of the desired job and by gender



Source: The author, with survey data, 2017

## 2.5.2 Basic results

We start by estimating the equation (1) with a linear probability model (LPM) and a Probit model. Table 2.1 shows the estimation results. The first three models represent the estimates with the linear probability model (LPM). The last three represent the estimates with the Probit model with the three measures of corruption. The linear probability model has the advantage of providing information about the marginal effects directly. We also report the average marginal effects for the Probit model. In each model, in addition to the measure of corruption, individual characteristics (age, gender, household status, education level (highest degree), main source of income, religion) and job-related characteristics (experience, number of competitive examinations for the civil service, number of job applications, undertaking of steps to look for a job or start a business and regularity of job desired) are taken into account. To simplify the results table, we only present the results of variables with single modality and the rest of the control variables under the term "Other controls."

The results show that corruption, i.e. the overestimation of wages, is positively and significantly associated with the choice of the civil service as a place for one's desired job.

The effect is significant at the 1% error level for all three measures of corruption and across both methods (LPM and probit). This means that an increase in corruption is associated with an increase in the probability of choosing the public service as the organization for one's desired job.

However, some potential limitations related to empirical studies, including methodological and alternative scenarios, may concern this study.

Table 2.1: Corruption and incentives for rent-seeking sector: Linear Probability Model (LPM) and Probit estimations

<i>Dependent variable: Public service (dummy)</i>						
Estimator	(1)	(2)	(3)	(4)	(5)	(6)
	LPM	LPM	LPM	Probit	Probit	Probit
Corruption 1	0.0212*** (0.00618)			0.0420*** (0.0118)		
Corruption 2		0.0209*** (0.00611)			0.0409*** (0.0118)	
Corruption 3			0.0248*** (0.00719)			0.0459*** (0.0136)
Age	-0.00763** (0.00355)	-0.00765** (0.00355)	-0.00767** (0.00355)	-0.00871** (0.00372)	-0.00875** (0.00373)	-0.00877** (0.00373)
Female	0.0651* (0.0352)	0.0649* (0.0352)	0.0652* (0.0352)	0.0741** (0.0338)	0.0729** (0.0338)	0.0734** (0.0339)
Experienced	-0.0708* (0.0364)	-0.0708* (0.0364)	-0.0708* (0.0364)	-0.0660** (0.0333)	-0.0654** (0.0333)	-0.0654** (0.0333)
Number of exams for the public service (last month)	0.0522** (0.0253)	0.0525** (0.0252)	0.0523** (0.0252)	0.0516** (0.0207)	0.0523** (0.0206)	0.0521** (0.0206)
Number of job applications (last month)	-0.000382 (0.000522)	-0.000377 (0.000522)	-0.000376 (0.000522)	-0.00178 (0.00180)	-0.00180 (0.00180)	-0.00179 (0.00181)
Treated	-0.0782** (0.0365)	-0.0791** (0.0365)	-0.0793** (0.0365)	-0.0746** (0.0372)	-0.0766** (0.0371)	-0.0770** (0.0372)
Other controls	YES	YES	YES	YES	YES	YES
Constant	0.763*** (0.126)	0.766*** (0.126)	0.770*** (0.126)			
Observations	769	769	769	756	756	756
R-squared	0.157	0.157	0.156	0.1568	0.1560	0.1554

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Other controls include Education, Main source of revenue, Religion, Status in the household, Steps to look for a job or to create your own business and Regularity of the job desired. Marginal effects for Probit

## 2.5.3 Alternative scenarios

### 2.5.3.1 With father characteristics

We consider the characteristics of the individual's father to rule out a possible link between parental characteristics, wage overestimation and occupational choice. For example, [Ham et al. \(2009\)](#)'s results suggest that parental characteristics influence the occupational choice of individuals. The level of education (last class) of the individual's father and the company of the father's job (civil service, private sector, etc.) is taken into account. Taking into account the father's characteristics reduces our observations by almost the half due to missing data.

Table 2.2 presents the results when the characteristics of the individual's father are

taken into account in all six (6) models. The results concerning corruption do not change and are still significant at the 1% level for all models. This means that corruption always positively and significantly affects the choice of the public sector.

Table 2.2: Corruption and incentives for rent-seeking sector: Linear Probability Model (LPM) and Probit estimations (with father characteristics)

<i>Dependent variable: Public service (dummy)</i>						
	(1)	(2)	(3)	(4)	(5)	(6)
Estimator	LPM	LPM	LPM	Probit	Probit	Probit
Corruption 1	0.0243*** (0.00584)			0.0422** (0.0173)		
Corruption 2		0.0245*** (0.00592)			0.0420** (0.0173)	
Corruption 3			0.0296*** (0.00721)			0.0500** (0.0204)
Age	-0.0104** (0.00497)	-0.0105** (0.00498)	-0.0105** (0.00498)	-0.0140** (0.00561)	-0.0142** (0.00562)	-0.0142** (0.00563)
Female	0.0512 (0.0509)	0.0501 (0.0509)	0.0500 (0.0509)	0.0617 (0.0462)	0.0590 (0.0463)	0.0596 (0.0463)
Experienced	-0.0506 (0.0551)	-0.0504 (0.0551)	-0.0500 (0.0552)	-0.0373 (0.0456)	-0.0371 (0.0456)	-0.0365 (0.0456)
Number of exams for public service (last month)	0.0122 (0.0323)	0.0123 (0.0323)	0.0121 (0.0323)	0.00665 (0.0308)	0.00647 (0.0308)	0.00673 (0.0307)
Number of job applications (last month)	-0.00237 (0.00169)	-0.00238 (0.00169)	-0.00237 (0.00168)	-0.00361 (0.00256)	-0.00361 (0.00254)	-0.00360 (0.00254)
Treated	-0.0691 (0.0500)	-0.0695 (0.0500)	-0.0702 (0.0498)	-0.0807* (0.0485)	-0.0816* (0.0484)	-0.0832* (0.0483)
Other controls	YES	YES	YES	YES	YES	YES
Father characteristics	YES	YES	YES	YES	YES	YES
Constant	0.810*** (0.183)	0.814*** (0.184)	0.818*** (0.184)			
Observations	411	411	411	380	380	380
R-squared	0.253	0.253	0.254	0.2121	0.2122	0.2127

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Other controls include Education, Main source of revenue, Religion, Status in the household, Steps to look for a job or to create your own business and Regularity of the job desired. Father characteristics include Education (last class) and father's job company. Marginal effects for Probit.

### 2.5.3.2 Without individuals with expected wage about government officials

As we could not obtain official data on the Cameroonian government's wages, we relied on a book survey data (Bidjocka 2016) to complete the sample. This situation concerns only four (4) individuals in the study sample. To ensure that our results are not related to this situation, we exclude these individuals from the estimations to see how our results evolve. Table 2.3 presents these results.

The results remain stable and are very similar to the baseline results. Furthermore, they are still significant at the 1% level, indicating a positive effect of corruption on the rent-seeking sector choice for one's career.

### 2.5.3.3 Placebo test

We undertake a placebo test to see if the positive and significant effect of corruption is only related to the choice of public service. To do this, we use any company (those who

Table 2.3: Corruption and incentives for rent-seeking sector: Linear Probability Model (LPM) and Probit estimations without any expected wage about government members

<i>Dependent variable: Public service (dummy)</i>						
Estimator	(1)	(2)	(3)	(4)	(5)	(6)
	LPM	LPM	LPM	Probit	Probit	Probit
Corruption 1	0.0212*** (0.00613)			0.0414*** (0.0117)		
Corruption 2		0.0212*** (0.00617)			0.0412*** (0.0118)	
Corruption 3			0.0251*** (0.00725)			0.0463*** (0.0136)
Age	-0.00771** (0.00354)	-0.00770** (0.00355)	-0.00772** (0.00355)	-0.00879** (0.00372)	-0.00878** (0.00373)	-0.00880** (0.00373)
Female	0.0662* (0.0352)	0.0661* (0.0352)	0.0664* (0.0352)	0.0750** (0.0338)	0.0742** (0.0338)	0.0746** (0.0338)
Experienced	-0.0769** (0.0365)	-0.0767** (0.0365)	-0.0768** (0.0365)	-0.0713** (0.0334)	-0.0707** (0.0334)	-0.0707** (0.0334)
Number of exams for the public service (last month)	0.0522** (0.0253)	0.0526** (0.0253)	0.0524** (0.0253)	0.0512** (0.0207)	0.0522** (0.0206)	0.0519** (0.0206)
Number of job applications (last month)	-0.000374 (0.000523)	-0.000370 (0.000523)	-0.000369 (0.000523)	-0.00175 (0.00180)	-0.00177 (0.00180)	-0.00176 (0.00180)
Treated	-0.0764** (0.0366)	-0.0769** (0.0366)	-0.0772** (0.0365)	-0.0737** (0.0372)	-0.0747** (0.0371)	-0.0752** (0.0371)
Other controls	YES	YES	YES	YES	YES	YES
Constant	0.761*** (0.126)	0.762*** (0.126)	0.766*** (0.126)			
Observations	766	766	766	753	753	753
R-squared	0.156	0.156	0.156	0.1560	0.1557	0.1552

Robust standard errors in parentheses

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Other controls include Education, Main source of revenue, Religion, Status in the household, Steps to look for a job or to create your own business and Regularity of the job desired. Marginal effects for Probit

are indifferent concerning the type of job organization) as the dependent variable. This variable takes 1 if the individual is indifferent and 0 otherwise.

Table 2.4 presents the results of this placebo test. As we expected, the effect of corruption is insignificant. Its sign is even negative. This result means that only those who overestimate the salary in the civil service self-select for the civil service. This placebo test reinforces the confidence on our results.

## 2.5.4 Instrumental variable estimation and sensitivity analysis on the instrument

In this part, we conduct instrumental variable estimation and sensitivity analysis on the instrument to the violation of the exclusion restriction condition using the imperfect instrument method proposed by [Nevo & Rosen \(2012\)](#).

### 2.5.4.1 Instrumental variables methods

To confirm that the effect of corruption is causal, we use the two-stage least-squares method in a linear probability model and the IV-Probit estimator. The distance to the coast weighted by the number of years lived in the current department of residence is used to instrument corruption.

Table 2.4: Corruption and incentives for rent-seeking sector: Linear Probability Model (LPM) and Probit estimations for placebo test

<i>Dependent variable: Any company-indifferent- (dummy)</i>						
Estimator	(1)	(2)	(3)	(4)	(5)	(6)
	LPM	LPM	LPM	Probit	Probit	Probit
Corruption 1	-0.00495 (0.00320)			-0.0163 (0.0107)		
Corruption 2		-0.00387 (0.00306)			-0.0107 (0.00909)	
Corruption 3			-0.00378 (0.00368)			-0.00900 (0.00908)
Age	0.000825 (0.00328)	0.000886 (0.00327)	0.000927 (0.00327)	0.000140 (0.00324)	0.000198 (0.00324)	0.000235 (0.00324)
Female	-0.0351 (0.0330)	-0.0353 (0.0330)	-0.0354 (0.0330)	-0.0370 (0.0315)	-0.0363 (0.0314)	-0.0360 (0.0314)
Experienced	0.0509 (0.0310)	0.0509 (0.0310)	0.0509 (0.0310)	0.0553* (0.0309)	0.0551* (0.0310)	0.0551* (0.0310)
Number of exams for the public service (last month)	-0.0516*** (0.0159)	-0.0515*** (0.0159)	-0.0514*** (0.0159)	-0.0792** (0.0309)	-0.0788** (0.0309)	-0.0786** (0.0309)
Number of job applications (last month)	-0.000780 (0.000615)	-0.000782 (0.000615)	-0.000782 (0.000615)	-0.000820 (0.000671)	-0.000818 (0.000671)	-0.000817 (0.000673)
Treated	-0.0113 (0.0356)	-0.0111 (0.0356)	-0.0111 (0.0356)	-0.0177 (0.0343)	-0.0177 (0.0343)	-0.0180 (0.0344)
Other controls	YES	YES	YES	YES	YES	YES
Constant	0.102 (0.114)	0.0978 (0.114)	0.0952 (0.113)			
Observations	769	769	769	753	753	753
R-squared	0.254	0.254	0.254	0.2115	0.2104	0.2099

Robust standard errors in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

Other controls include Education, Main source of revenue, Religion, Status in the household, Steps to look for a job or to create your own business and Regularity of the job desired. Marginal effects for Probit

The statistics of the first stage support the reliability of the instrument. The instrument is significant at the conventional level (at least 1%). Distance to the coast is negatively associated with corruption, as expected. The Fisher test is significant at the 1% level, and its statistic is well above ten for Corruption 2 and Corruption 3, as suggested by [Stock et al. \(2002\)](#). This validates the explanatory power of the instrument. Only the F-statistic for Corruption 1 with the linear probability model is below ten and suggests that the correlation between Corruption 1 and the instrument is not very strong. The Anderson LM statistic is significant and allows us to reject the null hypothesis of under-identification. The Cragg-Donald Wald F statistic also allows the hypothesis of weak identification of the estimated equation to be rejected. Thus, all indications show that our instruments are valid and have explanatory power for the variable of interest, which is corruption.

The results with the two-stage least squares estimator (the first three models) are significant at 10% level and are positive (table 2.5). The coefficients are even relatively higher than the baseline results. A one unit increase in corruption increases the probability of choosing to work in the civil service by 12.7%, according to the results of model 3.

The results with the IV-Probit estimator (the last three models) also indicate a positive and significant effect at 1% level. The coefficients are relatively higher than the two-stage least squares estimation coefficients. If corruption goes up by an infinitesimal amount, the

probability of choosing public administration increases by 40.5% (model 6).

These results are in line with our predictions about the fact that corruption could lead to an increase in the probability of choosing public administration for a career because of its attractiveness related to the perceived rent. Overall, the instrumental variables estimation confirms the positive effect, indicated by the LPM and Probit models, of corruption on the rent-seeking sector choice for one's desired job.

This situation may be harmful to the economy for two reasons: (i) a reduction in economic performance related to the distortion of resources in favor of the rent-seeking sector, public administration, or (ii) an erosion of state capacity and even a fuelling of corruption if the pecuniary sensitivity of individuals self selecting for public administration is correlated with characteristics such as dishonesty indicated by [Barfort et al. \(2019\)](#). For [Finan et al. \(2017\)](#), State capacity is essential for economic development.

Furthermore, this may also fuel corruption in the civil service because an individual who anticipated a high wage may be incentivized to compensate for his/her actual wage through rent-seeking and corruption activities.

Regarding the explanatory variables, among other points of note, clearly experience reduces the probability of choosing the public sector. In contrast, the number of competitions for public service jobs in the month beforehand has a positive effect on the likelihood of an individual wishing to make a career in the public service. The age and gender of the individual, and the number of job applications made in the last month do not seem to significantly influence the probability of choosing the public service when instrumental variable methods carry out the estimation.

The effect of variable controlling for participation in the National Employment Fund program, *Treated*, is negative and significant. Thus, those who have benefited from this program are less interested in working in public administration.

#### **2.5.4.2 Sensitivity analysis on the instrument**

We use the distance to the coast weighted by the number of years lived in the current department of residence as an instrument to assess the causal effect of corruption on occupational choice. To reinforce the confidence in the validity of our results, we use the approach proposed by [Nevo & Rosen \(2012\)](#) to analyze the sensitivity of the results to the violation of the exclusion restriction condition.

The [Nevo & Rosen \(2012\)](#) method allows deriving confidence intervals for the values of the parameters of interest with an instrument (Imperfect instrument) by relaxing the

Table 2.5: Corruption and incentives for rent-seeking sector: IV-Linear Probability Model (LPM) and IV-Probit estimations

Estimator	<i>Dependent variable: Public service (dummy)</i>					
	(1)	(2)	(3)	(4)	(5)	(6)
	IV-LPM	IV-LPM	IV-LPM	IV-Probit	IV-Probit	IV-Probit
Corruption 1	0.120*			0.365***		
	(0.0638)			(0.0742)		
Corruption 2		0.112*			0.353***	
		(0.0585)			(0.0782)	
Corruption 3			0.127*			0.405***
			(0.0657)			(0.0958)
Age	-0.00191	-0.00239	-0.00275	-0.00903	-0.0106	-0.0117
	(0.00559)	(0.00531)	(0.00513)	(0.0168)	(0.0167)	(0.0166)
Female	0.0488	0.0490	0.0516	0.146	0.150	0.161
	(0.0418)	(0.0410)	(0.0401)	(0.133)	(0.132)	(0.131)
Experienced	-0.0638	-0.0638	-0.0644*	-0.167	-0.169	-0.174
	(0.0400)	(0.0392)	(0.0386)	(0.117)	(0.117)	(0.117)
Number of exams for the public service (last month)	0.0641**	0.0649**	0.0632**	0.174**	0.183***	0.182***
	(0.0271)	(0.0267)	(0.0261)	(0.0709)	(0.0704)	(0.0704)
Number of job applications (last month)	-0.000386	-0.000358	-0.000354	-0.00560	-0.00575	-0.00582
	(0.000855)	(0.000838)	(0.000828)	(0.00417)	(0.00425)	(0.00430)
Treated	-0.0812*	-0.0860**	-0.0872**	-0.210*	-0.232*	-0.240*
	(0.0421)	(0.0413)	(0.0408)	(0.127)	(0.126)	(0.125)
Other controls	YES	YES	YES	YES	YES	YES
Constant	0.451*	0.489**	0.523**			
	(0.251)	(0.230)	(0.214)			
Observations	765	765	765	752	752	752
F test stat (first stage)	8.69	10.00	11.01			
P-value	0.0033	0.0016	0.0010			
Anderson LM statistic	9.034	10.38	11.41			
P-value	0.00265	8.46e-07	4.07e-07			
Cragg-Donald Wald F statistic	8.688	9.995	11.01			

Standard errors in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

Note: Regressions include "distance to the coast of the current department of residence weighted by the number of years lived in that department" as instrument. Other controls include Education, Main source of revenue, Religion, Status in the household, Steps to look for a job or to create your own business and Regularity of the job desired. Marginal effects for IV-Probit

exclusion restriction condition. Here, the exclusion restriction condition, the absence of correlation between the instrument and the error term, is replaced by the assumption that the correlations between the instrument and the endogenous treatment variable with the error term are of the same sign. This strategy also supposes that the correlation between the instrument and the error term is relatively weak compared to the correlation between the endogenous treatment variable and the error term. The assumption that the instrument is less endogenous than the (endogenous) treatment variable allows the correlation between the instrument and the error term to be bounded between 0 and the correlation between the endogenous treatment variable and the error term.

We use the model 3 of table 2.5 for sensitivity analysis. The correlation between the distance to the coast and corruption 3 with the residual is negative. This means that the assumption 3 (A3) of Nevo & Rosen (2012) is satisfied. The negative correlation between the distance to the coast (instrument) and corruption 3 allows for two bounds interval.

In practice, we consider two cases: first, we assume that only hypothesis 3 (A3) of Nevo & Rosen (2012) is satisfied, and second that the assumptions A3 and A4 of Nevo & Rosen (2012) are all satisfied. Assumption 4 stipulates that the instrument is less endogenous

than the treatment variable.

We report the results in table 2.6. Even after relaxing the instrument's exclusion restriction condition, we cannot reject the positive effect of Corruption 3 on the civil service choice for the desired job organization. The impact of corruption on occupational choice seems therefore to be causal.

Table 2.6: Instrumental Variables Estimation: Sensitivity analysis with Nevo and Rosen (2012)'s Imperfect IV bounds

<i>Variable of interest: Corruption; dependent variable: Public service (dummy)</i>				
Correlation between the instrument and corruption 3 with the error term is negative	Lower Bound(CI)	Upper Bound(CI)	Lower Bound(CI)	Upper Bound(CI)
Only assumption 3 hold	[.01059729	.25610967]		
Assumption 3 and assumption 4 hold			[.01880701	.25610967]

Note: Bounds of corruption 3 coefficients. "Distance to the coast of the current department of residence weighted by the number of years lived in that department" is include as instrument



## 2.6 Conclusion

In this study, we examined the effect of corruption, approximated by the overestimation of the civil service wage, on the attractiveness of the public sector in Cameroon. The results show a positive impact of corruption on the choice of the rent-seeking sector.

The linear probability model and Probit methods were used to estimate this effect. The results show that corruption positively affects the probability of desiring a career in the public service sector. This result is robust across different alternatives and methodological scenarios.

Using the distance to the coast weighted by the number of years lived in the current department of residence and the two-stage least squares estimator and control function estimator (IV-Probit method) methods, the causal impact of corruption on the public administration choice as the desired job organization is established. Indeed, an infinitesimal increase in corruption raises the probability of pursuing a career in the public service by 12.7%. This impact of corruption on the allocation of human resources to the civil service can be a source of inefficiency because of three elements:

Firstly, the misallocation of talent to the rent-seeking sector at the detriment of the productive private sector. Corruption blurs the perception of actual wages and makes the civil service more attractive, thus attracting more talent. This can reduce economic performance (Murphy et al. 1991, Acemoglu & Verdier 1998). This situation can partly explain the weakness of the private sector and the rush to public administration jobs in developing countries, especially in Cameroon.

Secondly, this situation can fuel rent-seeking and corruption. The individual who anticipated a higher wage may be encouraged to compensate his/her effective wage by rent-seeking behavior and corruption. This increases the supply and level of corruption in the public administration and reduces the moral cost (Andvig & Moene 1990). This increases corruption in the country.

Finally, this effect could lead to an erosion of state capacity and even a feeding of corruption if the pecuniary sensitivity of self-selecting individuals for public service is correlated with undesirable characteristics such as dishonesty and cheating, as indicated by Barfort et al. (2019).

This study has some limitations, especially its external validity. Replication in other countries could make it possible to validate a generalization of the results to all Africa.

Our results suggest that three (3) main actions need to be taken: (i) Anti-corruption measures, especially by reinforcing monitoring and sanction (Olken 2007), to reduce cor-

ruption and its "foggy" effect on pay. This would reduce the distorting effect of corruption on resource allocation. (ii) Provision of wage data by position and category in the civil service to job seekers to reduce informational asymmetry and avoid distortion in the choice of the sector for their professional career. (iii) More attention needs to be paid to the selection of government employees, especially regarding their likelihood to cheat or be dishonest. If pecuniary attractiveness in connection with overestimated pay in the civil service is associated with undesirable characteristics like less pro-social behaviour, dishonesty, and cheating, as shown by [Hanna & Wang \(2017\)](#), and [Barfort et al. \(2019\)](#), this could be detrimental to the State's capacity.

From the above, studies that link wage overestimation to individual characteristics would help to better characterize the phenomenon of corruption and open up perspectives for a improved selection of public officials in Africa, especially in Cameroon.

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## 2.7 Appendix

Table 2.7: Summary statistics for the study sample

	<b>N</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>Min.</b>	<b>Max.</b>
Public service career	876	.260274	.4390347	0	1
Corruption 1	965	1.16467	2.525978	-.8969152	59.85835
Corruption 2	965	1.053005	2.485059	-.9479187	59.85835
Corruption 3	965	.7247487	2.086318	-.9526983	49.71529
Age	1,075	28.81209	4.540121	18	59
Female	1,075	.572093	.4950056	0	1
Experienced	869	.6559264	.4753388	0	1
Exams for public service	870	.2321839	.6691448	0	7
Job applications	870	6.868966	21.20314	0	500
Education					
Primary School Certificate (CEP/CEP/FSL)	1,074	.0018622	.0431331	0	1
First cycle study certificate (BEPC/GCEOL)	1,074	.0074488	.0860244	0	1
Certificate of professional competence-CAP(BP et BT)	1,074	.0065177	.0805062	0	1
Probation certificate (general, technical and professional)	1,074	.0065177	.0805062	0	1
Baccalaureate (BAC/GCEAL)	1,074	.1824953	.3864322	0	1
Professional study certificate (BEP)	1,074	.0074488	.0860244	0	1
BTS/DUT/DEUG/HND/DQP	1,074	.198324	.3989233	0	1
Licence/ Bachelor degree	1,074	.424581	.4945095	0	1
Maitrise/DEA/Master/MBA	1,074	.1648045	.3711768	0	1
Doctorat/PHD	1,074	0	0	0	0
Main source of revenue					
Family/Relatives	1,074	.6573557	.4748148	0	1
Job	1,074	.3268156	.4692677	0	1
Others	1,074	.0158287	.1248705	0	1

Table 2.8: Summary statistics for the study sample (Next)

	<b>N</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>Min.</b>	<b>Max.</b>
<b>Religion</b>					
Catholic	1,073	.5517241	.4975493	0	1
Protestant	1,073	.2413793	.4281193	0	1
Other christian	1,073	.1164958	.3209681	0	1
Muslim	1,073	.0316869	.1752468	0	1
Animist	1,073	.000932	.0305281	0	1
Other religions	1,073	.0260951	.1594924	0	1
No religion	1,073	.0223672	.1479436	0	1
Others	1,073	.0093197	.0961323	0	1
<b>Status in the household</b>					
Household head	1,075	.2697674	.4440455	0	1
Spouse/Companion	1,075	.1488372	.3560936	0	1
Son/Daughter	1,075	.4539535	.4981069	0	1
Brother/Sister	1,075	.0651163	.2468458	0	1
Parent	1,075	.0148837	.1211439	0	1
Son-in-law or Daughter-in-law	1,075	.0046512	.0680723	0	1
In-laws	1,075	0	0	0	0
Nephew/Niece	1,075	.024186	.1536979	0	1
Other relative	1,075	.0102326	.1006841	0	1
Servant	1,075	0	0	0	0
No relation	1,075	.0083721	.0911577	0	1
<b>Steps to look for a job or create your own business</b>					
Steps to look for a job	867	.8212226	.383387	0	1
Steps to create my own business	867	.017301	.1304659	0	1
Steps to look for a job and create my own business	867	.0346021	.1828752	0	1
No steps in this way	867	.1268743	.3330242	0	1



Table 2.9: Summary statistics for the study sample (the rest)

	<b>N</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>Min.</b>	<b>Max.</b>
<b>Job regularity desired</b>					
Full time	854	.764637	.4244741	0	1
Part time	854	.0948478	.2931763	0	1
Temporary	854	.0093677	.0963888	0	1
Indifferent	854	.1311475	.3377595	0	1

## CHAPTER 3

# CORRUPTION AND LEADERSHIP IN AFRICA : EVIDENCE FROM BURKINA FASO

*"Il faut choisir entre le champagne pour quelques-uns et l'eau potable pour tous."*

Thomas Sankara, président du Burkina Faso de 1983 à 1987

*"on ne développe pas. On se développe."*

Joseph Ki-Zerbo (21 juin 1922 - 4 décembre 2006), historien et homme politique du Burkina Faso

### 3.1 Introduction

The role of leaders on economic growth has been intensively studied in the literature (Jones & Olken 2005, Yao & Zhang 2015, Berry & Fowler 2021). Jones & Olken (2005) use exogenous leadership variation in relation to the deaths of leaders in power and find that leadership change affects the growth trajectory of countries. Easterly & Pennings (2020) extend this idea by estimating the contribution to economic growth of each leader since 1950 and show that 7% of leaders with at least 3 years in power contribute to their country's economic growth.

On the other hand, scholars stress the importance of institutions for economic prosperity (Acemoglu et al. 2005, Rodrik et al. 2004). Surprisingly, the role of leaders on institutions is neglected in the literature. In this paper, we set out to assess the impact of the leadership on corruption in Africa, particularly in Burkina-Faso during the Sankara's rule. We support that the leader has potentially more power to influence institutions and policies than economic growth (Jones & Olken 2005) and that institutional change may be one of the channels through which the leader affects economic performance. Indeed, institutions are man-made constraints (North 1989, 1991). As charismatic leaders fascinate people, have extraordinary qualities, are even treated as supernatural, and have the ability to influence the behavior of others (Silitonga et al. 2019, DeCelles & Pfarrer 2004), leaders, especially national leaders, can be determinant for the choice of institutions, especially corruption and the "rule of the game" in a society. These institutions in turn affect economic performance as they are seen as the fundamental cause of economic prosperity (Acemoglu et al. 2005).

To test this hypothesis about the role of the leader in shaping institutions, we examine the impact of the Thomas Sankara's leadership on corruption in Burkina Faso.

Captain Thomas Sankara is certainly one of the leaders who have influenced and continue to influence Africa (Benamrane 2016, Jaffré 2017). He came to power in Upper Volta in August 1983 and was ousted in 1987 by a putsch that led to his death. He established the August Revolution with the National Council of the Revolution which intended to revolutionize the institutions in place in Upper Volta for economic prosperity. One of his emblematic actions that guided his integrity policy was the change of the name of the country to Burkina Faso, Country of Men and Women of Dignity, Honesty, Integrity and Courage (Zagré 1994, Kyelem de Tembela 2012). In addition, during his four years in power, Thomas Sankara set himself up as an example of integrity and established institutions for monitoring, controlling and repressing corruption. To this end, we can mention,

among other things, the creation in 1983 of a ministry in charge of monitoring and auditing the accounts of all state-owned companies and enterprises and of cleaning up their management (Zagr e 1994), the establishment of the People’s Commission for the Prevention of Corruption (CPPC) in charge of the fight against corruption and the development of exemplary morality in Burkina Faso, and the creation of the People’s Courts of the Revolution to judge cases of corruption, embezzlement of public funds and illicit enrichment (Englebert 1986, Kyelem de Tembela 2012).

Using the synthetic control method proposed by Abadie & Gardeazabal (2003) and Abadie et al. (2010, 2015), we find that the leadership of Captain Thomas Sankara had a substantial effect in reducing corruption in Burkina Faso over the period 1983 to 1987. This reduction effect in 1987 is as much as 70% of the 1982 level of corruption in the country. This result is robust to placebo tests. The findings show that national leader is crucial in shaping the institutional trajectory of a country.

This study contributes to two aspects of the economics literature. First, by assessing the impact of the leader on corruption, we contribute to the literature on the determinants of corruption (Olken 2007, Banerjee 1997, H ubler et al. 2021, Mironov & Zhuravskaya 2016), with a focus on the national leader, specifically Captain Thomas Sankara. A point that has yet to be answered in the literature.

Second, this study contributes more generally to the literature on the link between leaders and economic prosperity (Jones & Olken 2005, Besley et al. 2011, Blinder & Watson 2016, Grier & Maynard 2016, Born et al. 2021). Grier & Maynard (2016) and Born et al. (2021) evaluate the impact of President Hugo Chavez of Venezuela and President Donald Trump of United States, respectively, and find no significant effect of these leaders on economic performance indicators. Our study suggests that the channel of leader shaping institutions, specially corruption, is important in this relationship.

The rest of the paper is organized as follows: Section 2 presents the historical background and the anti-corruption policies of President Captain Thomas Sankara. Section 3 is about literature on leaders, economic prosperity and corruption. Section 4 discusses the empirical strategy, section 5 presents the results and section 6 concludes.

## 3.2 Historical background and Thomas Sankara's anti-corruption policies

### 3.2.1 Historical background

Burkina Faso is a landlocked country located in the heart of West Africa and has been independent since August 5, 1960. It has known since this date until 2021, nine presidents<sup>1</sup> including Captain Thomas Sankara, President of the National Council of the Revolution, from August 4, 1983 to October 15, 1987.

Thomas Sankara integrated a government for the first time on September 13, 1981. To give itself a new lease on life, the Military Committee for the Recovery of National Progress (CMRPN) of President Saye Zerbo, in difficulty, appointed Captain Thomas Sankara as Secretary of State for Information (Zagré 1994). But in 1982, following strikes, the troubled government took measures that would offend Captain Sankara. These included the suppression of the right to strike, the muzzling of the press, the arrest of syndicate leaders, and the suppression of freedom of association and meetings. Captain Thomas Sankara resigned on April 12, 1982, saying "Woe to those who muzzle their people" (Zagré 1994, Jaffré 1989). After the November 7, 1982 putsch, Thomas Sankara was appointed as Prime Minister on January 11, 1983 (Jaffré 1989). Five months later, Sankara was arrested with some of his companions during the coup of May 17, 1983. But he had already entered enough hearts and the Burkinabe people rose up for his release. He returned to power on August 4, 1983 as President of the National Council of the Revolution after a putsch.

After 22 years of independence, the country stagnated in poverty, with a GDP per capita in 1982 of \$382 in constant terms (World Bank, 2021). Its gross enrollment rate was 20% in 1982 and its under-five mortality rate was 228 ‰ in the same year according to World Bank data (2021). It was in this context that Thomas Sankara came to power. He undertook to mobilize the Voltaic people to transform their living conditions. On October 2, 1983, in the Political Orientation Speech, Thomas Sankara indicated that the August Revolution had as its objective "*the building of a new Voltaic society in which the Voltaic citizen, animated by a revolutionary conscience, will be the artisan of his own happiness, a happiness commensurate with the efforts he will have made*" (Jaffré 2017, p.97). He undertook several

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<sup>1</sup>Presidents of Burkina Faso: Maurice Yaméogo (August 5, 1960 to January 3, 1966), General Aboubakar Sangoulé Lamizana (January 3, 1966 to November 25, 1980), Colonel Saye Zerbo (November 25, 1980 to November 7, 1982), Commander Jean Baptiste Ouédraogo (November 13, 1982 to August 4, 1983), Captain Thomas Sankara (August 4, 1983 to October 15, 1987), Captain Blaise Compaoré (October 15, 1987 to October 31, 2014), Lieutenant-Colonel Yacouba Isaac Zida (November 1 to November 21, 2014), Michel Kafando (November 21, 2014 to December 29, 2015) and Rock March Christian Kaboré (December 29, 2015 to date).

measures to put the country on the path of development in several areas. These include:

(i) Education: the mobilization against illiteracy allowed the National Council of the Revolution (NCR) to build 932 schools in 4 years, almost as many as the existing number of schools (the country had 1,176 schools in 1983) (Zagré 1994, Kyelem de Tembela 2012). To fill the teacher gap, the NCR instituted the National Popular Service (S.N.P.) and allowed students to perform their compulsory military service (between the ages of 21 and 35) as teachers or doctors for nine months (Zagré 1994).

(ii) Health: the NCR provides each village with a Primary Health Post (PHP), of which there were 7,462 in January 1986 (Kyelem de Tembela 2012). The "comando" vaccination against measles, cerebrospinal meningitis, and yellow fever. In 15 days, from October 25 to November 10, 1985, this operation allowed the vaccination of 1,180,000 children aged 1 to 6 years against measles, 2,600,000 children aged 1 to 14 years against cerebrospinal meningitis, and 2,100,000 children against yellow fever (Zagré 1994, Kyelem de Tembela 2012). The CNR also created the National Pharmaceutical Supply Company (SO.NA.PHARM) to facilitate the supply of medicines and liberalized the opening of pharmacies (Kyelem de Tembela 2012).

(iii) Environmental: Sankara's vision was futuristic. At the conference on wood and forestry in Paris, he declared that "the fight against desertification is an anti-imperialist fight". The CNR undertook to push back desertification by reforestation under the supervision of the CDR (Committee for the Defense of the Revolution), popularized improved fireplaces (75,000 pieces of equipment between 1986 and 1990), and instituted on May 22, 1985 "the three struggles": (i) the fight against the abusive cutting of wood, (ii) the fight against the divagation of animals and (iii) the fight against bush fires (Kyelem de Tembela 2012).

(iii) Infrastructure: the emblematic project was the extension to the Sahel of the railroad line by 33 km in seven (7) months, where, due to a lack of financial resources, the NCR mobilized the population to lay the rails by hand (approximately 400 people per day) (Kyelem de Tembela 2012). This operation is referred to as the "Battle of the Rail". 18 additional cities were electrified, bringing the total number of electrified cities to 22 between 1983 and 1987, an increase of 450% (Kyelem de Tembela 2012).

(iv) Industrialization: we note the creation of the Burkinabe Leather Manufacturing Company (SBMC) in 1985, a milk production plant, a concentrated tomato production plant, a soap production plant (based on shea butter), and a fruit juice and jam production plant (Kyelem de Tembela 2012).

"Preferring water for all to Champagne for some", all these actions are framed by an management rigor of public affairs. Cheaper cars were used by the president and ministers to reduce the state's cost of living and free up resources for investments; ministers were forbidden to travel in business class (Zagré 1994, Kyelem de Tembela 2012). The president keeps his captain's salary (Jaffré 1989).

Beyond these actions, President Thomas Sankara wanted to restore dignity and power to the people and put the state institution at the service of the people. Thomas Sankara tried to found the nation of Burkina Faso. What did he do specifically to fight corruption?

### 3.2.2 Anti-corruption policies of Thomas Sankara

Captain Thomas Sankara came to power on August 4, 1983, in Upper Volta following a putsch that led to the ousting of Commander Jean Baptiste Ouédraogo. He instituted the August Revolution led by the National Council of the Revolution (CNR). From August 4, 1983, until his death<sup>2</sup> on October 15, 1987, Thomas Sankara engaged in a policy of integrity, the moralization of public life and fight against corruption.

The most crucial action that gave the benchmark of his integrity policy was the change of the country's name, formerly called "Upper Volta". Indeed, on the occasion of the Revolution's first anniversary, by Ordinance 84-43/CNR/PRES of August 2, 1984, the Republic of "Upper Volta" became "Burkina Faso". This name comes from the two main local languages. "Burkina" is polysemous and means honor, dignity, respect, and honesty in the Mooré language. The word "Faso"<sup>3</sup> comes from the Dioula language and means Fatherland or Republic. Thus, "Burkina Faso" means "country of people of integrity, honesty, courage, and respect" (Kyelem de Tembela 2012). This name change constitutes an entire program for creating a new society where the values of dignity and integrity are central.

Captain Thomas Sankara's methodology for implementing his integrity policy is teaching by example. For example, as President of the Republic, he had always kept his salary as a Captain and donated all the gifts he received on foreign missions to the national treasury (Jaffré 2017). Among other things, he decided:

(i) The creation, since 1983, of a ministry in charge of controlling and checking the accounts of all state-owned companies and enterprises and clean up their management (Zagré 1994). To this end, he instituted public budget meetings (with retransmission in the media) to present the balance sheets and accounts of state-owned companies, and financial

<sup>2</sup>by putsch organized by Blaise Compaoré, one of the four captains at the head of the Revolution, with the support of other countries. The other two being Captain Aboubakar Jean Baptiste Lingani and Captain Henri Zongo

<sup>3</sup>with "Fa" meaning father and "so" meaning house

recovery measures were taken.

(ii) The creation of the People's Commission for the Prevention of Corruption (CPPC). This commission is responsible for fighting corruption, conducting morality investigations for appointments to positions of responsibility, contributing to the development of exemplary morality and examining denunciations of corruption and influence peddling for vigorous repression. Thomas Sankara<sup>4</sup> set an example by being the first to go before this commission on February 19, 1987, to declare his assets (Jaffré 2017). He will be followed in this exercise by other personalities and presidents of institutions, including the General Secretary of the CDR, Pierre Ouédraogo (Jaffré 2017).

(iii) The creation of the Popular Courts of the Revolution (replacing the colonial judicial system copied from France) to judge political crimes and infractions, crimes and infractions against security (internal and external), embezzlement of public funds, and crimes committed by state agents and cases of illicit enrichment (Englebert 1986, Kyelem de Tembela 2012). Judgments are public and broadcast live in the media. Each people's court of the revolution (PCR) is presided over by a professional judge with six members (one military or gendarme, four CDR). Among others, two former presidents (General Aboubakar Sangoulé Lamizana and Colonel Saye Zerbo) and two former prime ministers (Kango Gérard Ouédraogo and Issoufou Joseph Conombo) were tried by the TPRs and some were acquitted (Englebert 1986, Zagré 1994). The PCRs have even tried former leaders<sup>5</sup> of the Economic Community of West Africa (ECOWAS) for misappropriation of public funds (Englebert 1986, Kyelem de Tembela 2012).

This integrity policy seems to have affected corruption in Burkina Faso. According to data from the Varieties of Democracy's public sector corruption index, it was during the Sankara period that Burkina Faso reached the lowest level of corruption in its history (Figure 3.1). This results in a wide gap between Burkina and the rest of Africa, where corruption is rising, as shown in Figure 1. This situation motivates this study. Knowledge of effective anti-corruption policies can help better fight corruption in Africa and around the world.

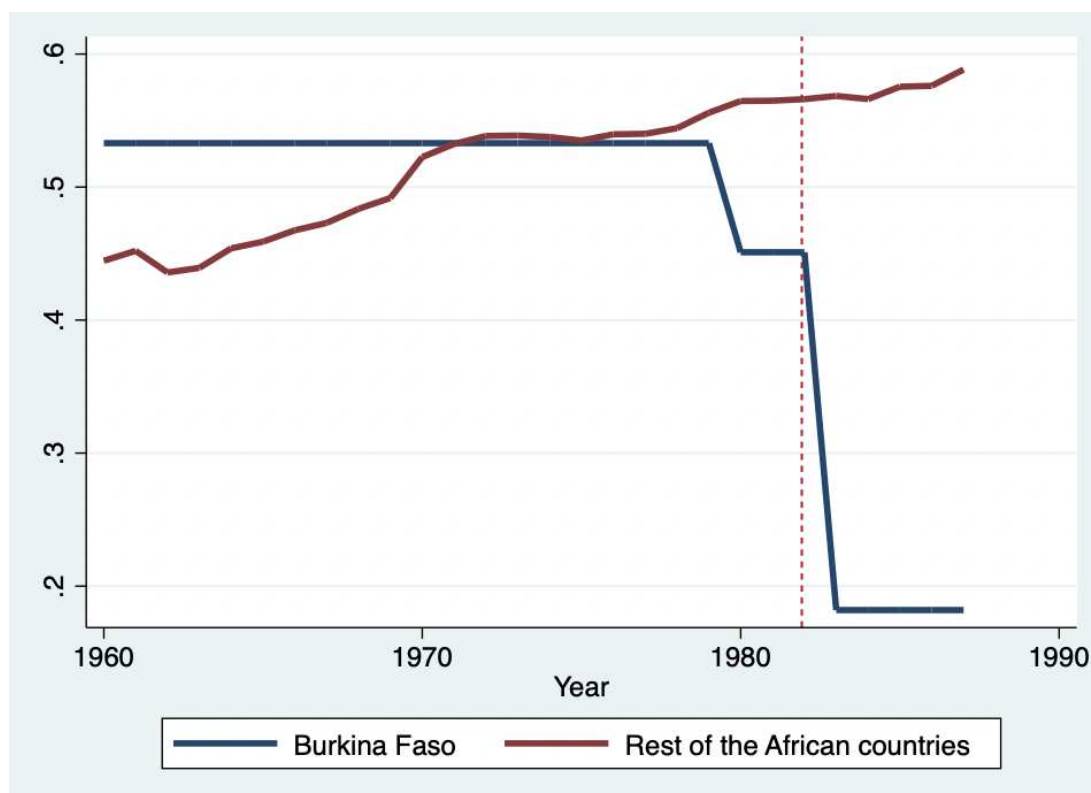
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<sup>4</sup>Thomas Sankara indicated, among other things, that he received five donations totaling 845,400,000 FCFA that he paid into the state coffers. He also stated that he received four vehicles (a BMW, an Alpha Romeo, a Toyota Créssida, and a Mitsubishi) that were transferred to the State's vehicle fleet. His wife also received three donations of 20 million paid to the Revolutionary Solidarity Fund and the women's restaurant.

<sup>5</sup>These were Mohamed Tiécoura Diawara (former Minister of Côte d'Ivoire and President of the Dakar Club), Moussa N'Gom (former Director of Customs of Senegal and Secretary General of CEAO) and Moussa Diakité of Mali (Director of the Fonds de Solidarité et d'Intervention pour le Développement Communautaire-FISIDEC), accused of embezzling 6.5 billion CFA francs and placing it in financial institutions in Switzerland. The trial was held from March 25 to April 3, 1986. Their lawyers were specially authorized to plead; prison sentences of 10 (Moussa N'Go) to 15 years (Mohamed Tiécoura Diawara and Moussa Diakité) were handed down, and the sum embezzled to be reimbursed.



Figure 3.1: Trend in Corruption: Burkina Faso versus Rest of Africa



Source: The author, with V-Dem data, 2021

### 3.3 Literature on leaders, economic prosperity and Corruption

A body of economic literature focuses on the leader's contribution to economic performance and suggests that the leader matters for prosperity (Jones & Olken 2005, Berry & Fowler 2021). Jones & Olken (2005)'s seminal paper uses the random deaths (accidental and natural) of leaders in power as an exogenous source of leadership variation between 1945 and 2000 (57 leadership transitions) to assess the causal effect of leaders on economic growth. They find that the leader affects the country's economic growth. A one standard deviation rise in leader quality increases annual economic growth by 1.5 percentage points. Berry & Fowler (2021) find also similar results. Further investigation allows Jones & Olken (2005) to indicate that the leader effect on economic growth is substantial and significant in autocratic states where leaders face few constraints and no impact in established democracies. They also find that leaders influence policy outcomes, especially monetary policy. The authors conclude that leaders can be crucial in shaping countries' growth trajectories.

Easterly & Pennings (2020) extend the work of Jones & Olken (2005) by estimating the contribution to the growth of each leader since 1950 with the optimal signal extraction method. Their results show that 7% of leaders (45 out of 650) with at least three years in power (and for whom growth data exist) contribute significantly to their country's economic growth. Seretse Khama, president of Botswana from 1966 until he died in 1980, is the top substantial contributor to economic growth (3.25%). An investigation of local leaders effect in 312 cities in China between 1994 and 2010 confirms the importance of the leader on regional economic performance (Yao & Zhang 2015). The authors find that different levels of leaders' ability increase economic growth at the local level. In addition, they also show that leaders' ability becomes substantial for their promotions as they grow older. The leader's ability to influence economic growth may go through his ability to control government policies (Jones & Olken 2005) and shape institutions to improve economic efficiency.

Indeed, institutions are a fundamental source of economic growth (Acemoglu et al. 2005, Rodrik et al. 2004, Acemoglu, Gallego & Robinson 2014). For Acemoglu et al. (2005), economic institutions shape agents' incentives and constraints and thus determine economic development. As institutions are "*humanly devised constraints that shape human interaction*" (North 1990, p.3) and are endogenous to society, community leaders could have a prominent role in choosing these institutions. For example, in studying the evolution of social norms in a dynamic environment, Acemoglu & Jackson (2015) show that the effect of history can be changed by leaders whose visibility of their actions through time (specially to future generations) helps influence expectations and thereby norms of cooperation. Also, Jones & Olken (2009) exploit the randomness of successful assassination attempts on national-political leaders (75% failure rate) and find that assassinations of autocratic leaders lead to democratization and affect the extent of conflict over 1875 to 2004. For them, these results indicate the central role of the leader in the mechanism of institutional change (Jones & Olken 2009). In the same line, Coulibaly & Omgba (2021) argue that the incumbent chooses to remain in an autocratic regime in the absence of checks and balances of an independent civil society.

Regarding the relationship between leader and corruption, the literature on the subject shows different types of effects and interactions. First of all, the leader may take advantage of its position to capture public resources (Alatas et al. 2019, Mironov & Zhuravskaya 2016). Alatas et al. (2019) evaluate local leader capture in four targeted government transfer programs in Indonesia. They find evidence of local leader capture in three of the four

programs. For the authors, the lack of significant effect of local leader capture in the fourth program is related to the very low targeting threshold <sup>6</sup>. [Alatas et al. \(2019\)](#) find that formal leaders (from government service) and their relatives are more likely to be beneficiaries conditional on consumption level by 3 to 8 percentage points for all three programs. However, informal leaders (who became leaders informally through community service) are less likely to be beneficiaries of these three programs by 6 to 7 percentage points conditional on consumption level. These three programs are cash transfer, health insurance for the poor, and rice transfer programs. The fourth is a conditional household transfer program with an amount between US\$ 67 and US\$ 250 per year for six years. In addition, [Lino et al. \(2021\)](#) indicate that the private political-economic interests of political leaders infiltrate the regional courts of audit in Brazil through the appointment of magistrates.

Second, leader corruption depends on opportunities and leader characteristics ([DeCelles & Pfarrer 2004](#), [Bendahan et al. 2015](#)). Through a multidimensional model, [DeCelles & Pfarrer \(2004\)](#) indicate that stakeholder pressure increases the likelihood that the leader will engage in corruption, which is fueled by the opportunities provided by the environment and the leader's charisma. For the authors, crime occurs with motivation and opportunity. Thus, stakeholder pressure is equated with a reason for corruption and environmental factors, the leader's charisma, and followers as an opportunity for corruption. [Bendahan et al. \(2015\)](#) find similar results. Using an experimental incentive game, [Bendahan et al. \(2015\)](#) show that the number of followers and discretionary power increases the leader's corruption. The leader's corruption is high when his power and testosterone are high. His followers, in turn, engage in corruption or seek to protect the leader (by hiding his crimes for example) ([DeCelles & Pfarrer 2004](#)).

In the same way, other studies indicate that female leaders, while generally perceived as less corrupted, are not always favored by voters in corruption matters ([Le Foulon & Reyes-Housholder 2021](#)). They may even lose the incumbency advantage ([Dulani et al. 2021](#)), and there tend to be more irregularities (corruption) under female leadership that are entirely resolved over time ([Afridi et al. 2017](#)).

Third, leader have the ability to influence the behavior of others. That is why pharmaceutical and medical device companies buy Key Opinion Leaders (physicians and researchers) to control professional opinion and influence general opinion and thus medical prescriptions ([Sismondo 2013](#)). For [Sismondo \(2013\)](#), reports from 7 pharmaceutical and medical device companies, following the Physician Payment Sunshine Act passed in 2010,

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<sup>6</sup>Only 12% of households in the study sample are beneficiaries compared to 36%, 42%, and 75% beneficiaries for the other three programs

which mandates transparency of payments to physicians and researchers, show that hundreds of physicians in the United States are paid over \$100,000 each year and thousands more over \$10,000 each year for this purpose. In the same way, [Silitonga et al. \(2019\)](#) use goal framing theory to explain that individuals generally pursue three goals: (i) a hedonic goal; (ii) a gain goal; and (iii) a normative goal. A good example of leaders and peers acts as a signal of what is and is not acceptable to society and reinforces and maintains the normative goal.

An empirical investigation with data collected from 580 senior officials in Indonesia allows [Silitonga et al. \(2019\)](#) to show that good example from leaders and peers deters officials from engaging in corruption. The results indicate that increased monitoring and sanctioning and refusal of bribes by leaders and peers in the past reduces the likelihood of a given official accepting bribe ([Silitonga et al. 2019](#)). In addition, anti-corruption policy through the persecution of corrupt leaders has a long-lasting disciplinary effect ([Zhao et al. 2020](#)). A study exploiting the persecution data of local corruption leaders between 2006 and 2016 in China as an exogenous shock and using the double-difference method as an investigative strategy, finds that the volume and value of land sold drops significantly after the ouster of corrupt local leaders ([Zhao et al. 2020](#)).

Finally, other studies indicate that historical events are important in understanding the relationship between leadership and corruption, particularly in Africa. [Acemoglu, Reed & Robinson \(2014\)](#) show that the British, beginning in 1896 in Sierra Leone, destroyed traditional checks and balances and accountability systems. [Ali et al. \(2020\)](#) assess the impact of the British colonial system on the corruption of local leaders with the discontinuity regression method in 21 African countries and microeconomic data from the Afrobarometer surveys. For these authors, the British colonial system instituted a system of indirect control that strengthened the power of local leaders and undermined their accountability to the local population. The results show that local leaders are perceived as significantly more corrupt by citizens in English-speaking countries than in French-speaking countries and that citizens' trust in English-speaking countries leaders is significantly lower. In the same vein, [Khalil Timamy \(2005\)](#) argues that the perception of African peoples that the State and its resources belong to a foreign force is one of the deadly legacies of colonization, and African leaders have continued to instill a colonial functioning of the State for their benefit, notably through the misappropriation of public funds. As a result, the colonial state institution is perceived as a force of usurpation and is slow to integrate into the people's societal order. For [Khalil Timamy \(2005\)](#), this vision of the State corresponds to the tragedy of the

commons, where what belongs to the State belongs to no one, and everyone can go as his will and according to opportunity (Combes et al. 2016).

To radically reverse this conception of things so that what belongs to the State is perceived as belonging to everyone and that no personal freedom is taken concerning the property of all, Thomas Sankara claimed this through the August 1983 Revolution in Burkina Faso. However, none of the previous works have interested in the effect of national leaders on corruption. The purpose of this study is to fill this gap. We assess the impact of Sankara institutional influence policies, particularly its integrity policy, on corruption and answer the leader's ability to influence the institutional trajectory.

### 3.4 Empirical analysis

The challenge in policy evaluation is to estimate the outcome of the treated unit in the absence of treatment over the post-treatment period. That is, what would have been the outcome of the treated unit in the lack of treatment. Here, the aim is to estimate what would have been the trajectory of corruption in Burkina Faso without the presidency of Captain Thomas Sankara over the period 1983 to 1987. A particular technique suitable in this case is synthetic control.

To formalise Synthetic control approach, we follow Abadie (2021), Cunningham (2021), Wiltshire et al. (2021)<sup>7</sup>: For any unit  $j$  (here  $j=1, 2, \dots, 35$  with  $j=1$  is Burkina Faso, the treatment unit and  $j=2, \dots, j+1$  are untreated units of "donor pool") at time  $t$  (1960 to 1987)

Let  $C_{j,t}^I$  be the potential corruption under Intervention. Let  $C_{j,t}^N$  be the potential corruption without intervention.

The intervention/treatment effect in  $\{j, t\}$  is :  $S_{j,t} = C_{j,t}^I - C_{j,t}^N$

$S_{j,t}$  is the intervention effect (Sankara leadership effect on corruption).

The observed outcome  $C_{j,t} = C_{j,t}^I = C_{j,t}^N + S_{j,t}D_{j,t}$  with  $D_{j,t}$  a dummy variable indicating if unit  $j$  is treated at time  $t$ .

Let unit  $j=1$  (Burkina Faso) become treated at time  $t > T_0$  and we want to estimate the path of treatment effects:  $(S_{1,T_0+1}, \dots, S_{1,T})$

We don't observe both  $C_{1,t}^I$  and  $C_{1,t}^N$  for  $t > T_0$

For  $t > T_0$ , we only need to estimate  $C_{1,t}^N$  as  $C_{1,t} = C_{1,t}^I$  is observable.

We suppose having data on  $j$  units over  $T$  periods of time and  $T_0$  pre-intervention periods,  $T - T_0 > 0$  treated periods.

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<sup>7</sup>For many treated units, see Cavallo et al. (2013), Ben-Michael et al. (2021), Dube & Zipperer (2015), Wiltshire (2021)

We have  $K$  predictors including  $M$  linear combinations of  $C_{j,t}$  on the pretreatment periode (for  $t \leq T_0$ ) plus  $r$  covariates. Then  $X_1$  is a  $K \times 1$  vector of predictors of  $C_{1,t}$  in treated unit  $j=1$  and  $X_0$  is a  $K \times J$  matrix of predictors of  $C_{j,t}$  in untreated units (donor pool)  $j > 1$

As synthetic control estimator is a weighted average of donor pool units (Abadie et al. 2015):

$$\hat{C}_{1,t}^N = \sum_{j=2}^{j+1} \hat{W}_j C_{j,t} \quad \forall t$$

Once we have  $\hat{C}_{1,t}^N$ , we can compute :  $\hat{\mathbf{S}}_{1,t} = C_{1,t} - \hat{C}_{1,t}^N$

$\hat{\mathbf{S}}_{1,t}$  is our effect of interest, Capitaine Thomas Sankara leadership effect on corruption.

$W(V) = (w_2(V), \dots, w_{j+1}(V))'$  is a vector of weights on untreated units  $j > 1$  with  $V = (v_1, \dots, v_k)$  is a matrix of weights on predictors.

The synthetic control method choose  $\hat{V}$  and  $\hat{W} = W(\hat{V})$  to minimize  $\|X_1 - X_0 W\|$ :

$$\left( \sum_{k=1}^K \hat{v}_k (X_{k,1} - w_2 X_{k,2} - \dots - w_{j+1} X_{k,j+1})^2 \right)^{1/2}$$

with  $\sum_{j=2}^{j+1} W_j = 1$ ,  $W_j \geq 0 \quad \forall j \in \{2, \dots, J+1\}$

We now present our data and identification strategy to have the actual Sankara's effect on corruption in Burkina Faso.

### 3.4.1 Data

Our study sample covers 35 African countries (see table 3.1 and table 3.3 in Appendix), with 34 for the "donor pool." This limitation is related to data for the pre-processing period, i.e., before 1983. The data for public sector corruption come from the V-Dem (Varieties of democracy) database (Coppedge et al. 2022). World Development Indicators (WDI) data are used for the constant GDP per capita.

### 3.4.2 Measuring corruption

The best measure of corruption would have been actual data on bribes exchanged between public officials and users of the public service. Such data is challenging to obtain. Indeed, bribery by nature is illicit and secretive and poses difficulties in measuring and assessing its effects and causes (Banerjee et al. 2012). Thus, the Varieties of Democracy (V-Dem) corruption perception data is used to proxy corruption. This indicator seems to better

reflect institutional characteristics in the sense of Glaeser et al. (2004) as it has relatively low volatility over time. For Glaeser et al. (2004), institutions should reflect the constraints on government and permanent features of the political landscape.

V-Dem measures corruption through this question "*to what extent do public sector employees grant favors in exchange for bribes, kickbacks, or other material inducements, and how often do they steal, embezzle, or misappropriate public funds or other state resources for personal or family use?*" (Coppedge et al. 2022). The estimated value of this index is between 0 and 1, with 1 indicating a high level of corruption.

The existence of the data dictates the use of this indicator alone. Indeed, our treatment period is from 1983 to 1987. To the best of our knowledge, no other indicator covers a reasonable pre-processing period to ensure that synthetic Burkina Faso reflects the corruption trajectory of the real Burkina Faso. Thus, we rely on V-Dem's public sector corruption indicator, for which historical data exist.

### 3.4.3 Explanatory variables

The credibility of the synthetic control estimator lies in its ability to reproduce the pre-treatment trajectory of corruption in Burkina Faso over a long period (pre-treatment). The dependent variable is corruption. The pre-intervention values of the outcome variable of interest play a crucial role in reproducing the unobserved factor loadings (Abadie 2021). We incorporate the pre-intervention values of the corruption variable as an explanatory variable. The way to include the pre-intervention values of the corruption variable is flexible. Incorporation can be by annual values and/or averages. We retain the yearly values of corruption from 1961 to 1970, the 1971 corruption value, the 1975 to 1979 corruption values, and the 1980 value.

Ferman et al. (2020), using Monte Carlo simulations, suggest that models that use more lags of the pre-processed outcome control for unobservable confounders. We also control for constant GDP per capita which is a determinant of corruption (Serra 2006, Treisman 2000). Controlling for this explanatory variable reduces the unobserved factor load. Not taking into account the post-treatment outcome in computing the weights of the synthetic control guarantees a specification not guided by the result.

### 3.4.4 Identification strategy

This study uses the synthetic control approach proposed by Abadie & Gardeazabal (2003) and Abadie et al. (2010, 2015) to evaluate the effect of Captain Thomas Sankara's lead-

Table 3.1: Synthetic Weights for Burkina Faso

Country	Synthetic Control Weight	Country	Synthetic Control Weight
Algeria	0	Lesotho	.002
Benin	.662	Madagascar	0
Botswana	0	Malawi	0
Burundi	.09	Mali	0
Cameroon	0	Mauritania	0
Central African Republic	.193	Mauritius	0
Chad	0	Morocco	0
Congo, Dem. Rep.	0	Niger	0
Congo, Rep.	0	Nigeria	0
Cote d'Ivoire	0	Rwanda	0
Egypt, Arab Rep.	0	Senegal	0
Eswatini	0	Sierra Leone	0
Gabon	0	South Africa	0
Gambia, The	0	Sudan	0
Ghana	0	Togo	0
Guinea-Bissau	.053	Tunisia	0
Kenya	0	Zambia	0

Note: The synthetic weight is the weight assigned by the synthetic control method.



ership. The synthetic control approach is "*the most important innovation in the policy evaluation literature in the last 15 years*" (Athey & Imbens 2017, p.9). It is a generalization of the "difference-in-differences" approach (Cunningham 2021).

The synthetic control method is based on the principle that a combination of units allows for reproducing the characteristics of the treated unit(s) (of interest) rather than a single control unit. Thus, the comparison unit is a weighted average of all potential comparison units that best reflects the characteristics of the unit of interest (Abadie et al. 2015).

This method allows to construct a synthetic Burkina Faso from the combination of other African countries that trace the trajectory of Burkina Faso's corruption level without Thomas Sankara and his anti-corruption policies. Indeed, if synthetic Burkina Faso and Burkina Faso are similar, any changes in Burkina Faso after Thomas Sankara took office can be attributed to him. The underlying assumption is that synthetic Burkina Faso replicates the trajectory of corruption that Burkina Faso would have taken in the absence of President Thomas Sankara's leadership. The synthetic control method's estimator of the treatment effect is the difference in post-treatment outcomes between the unit of interest, which is Burkina Faso, and the synthetic control (Synthetic Burkina Faso).

The synthetic control method has several advantages: It allows (i) avoiding extrapolation out of the data support, (ii) obtaining a transparent fit, (iii) not needing post-processing results in the design period, and the synthetic control weights can be computed before the post-intervention realizations of the outcome variable of interest or even the start of the intervention, (iv) generating a transparent counterfactual, (v) the method bridges qualitative and quantitative work, and (vi) the fact that few units contribute to the counterfactual facilitates interpretation and evaluation of the counterfactual (Cunningham 2021, Abadie 2021). As is the case in this study, the synthetic control method is particularly suitable for aggregated data (Abadie et al. 2015, Abadie 2021).

For Abadie (2021), a potential bias of the synthetic control is related to the ratio of individual transitory shocks (error term) to the number of pretreatment periods. The bias is unlikely when the transitory shocks are small or the number of preprocessing periods is large. For Abadie et al. (2010), if the number of pretreatment periods is large, matching pretreatment outcomes control for unobservables and heterogeneity in the effect of observables and unobservables on the outcome of interest. The intuition is that only similar units regarding observables and unobservables would follow a similar trajectory in the pre-intervention period (Cunningham 2021). The potential bias also increases with the

number of unobserved factors (Abadie 2021). In addition, the risk of overfitting increases with the number of donors, especially when the pretreatment period is short. Thus, we consider the entire period of existence of the data. It allows us to have at least twenty (20) years pre-intervention. The quality of the adjustment over this long period reassures the weakness of the bias.

This approach of impact evaluation requires, among other things, that (i) the effect size allows it to be identified from other shocks that affect the outcome variable of interest, (ii) an appropriate comparison group, (iii) the absence of treatment anticipation, (iv) no treatment interference, (v) the combination of unaffected units should approximate the characteristics of the treated unit, and finally (vi) a post-intervention period long enough to observe the treatment effect (Abadie 2021, Cunningham 2021). Our data met these conditions. For checking the robustness of our results, we use placebo tests. Abadie et al. (2010) and Abadie et al. (2015) used this method to estimate the effect of the California tobacco control program in the United States and the impact of German reunification on West Germany's GDP per capita, respectively. This strategy leads to the results below.

### 3.5 Results

To assess Sankara's leadership effect on corruption in Burkina Faso, we use the latest synthetic control package proposed by Wiltshire et al. (2021). Allsynth package relies on the classic synth and Sunth\_runner code offered by Galiani & Quistorff (2017). This package adds features to the synth package, including (i) the correction of synthetic control bias in case of imperfect matching on predictors between the treated unit and its synthetic control donors, (ii) the computation of the Root Mean Squared Prediction Error (RMSPE) P-values of in-space placebo tests, (iii) increases the graphing features and (iv) allows testing the uniqueness of the weight matrix (indicates if the weight matrix is not unique).

The start of the treatment is set for 1983. Indeed, although Thomas was appointed on September 13, 1981, in the CMRPN government of President Saye Zerbo, as Secretary of State for Information, he had little influence on executive action to influence an aggregate indicator. It was this inability that led to his resignation from the government on April 12, 1982 (Zagré 1994). We also consider this date in the placebo tests.

Tables 3.1 and 3.2 show countries' contribution to Synthetic Burkina Faso and predictor means before Sankara's tenure, respectively. Figure 3.2 displays the corruption trajectory of Burkina Faso and its twin (synthetic Burkina Faso) for the period 1961 to 1987. Synthetic Burkina Faso almost perfectly replicates the corruption of Burkina Faso over the

entire period before Captain Thomas Sankara took office. This close fit of corruption before Thomas Sankara's leadership and the close fit obtained for the corruption predictors in Table 3.2 demonstrate that there is a combination of African countries that replicate the institutional characteristics of Burkina Faso before Sankara. This indicates that it is possible to faithfully reproduce the institutional attributes of Burkina Faso before Captain Thomas Sankara's 1983 Revolution without extrapolating out of the data support for the donor pool. The estimated effect of Thomas Sankara's leadership on corruption in Burkina Faso is given by the difference between real Burkina Faso and synthetic Burkina Faso, presented in Figure 3.3. As can be seen, from 1983 onwards, Burkina Faso and synthetic Burkina Faso diverge substantially. While the perception of corruption has dropped substantially for Burkina Faso, the level of corruption in synthetic Burkina Faso remains constant at its pre-Sankara level (1980 level) and even started to rise in 1987. The difference between the two becomes more substantial at the end of the period, particularly in 1987. This period corresponds to when Captain Thomas Sankara was Prime Minister (January 11, 1983, to May 17, 1983) and President of the Republic (August 4, 1983, to October 15, 1987). Our results suggest a substantial adverse effect of Thomas Sankara's leadership on corruption in Burkina Faso. Sankara's leadership effect reached its highest level in 1987 and this declining effect is 70% of the corruption of 1982.

Table 3.2: Corruption Predictor Means before Capitain Thomas Sankara tenure

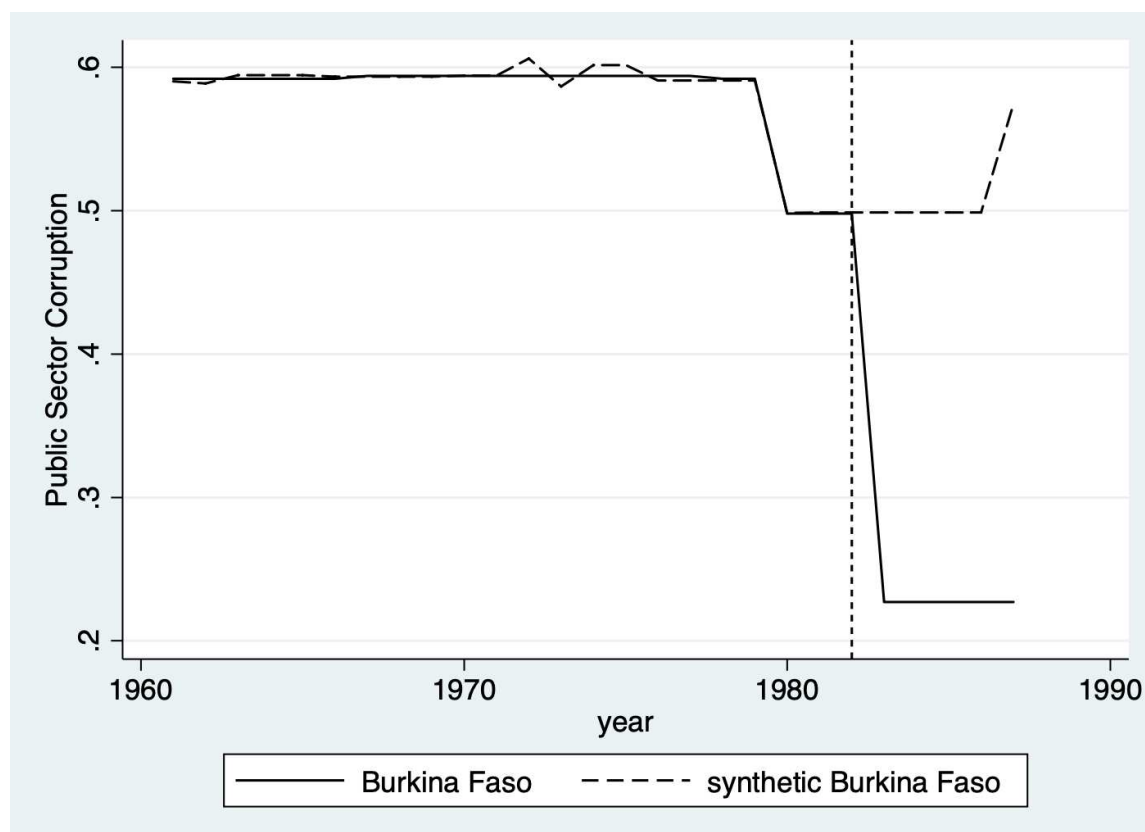
	<b>Burkina Faso</b>	<b>Synthetic Burkina Faso</b>
Corruption from 1961 to 1970	.5928	.5930654
Corruption of 1971	.594	.594195
Corruption of 1975 to 1979	.5932	.59295
Corruption of 1980	.498	.498475
GDP per capita (in constant terme from 1976 to 1980	5.856605	6.493773

A potential problem for this evaluation would be spillover effects, especially if President Sankara's leadership influenced the level of corruption in countries that contribute to the synthetic control. Five countries contribute to the synthetic Burkina Faso: Benin (66%), Burundi (9%), Central African Republic (19%), Guinea-Bissau (5%), and Lesotho (0,2%).

If President Sankara's leadership negatively affects corruption in the countries contributing to the synthetic control through spillover effects, the synthetic control would provide an underestimated counterfactual of corruption in Burkina Faso without Thomas

Sankara. This situation leads to an underestimation of the negative impact of Thomas Sankara on corruption in Burkina Faso. In the opposite case, it leads to an overestimation of the corruption-reducing capacity of Thomas Sankara's leadership. This spillover effect is unlikely as Sankara's tenure was short (four years) to influence the aggregate corruption in other countries. Even if he impacted other countries, this impact might be later in the data. To increase confidence in our results, we conduct placebo tests.

Figure 3.2: Trend in Corruption: Burkina Faso versus synthetic Burkina Faso



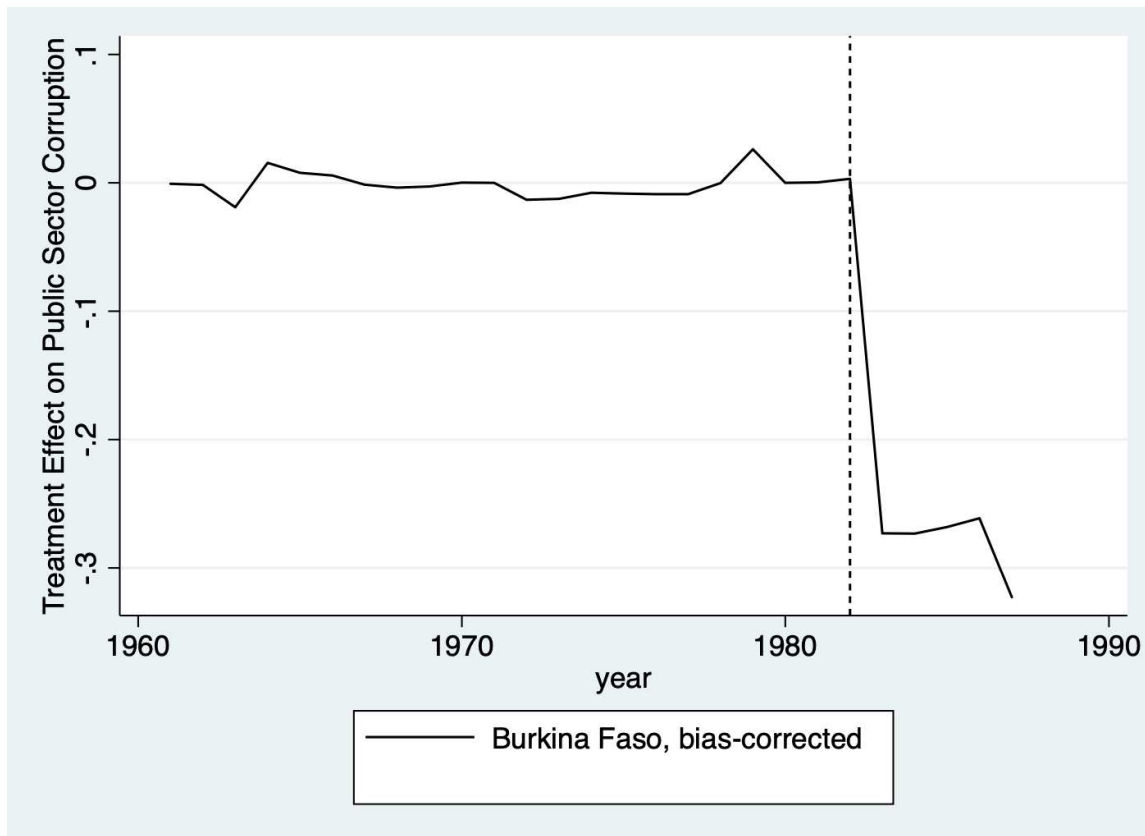
### 3.5.1 Placebo tests

To strengthen the credibility of our results, we conduct a placebo test: In-space placebo and a placebo considering 1981 as the beginning the treatment.

In-space placebo consists of assigning the treatment to countries other than Burkina Faso. A substantial placebo effect will undermine confidence that the result in Figure 2 is related to the leadership of Captain Thomas Sankara.

We compare the above results for Captain Thomas Sankara's leadership on corruption in Burkina Faso with placebo. The treatment is assigned to the donor pool units. Thus, we will obtain synthetic control estimates for countries in the donor pool that have not experienced Thomas Sankara's leadership. It allows us to compare the effect of Captain

Figure 3.3: Corruption gap between Burkina Faso and Synthetic Burkina Faso: Sankara's leadership Effect

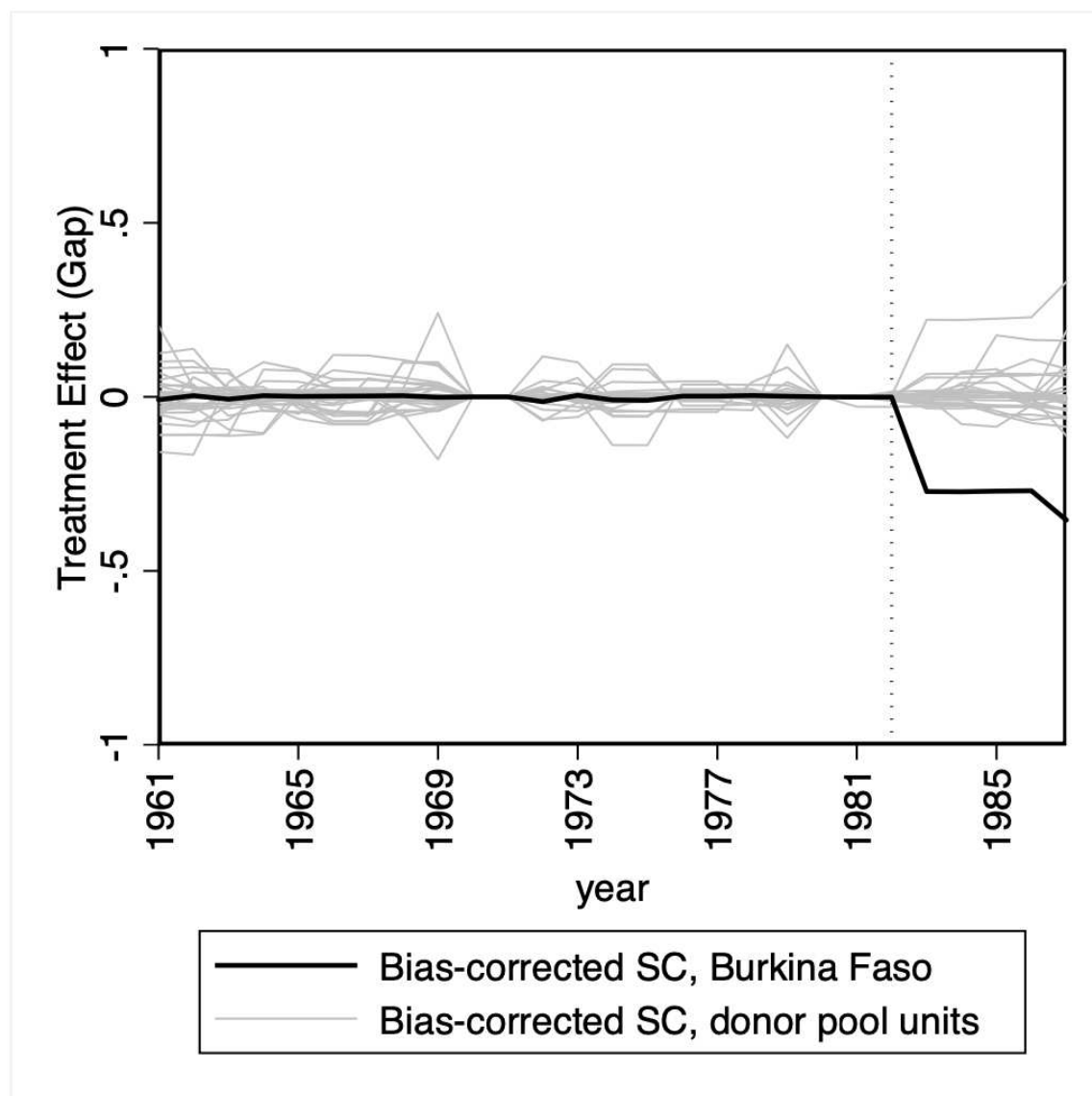


Thomas Sankara's leadership on Burkina Faso to the distribution of placebo effects for the other countries. The impact of Captain Thomas Sankara's leadership on corruption will be considered significant if the Sankara effect is distinctly large compared to the distribution of placebo effects.

Figure 3.4 displays the estimated effect of Captain Thomas Sankara on corruption and the placebo effects. As can be seen, Burkina Faso is distinct, with an outcome that shows a substantial reduction in corruption relative to the rest of the distribution. The p-values of the ratio between the post-1983 Root Mean Squared Prediction Error (RMSPE) and the pre-1983 RMSPE is .0285714 for Burkina Faso, that is significant. RMSPE measures the magnitude of the gap between the country and its synthetic control for the outcome variable of interest. A large post-treatment RMSPE indicates a large intervention effect if and only if the synthetic control similarly reproduces the outcome variable of interest over the pre-intervention period, i.e., the pre-intervention RMSPE must be relatively small. For Burkina Faso, the post-1983 RMSPE is about 70 times the pre-1983 RMSPE. The information displayed by the software indicates that Burkina Faso has the most significant post-1983 RMSPE/pre-1983 RMSPE ratio with a p-value of 1/35 (.0285714). This means

that by choosing a country at random from the sample, the chance of having an effect as large as this is 0.028.

Figure 3.4: In-space placebo: Sankara's leadership Effect on corruption in Burkina Faso versus donor pool countries



We suppose that Thomas Sankara's leadership effect begin earlier. We set the treatment period for 1981. This date correspond the appointment of Captain Thomas Sankara as State secretary of information. We use the same techniques to calculate the synthetic control. Tables 3.3 and 3.4 (in the appendix) display countries' contribution to Synthetic Burkina Faso and predictor means before Sankara's tenure, respectively. Figures 3.5, 3.6 and 3.7 (in the appendix) show the results of this tests. Synthetic Burkina Faso almost perfectly reproduces the level of corruption in Burkina Faso over the period 1960 to 1981.

As can be seen, the entry into the government of Thomas Sankara had no effect on

corruption for the first two years. These two years correspond to the period when Captain Sankara was Secretary of Information. The effect of his leadership only appeared from 1983 until 1987, when he became prime minister and president. The in-space placebo in figure 3.7, in appendix, also shows that the effect is not distinct from the distribution before 1983. It suggests that being a simple Secretary of State is not enough to act on corruption. Leadership becomes impactful when the function becomes strategic as President of the Republic. These results reinforce our confidence that the effect in figure 3.3 is Captain Thomas Sankara's leadership impact on corruption.

### 3.6 Conclusion

In this paper, we set out to assess the effect of the leadership of Captain Thomas Sankara, President of Burkina Faso from 1983 until his assassination in 1987, and his integrity policy on corruption in Burkina Faso. The results indicate the importance of the leader in shaping institutions.

Using the synthetic control method and data from other African countries, we constructed a counterfactual, synthetic Burkina Faso, for Burkina Faso without the leadership of President Thomas Sankara. The difference between the level of corruption in Burkina Faso and synthetic Burkina Faso establishes that the leadership of Captain Thomas Sankara had a substantial effect on corruption in Burkina Faso. The Sankara's leadership effect represents a reduction in the perception of corruption by 70 percent of 1982 corruption level in 1987. Our findings also suggest that Sankara's leadership becomes impactful only when his function becomes strategic as President of the Republic.

This Sankara effect is resistant to placebo tests in time and space. Our in-time placebo and in-space placebo tests do not suggest an alternative explanation for these results. This means that even if institutions become dominant over time (Acemoglu et al. 2005), the leader is essential to their choices and shaping.

Our results recommend replicating Captain Thomas Sankara's integrity policy, particularly in Africa, as it promises to reduce corruption. First of all, the exemplarity of the leader in terms of integrity, as Thomas Sankara was, is required. This is supported by Silitonga et al. (2019) findings that good example of leaders and peers reduces corruption among senior officials in Indonesia. In addition, other actions related to the establishment of institutions of control and sanctions (CPPC, TPRs..), deconstruction of historical ideas that are still harmful by reference values (changing the name of the country to Burkina Faso offers an ideal of behavior for Burkinabè) consubstantial to the peoples are also to be replicated taking into account the contexts. For example, the production of endogenous concepts is already underway in Rwanda with the concept of *imihigo*, "commitment to the community" in Kinyarwanda, which designates the performance contract between mayors and their people (Sarr 2016). At the same time, we can see that while Rwanda was among the most corrupt countries in 1996, today, it is among the five least corrupt countries in Africa, according to World Bank indicators.

As fighting corruption is a key of economic prosperity (Mauro 1995), studies highlighting the others main determinants of corruption can help better armed the battle against corruption in Burkina Faso and Africa.



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### 3.7 Appendix

Figure 3.5: Trend in Corruption: Burkina Faso versus synthetic Burkina Faso

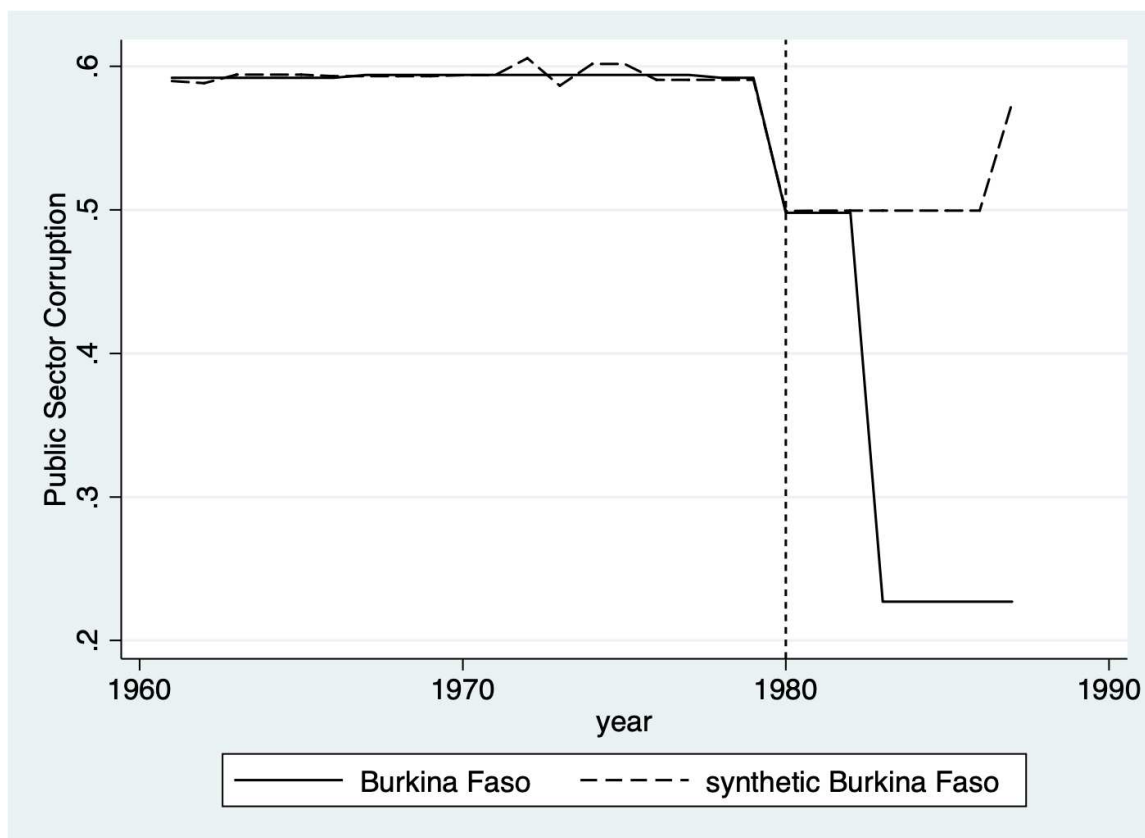


Table 3.3: Synthetic Weights for Burkina Faso

Country	Synthetic Control Weight	Country	Synthetic Control Weight
Algeria	0	Lesotho	.002
Benin	.656	Madagascar	0
Botswana	0	Malawi	0
Burundi	.093	Mali	0
Cameroon	0	Mauritania	0
Central African Republic	.195	Mauritius	0
Chad	0	Morocco	0
Congo, Dem. Rep.	0	Niger	0
Congo, Rep.	0	Nigeria	0
Cote d'Ivoire	0	Rwanda	0
Egypt, Arab Rep.	0	Senegal	0
Eswatini	0	Sierra Leone	0
Gabon	0	South Africa	0
Gambia, The	0	Sudan	0
Ghana	0	Togo	0
Guinea-Bissau	.054	Tunisia	0
Kenya	0	Zambia	0

Note: The synthetic weight is the weight assigned by the synthetic control method.

Table 3.4: Corruption Predictor Means before Capitain Thomas Sankara tenure

	Burkina Faso	Synthetic Burkina Faso
Corruption from 1961 to 1970	.5928	.5927143
Corruption of 1971	.594	.593858
Corruption of 1975 to 1979	.5932	.5927984
Corruption of 1980	.498	.499191
GDP per capita (in constant terme from 1976 to 1980)	5.856605	6.489948

Figure 3.6: Corruption gap between Burkina Faso and synthetic Burkina Faso: Sankara's leadership effect

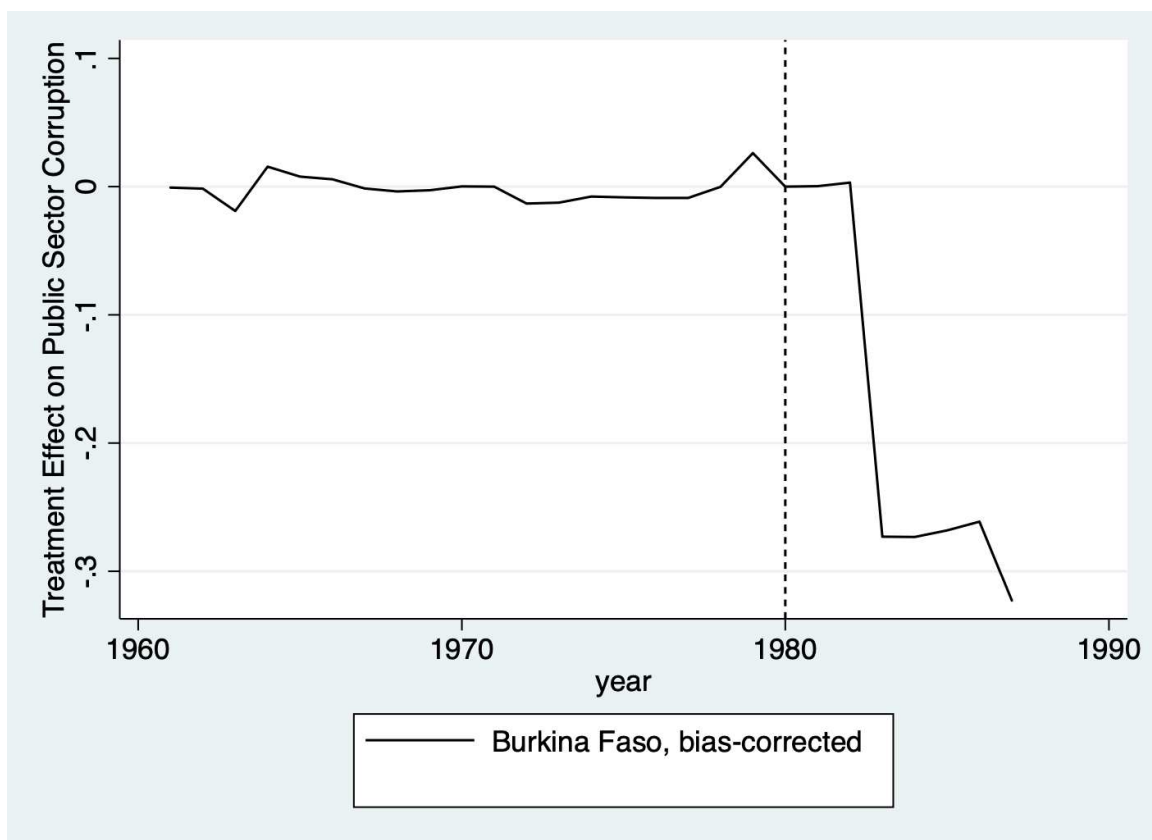
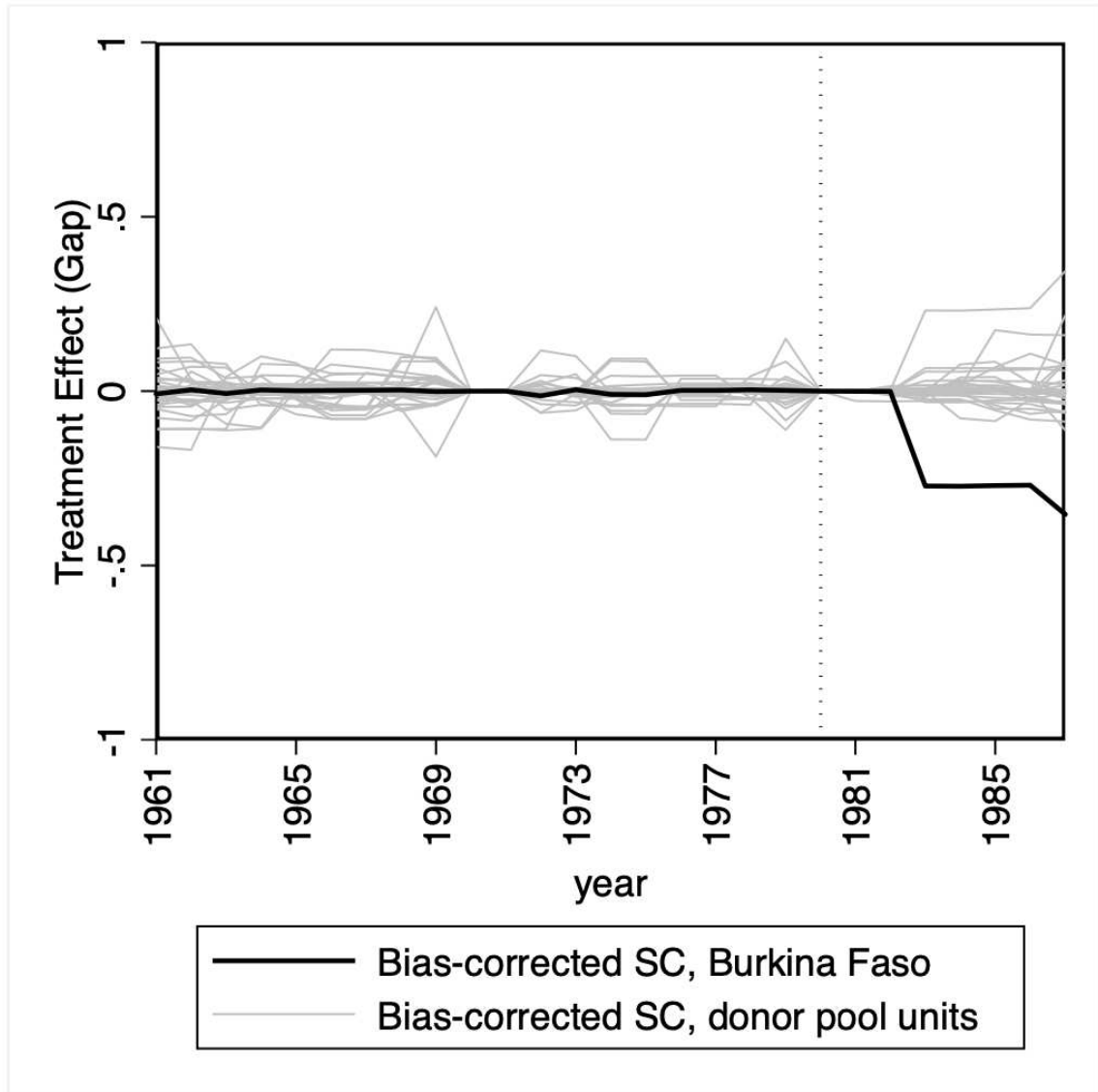




Figure 3.7: In-space placebo: Sankara's leadership Effect on corruption in Burkina Faso versus donor pool countries



## CONCLUSION GÉNÉRALE

*"L'Afrique n'a personne à rattraper. Elle ne doit plus courir sur les sentiers qu'on lui indique, mais marcher prestement sur le chemin qu'elle se sera choisi...Sa seule urgence est d'être à la hauteur de ses potentialités."*

Felwine Sarr, économiste et écrivain sénégalais, dans "Afrotopia"

Cette thèse a investigué trois aspects de la corruption dans les économies africaines. Il s'est agi notamment (i) d'évaluer l'impact de la corruption sur la structure des dépenses publiques, (ii) de mettre en évidence son effet de distorsion sur le choix professionnel et (iii) de mesurer l'impact du leadership d'un dirigeant africain, le président Thomas Sankara, sur la corruption.

Dans cette conclusion, nous exposons une synthèse des principaux résultats empiriques de la thèse (1) et discutons de la portée de politique économique de ces résultats, c'est-à-dire les recommandations et les perspectives de recherche soulevées (2).

### **3.8 Résultats et apports de la thèse**

Cette thèse a permis plusieurs contributions importantes. En premier lieu, nous apportons une première contribution majeure à la littérature économique en évaluant la sensibilité de la structure économique des dépenses publiques à la corruption. A l'aide des données désagrégées sur les finances publiques, que nous avons compilées à partir des annuaires statistiques, nous testons l'hypothèse d'une sensibilité différenciée des dépenses en capital et des dépenses courantes dans un panel de 48 pays africains sur la période 2000-2016. L'argument est qu'il semble plus bénéfique pour les fonctionnaires de manipuler les dépenses publiques en faveur des dépenses courantes étant donné que ces dernières sont plus ouvertes à une allocation discrétionnaire que les dépenses en capital. Les dépenses en capital sont constituées de projets d'investissement où l'allocation nécessite des appels d'offres, des procédures plus formelles et traçables. Ce qui introduit des contrôles supplémentaires y compris des entreprises concurrentes pour le marché public. Les résultats établissent qu'une forte prévalence de la corruption entraîne une distorsion des dépenses publiques au détriment des dépenses en capital. Plus spécifiquement, une hausse de la corruption d'un écart type est associée à une baisse de la proportion des dépenses en capital de 11 points de pourcentages (de 29% à 18%). Ce résultat est robuste à travers différentes spécifications et méthodes d'estimation, y compris les effets fixes, les variables instrumentales et les tests de sensibilité de l'instrument.

En deuxième lieu, l'étude du lien entre corruption et choix professionnel apporte plusieurs contributions empiriques à la littérature. D'une part, nous introduisons une nouvelle mesure de la corruption des agents de l'administration publique. Nous considérons une situation où le niveau de vie des agents de l'administration reflète leur revenu total. La possibilité d'un revenu supplémentaire en lien avec la corruption brouille le signal du salaire effectif à travers le niveau de vie. Un chercheur d'emploi qui estime le salaire pour

un poste donné en se basant sur le niveau de vie d'un fonctionnaire corrompu conduit à une surestimation du salaire. Nous prenons le salaire attendu par le chercheur d'emploi comme proxy du revenu total de l'agent public à ce poste et à l'aide des informations sur le salaire effectif du poste et les indemnités, nous pouvons mesurer la corruption comme la différence entre le salaire perçu pour un poste donné et le salaire effectif du poste. Ce travail est effectué à l'aide des données d'enquêtes et des informations sur les salaires effectifs par poste, y compris les différentes indemnités collectées auprès du ministère de la fonction publique.

D'autre part, cette mesure de la corruption des agents de l'administration publique a permis d'établir une distorsion sur le choix professionnel entre le secteur public et les autres au Cameroun. Notre hypothèse est que la prévalence de la corruption amplifie le signal du salaire effectif dans l'administration publique, étant donné que le niveau de vie des agents corrompus reflète leur revenu total qui inclut les pots-de-vin, et par conséquent y attire les chercheurs d'emplois.

A l'aide de la méthode de variable instrumentale, nous établissons de façon causale, qu'une hausse infinitésimale de la corruption accroît la probabilité de vouloir faire carrière dans le secteur public de 12.7%. L'instrument utilisé est la distance du département de résidence par rapport aux côtes, pondérée par le nombre d'années vécu dans ledit département. L'idée est que la distance par rapport aux côtes détermine l'intensité de l'esclavage subi par le département (Nunn & Wantchekon 2011) et l'esclavage a créé des conditions favorables à l'émergence de la corruption.

L'exploration des scénarii alternatifs confirme ce résultat. Des chercheurs d'emplois, en surestimant le salaire servi dans le secteur public en lien avec la corruption, choisissent de faire carrière dans l'administration publique au détriment d'autres secteurs. Ce résultat explique en partie les contraintes liées au marché de l'emploi et la ruée vers l'administration publique en Afrique.

Enfin, nous avons entrepris d'examiner l'apport du leader national dans la lutte contre la corruption. Après une documentation systématique des politiques anti-corruption du président Capitaine Thomas Sankara, nous avons évalué l'impact de son leadership sur la corruption au Burkina Faso. Thomas Sankara est l'une des figures emblématiques de l'Afrique contemporaine. Sous l'égide du Conseil National de la Révolution (CNR), il fut à la tête du Burkina Faso entre 1983 et 1987. Notre hypothèse est qu'à travers son leadership et son monitoring de la corruption, Thomas Sankara a contribué à l'assainissement de l'administration publique au Burkina Faso. Comme un leader charismatique a des qualités

qui fascinent et influencent le comportement des autres (Silitonga et al., 2019), il peut orienter le choix des institutions et "la règle du jeu" dans une société.

A l'aide de la méthode de contrôle synthétique, nous construisons un contrefactuel pour le Burkina Faso à partir des autres pays africains sur la base de la corruption avant l'arrivée au pouvoir de Thomas Sankara appelé Burkina Faso synthétique. Le principe est que la combinaison de plusieurs pays permet de reproduire les caractéristiques du Burkina Faso (unité traitée) que d'un seul pays. Cinq pays contribuent au synthetic Burkina Faso: le Bénin (66%), le Burundi (9%), la Centrafrique (19%), la Guinée-Bissau (5%) and le Lesotho (0,2%). La différence entre le Burkina Faso et le Burkina Faso synthétique met en évidence un effet substantiel du leadership du président Thomas Sankara sur la corruption au Burkina Faso de 1983 à 1987. En 1987, l'effet réduction représente 70% de la prévalence de la corruption de 1982. Les tests placebo menés renforce la confiance en ce résultat comme l'effet causal du leadership de Thomas Sankara. Les résultats montrent que le rôle du leader national peut être crucial dans le façonnement de la trajectoire institutionnel d'un pays.

Au total, nous avons entrepris dans cette thèse, de mesurer la corruption des fonctionnaires et d'évaluer les effets de cette corruption sur la structure des dépenses publiques par fonction économique et le choix professionnel des chercheurs d'emplois comme moyen de cerner l'étendue de la nuisance de la corruption à l'activité économique et au développement. Par ailleurs, nous avons mis en évidence l'importance du leader dans la lutte contre la corruption à travers l'évaluation de l'impact du leadership du président Thomas Sankara sur la corruption au Burkina Faso entre 1983 et 1987.

### **3.9 Portée politique des résultats et perspectives de recherches futures**

Selon les résultats de la thèse, susmentionnés, plusieurs enseignements peuvent être tirés qui nous permettent de formuler les recommandations suivantes.

#### **3.9.1 Inscrire la lutte contre la corruption à la première page des politiques de développement**

La mise en évidence des effets de distorsion de la corruption sur la structure des dépenses publiques montre que l'efficacité des politiques économiques notamment budgétaire est tributaire du niveau de corruption dans le pays. Une forte corruption aura tendance à

remettre en cause les orientations budgétaires. En effet, la corruption entrainera une réallocation des dépenses publiques en fonction de la rente au détriment de l'efficacité de la politique économique. C'est la raison pour laquelle une attention particulière devrait être portée sur la structure des dépenses publiques. Pour être efficace, toute politique de dépenses publiques devrait s'accompagner d'une politique anti-corruption effective.

Pour Collier (2000), trois forces tendent à maintenir une société corrompue ou honnête : (i) le pouvoir des normes morales (modèle de comportement que tout le monde intègre et se conforme), (ii) le risque de la punition (plus élevé dans une société honnête) et (iii) la puissance des anticipations (dans une société honnête, chacun anticipe que l'autre est honnête). Donc, pour traiter la corruption, deux éléments doivent être mis en synergie. De manière pratique, il s'agit d'accroître le monitoring et la sanction (Olken 2007), c'est-à-dire faire en sorte que tout acte de corruption puisse avoir une probabilité de détection proche de 1. Lorsqu'il est détecté, que la punition puisse être proportionnelle. Mais éliminer la corruption n'est pas suffisant pour que la société devienne morale. Par ailleurs, il faudra un programme d'incitation pour restaurer et institutionnaliser des normes morales. Cela peut passer par le leadership des dirigeants, la documentation et la popularisation des effets économiques de la corruption (coût sociaux...) ou la mise en place des baromètres de la corruption dans les institutions publiques en guise d'exemples.

En outre, la lutte anti-corruption en elle-même constitue une politique économique en ce qu'elle ouvre des perspectives d'une allocation efficiente des ressources. Les résultats montrent que la corruption peut projeter un mauvais signal qui provoque des distorsions dans les décisions individuelles et par conséquent mener à une inefficience économique. En entrainant une surestimation du salaire servi dans l'administration publique, la corruption accroît artificiellement l'attractivité du secteur public et par conséquent provoque une ruée des chercheurs d'emplois pour y faire leur emploi désiré. Cette situation peut avoir plusieurs conséquences : (i) une mauvaise allocation des talents en faveur du secteur de recherche de rente et au détriment des autres secteurs notamment le secteur privé productif et donc le développement économique (Murphy et al. 1991). (ii) Une alimentation de la corruption et des comportements de recherche de rente. En effet, les individus qui attendaient un salaire élevé peuvent être incité à compenser leur salaire effectif par des pots-de-vins. On assiste donc à une hausse de l'offre de corruption dans l'administration publique réduisant le coût moral de la corruption (Andvig & Moene 1990). La baisse du coût moral nourrit la corruption. (iii) L'érosion de la capacité de l'État si la sensibilité pécuniaire des individus qui s'auto-sélectionnent pour l'administration publique à cause d'un salaire

élevé est en lien avec d'autres caractéristiques indésirables telles que la tricherie et la malhonnêteté (Barfort et al. 2019, Hanna & Wang 2017). Cette dernière idée ouvre une perspective d'approfondissement. Des études qui mettent en lien la surestimation du salaire et les caractéristiques individuelles permettraient de mieux caractériser le phénomène de la corruption et améliorer le dispositif de sélection des agents de l'administration publique.

### **3.9.2 Mettre les informations sur l'administration publiques à la disposition des citoyens et basé en partie la sélection des agents sur des caractéristiques anti-corruption**

Notre mesure de la corruption des agents de l'administration publique indique une surestimation du salaire en lien avec la corruption parce que les citoyens n'ont pas accès à l'information sur le salaire servi par poste. Ils spéculent donc. Cette asymétrie informationnelle dans l'administration publique est source d'inefficience. La fourniture de l'information sur les salaires et les indemnités par poste pourrait permettre d'éviter les distorsions dans les décisions individuelles. En outre, la sensibilité pécuniaire des individus qui souhaitent faire carrière dans le secteur public interroge sur la qualité des agents de l'État. En effet, Barfort et al. (2019) et Hanna & Wang (2017) montrent que les individus ayant une sensibilité financière élevée semblent être plus malhonnêtes. Ainsi, un dispositif de sélection des agents de l'État qui intègre des critères tels que la tricherie, la malhonnêteté et la pro-socialité dans la sélection permettrait d'améliorer la qualité des agents de l'administration publique et leur efficacité. Cela peut se faire en pratique par l'intégration d'un jeu de corruption dans le processus de sélection ne serait-ce que pour les cadres supérieurs.

### **3.9.3 Sélectionner des leaders intègres avec des programmes anti-corruption ambitieux et s'inspirer des politiques anti-corruption du Capitaine Thomas Sankara**

L'évaluation du leadership de Thomas Sankara sur la corruption au Burkina Faso montre que celui-ci peut être un traitement pour la corruption. Ce résultat recommande la réplique de sa politique d'intégrité par : (i) la mise en place des institutions de monitoring et de sanction comme les TPRs (Tribunaux Populaires de la Révolution) pour juger les crimes de corruption et la Commissions du Peuple pour la Prévention de la Corruption (CPPC) pour la moralisation de la vie publique. Depuis 1983, comme un signal de la centralité de la lutte anti-corruption, Sankara crée un ministère en charge du contrôle et de la

vérification des comptes des entreprises et sociétés d'État. Les réunions de redressement sont retransmises en direct pour assurer la transparence avec le peuple. (ii) La remobilisation active (déconstruction des idées historiques néfastes) par l'institution de valeur de référence consubstantielle au peuple, comme par exemple le changement du nom du pays de la Haute Volta au Burkina Faso (pays des hommes intègres et digne), qui devient une norme de référence pour tous les citoyens. La production de concepts endogènes est déjà en marche au Rwanda avec le concept d'*imihigo*, "engagement envers la communauté" en kinyarwanda, qui désigne le contrat de performance entre les maires et leur peuple (Sarr 2016). Dans le même temps, on peut constater que si le Rwanda était parmi les pays les plus corrompus en 1996, il figure aujourd'hui parmi les cinq pays les moins corrompus d'Afrique, selon les indicateurs de la Banque mondiale. (iii) Mais avant tout, il est crucial de sélectionner un leader exemplaire. Si Thomas Sankara a pu donner à l'Afrique un exemple de lutte efficace contre la corruption en 4 ans, alors il est possible que d'autres leaders en Afrique puissent arriver à des résultats similaires.

En définitive, la lutte contre la corruption en Afrique nécessite un engagement ambitieux et volontariste, il convient qu'elle fasse partie intégrante et de manière systématique des éléments de sélection des leaders en Afrique.



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