

Fragmenting Commercial Governance: The Political Economy of Place-Based Industrial Policy in Africa*

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Abstract

Why are governments across emerging markets and developing economies increasingly adopting place-based industrial policies like special economic zones (SEZs)? We argue that SEZs provide an institutional shortcut to efficient commercial governance, especially in countries where market-supporting institutions, such as the rule of law, are lacking. Based on two original panel datasets covering the establishment of over 500 SEZs across Africa, as well as over 100 national laws governing them, we show that countries with weak institutions tend to build more zones and delegate zone governance to more private-sector entities. Moreover, zone development increases the complexity of a country's export profile most where national institutions are weakest. Our paper implies that the innovative design of industrial policy may reduce the incentives leaders face to invest in broad-based liberal reform, an institutional factor assumed to be a necessity of global capitalism.

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1 Introduction

Industrial policy has seen a global resurgence. While advanced economies have intensified their use of industrial policies (Juhász et al., 2022; Evenett et al., 2024), a parallel yet often overlooked development is the growing adoption of place-based industrial policies across emerging markets and developing economies (EMDEs). Among these, special economic zones (SEZs) have emerged as a particularly prominent and widely used policy tool.

SEZs provide a bundle of policy incentives within a defined geographic area, distinguishing them from the broader national regulatory environment. While SEZs share features with other industrial policy tools—such as subsidies or export-oriented strategies—they are unique in their spatial concentration and integrated policy approach. Common incentives include tax and tariff reductions, infrastructure development, and regulatory simplification. Because of this comprehensive framework, SEZs have become a key strategy for promoting structural economic transformation (Juhász, Lane and Rodrik, 2024). However, despite their widespread adoption, the political economy underlying the global proliferation of SEZs remains underexplored, in part due to limited data availability.

In this paper, we introduce a new dataset covering the establishment and design of over 500 SEZs across 54 countries in Africa, as well as the domestic laws governing these zones. While this is not the first cross-national dataset on SEZs,¹ this is the most comprehensive panel dataset, to our knowledge, covering the designation timing, identity of the management entity, and the legal foundation for these zones. This dataset enables a cross-country, over-time analysis of the political economy behind the adoption and institutional design of SEZs, shedding light on the political conditions that make SEZs a viable instrument of industrial policy. Such understanding is crucial for informing policymakers about the constraints they may face when attempting to replicate successful

¹Boyenge (2007) specifically focuses on export processing zones. The World Bank has assembled a subset of 586 SEZs globally (<https://datacatalog.worldbank.org/search/dataset/0037742>). To our knowledge, the Adrianople Group has assembled the most comprehensive cross-sectional database on SEZs (<https://www.openzonemap.com/map>), which is the foundation of our data collection efforts.

industrial policy models in different contexts.

To understand why zones have become such a prevalent format of industrial policies in the Global South, we need to first understand the constraints of replicating industrial policies from the Global North to the EMDE context. Industrial policies aim to achieve structural economic transformation by altering the incentives for private-sector actors (Juhász, Lane and Rodrik, 2024), which usually takes the form of policy benefits such as subsidies, financial assistance, and export support. In the context of the EMDEs, policy benefits alone may not be enough to facilitate private sector investment. An equally indispensable determinant is the presence of stable and effective commercial governance, characterized by transparent and predictable regulatory frameworks, streamlined administrative procedures, reliable infrastructure, and related institutional supports. However, despite their will to provide nationwide efficient commercial governance, governments in EMDEs may not be able to maintain an efficient commercial environment due to intervention from elites and bureaucrats who benefit from inefficiency in business operations. Hence, industrial policies in EMDEs are plagued by corruption and rent-seeking (Ades and Di Tella, 1997), especially at the implementation stage where monitoring and accountability are lacking (Rodrik, 2008), leading to limited inflow of private investment.

Therefore, effective industrial policies in EMDEs not only need to offer policy incentives to channel private investment into intended activities, but more importantly, the policy design needs to upgrade commercial governance. We argue that place-based industrial policies like SEZs can simultaneously satisfy these goals. First, the place-based nature of SEZs allows for a circumscribed space with a distinct and improved commercial environment, which would not be feasible at a nationwide scale due to elite and bureaucratic capture. Second, to improve the commercial efficiency within zones, political leaders can delegate zone governance to private sector actors, whose pro-business bias (Lindsey, 2017), closer connections to other business actors, and deeper knowledge about their operational demand and obstacles (Evans, 1995; Rodrik, 2008) can enhance the efficiency of

commercial governance within zones. Therefore, SEZs offer an institutional shortcut to jumpstart structural economic change while avoiding the cumbersome nationwide reform of the commercial environment.

While zones cultivate spaces with a superior commercial environment, delegating zone governance to private entities comes at a cost of autonomy loss in domestic policies. Given this trade-off, we develop a formal model to illustrate the optimal design of a parallel commercial regime in the shadow of the broader public institutions. The model clarifies why zones are popular in some countries but not others and what the counterfactual zone design would be where zones are not popular. The model features three actors: a political leader, a zone agent, and a firm. To attract investment, the leader delegates zone governance to a biased zone agent at the cost of autonomy loss. The more biased the zone agent is, the greater autonomy loss the leader incurs. To compete for investors, the zone agent exerts efforts with a cost to improve the institutional quality within zones based on the broader institutional context. A more biased agent is more competent and incurs a smaller cost to achieve the same degree of institutional improvement. Lastly, the profit-driven firm shops between the zone and the outside, depending on the institutional quality of these two arenas. A higher institutional quality means a lower cost of doing business and higher profits.

The model equilibrium shows that countries with weak public institutions are more likely to adopt zones and when doing so, they delegate to more biased zone agents. With weak public institutions, the leader cannot attract investment without the institutional improvement provided by the zone. Meanwhile, the leader also needs to delegate to a more biased agent to correct for the inefficiency in broader public institutions. Hence, zones become a viable form of industrial policy when they generate enough benefits of additional investment to offset the autonomy loss due to delegation. In countries with strong public institutions, zones can only induce limited additional investment at a high cost in a well-functioning economy because the leader needs to delegate to a highly

competent and biased agent to create an even more competitive commercial environment in an already efficient economy. Therefore, zones are more attractive in countries with weaker public institutions.

We test this argument through a multi-step process. First, based on a panel dataset of SEZs in Africa, we show that countries with weak market-supporting institutions (which we operationalize as the rule of law) tend to create more SEZs, confirming the institution-substitution function of zones. Second, to examine the institutional design of zone governance, we compile a dataset of SEZ laws across Africa and manually code the delegation structure and scope of regulatory exceptions within zones. We find that countries with a weak rule of law are more likely to delegate governance authority to private-sector actors in the zone agency governance board. By contrast, we find no systematic governance differences related to property rights protection between weak- and strong-rule-of-law countries, further confirming that SEZs are not designed to solve the classic obsolescing-bargain problem—widely regarded as a barrier to FDI where institutional support is weak. Instead, zones appear aimed at improving efficient commercial governance. Lastly, we investigate whether the institutional-substitution potential of zones helps facilitate structural economic transformation by examining the heterogeneous effect of zones across countries with weak and strong institutions. We find that zones can promote FDI inflows and trade complexity, measured by the share of differentiated products in trade ([Rauch, 1999](#)). We find that the positive association of zones and trade complexity is greater in countries with a weaker rule of law. This suggests that zones are indeed helping countries overcome weak institutions to achieve industrial upgrading.

We make two contributions. First, we contribute to the literature on the political logic of industrial policies. Theoretically, we propose a new political logic for the design of industrial policies. Existing studies primarily treat industrial policies as a distributive tool, where political leaders use industrial policies to favor politically pivotal voters ([McGillivray, 2004](#); [Rickard, 2018](#); [Grant, 2020](#)) or to compensate economic losers ([Branstet-](#)

ter, Li and Ren, 2023; Hai, 2025). Our paper reveals an alternative logic for the design of industrial policies. Specifically, place-based industrial policies like special economic zones can provide an institutional shortcut to reducing the cost of doing business while facilitating structural economic transformation in countries with low institutional capacity. These countries are also more likely to incorporate a greater degree of embeddedness—reflected by the delegation of zone governance to private actors—in the policymaking of such industrial policies (Evans, 1995; Rodrik, 2008).

Empirically, we study the political economy of place-based industrial policy in Global South, thereby complementing existing industrial policy studies that primarily focus on either advanced economies (Juhász and Lane, 2024; Bown, 2024) or developing countries with relatively high state capacity (e.g., Wang, 2013; Alkon, 2018; Tang, 2023). We also broaden the empirical focus of recent work on industrial policy. While existing studies on industrial policies tend to focus on the efficacy of industrial policies in a given country, we assembled original panel datasets of zone designation and design across countries in Africa, which allowed us to investigate the implementation, design, and efficacy of special economic zones across countries with heterogeneous institutional strengths. This comparative approach helps alleviate the externality concern in single-country analyses.

Second, we provide a new explanation for autocratic survival in the era of globalization. Despite the abundant empirical evidence showing the relationship between democracy and global capitalism (Milner and Mukherjee, 2009; Li, Owen and Mitchell, 2018), it is puzzling how autocrats manage to achieve increasingly deeper integration into the global economy without the support of these democratic institutions, especially in recent decades. Some existing explanations for this puzzle lie in autocratic judicial (Beazer and Blake, 2018; Chen and Xu, 2023) and legislative institutions (Jensen, Malesky and Weymouth, 2014), imported international institutions (Fang and Owen, 2011; Arias, Hollyer and Rosendorff, 2018; Allen, 2023; Lee and Quinn, 2024), and cross-border financial transfers (De Vries et al., 2024). Others show that financial liberalization can substitute

for property rights protection institutions (Pond, 2018; Gao, 2022), but may increase the risk of democratization (Freeman and Quinn, 2012). Most closely related to our focus on parallel institutional innovation, Liu (2024) shows that weak government institutions lead to outsourcing of contract enforcement, fraud detection, and dispute resolution to powerful private institutions, which facilitates market development. These explanations tend to assume that autocracies can only implement policies to promote global capitalism on a nationwide scale. We relax this assumption and focus on a place-based solution that allows for targeted and spatially differentiated policy packages, which substitute for market-supporting institutions and may potentially zone out the prospect of democratization in autocracies.

2 SEZs and place-based industrial policy in the global south

By creating incentives for private-sector actors, industrial policies aim to achieve structural transformation in the economy (Juhász, Lane and Rodrik, 2024), which can range from industry-specific innovation, export promotion, and import substitution to more general purposes such as economic growth and job creation. Yet, the implementation of industrial policy is often plagued by rent-seeking and corruption by elites and bureaucrats (Ades and Di Tella, 1997). This is especially the case in the context of emerging markets and developing economies (EMDEs), where the lack of institutional guarantees and bureaucratic capacity makes it difficult to enforce and monitor the intended implementation of the industrial policy at the local level, resulting in policy uncertainty and inefficiency in the commercial environment. Consequently, despite the policy incentives, industrial policies in these weak or unreliable institutional settings may have limited ability to channel private capital into the intended activities.

We argue that special economic zones (SEZs), as a place-based industrial policy, can provide an institutional shortcut to replace market-supporting institutions and to jump-

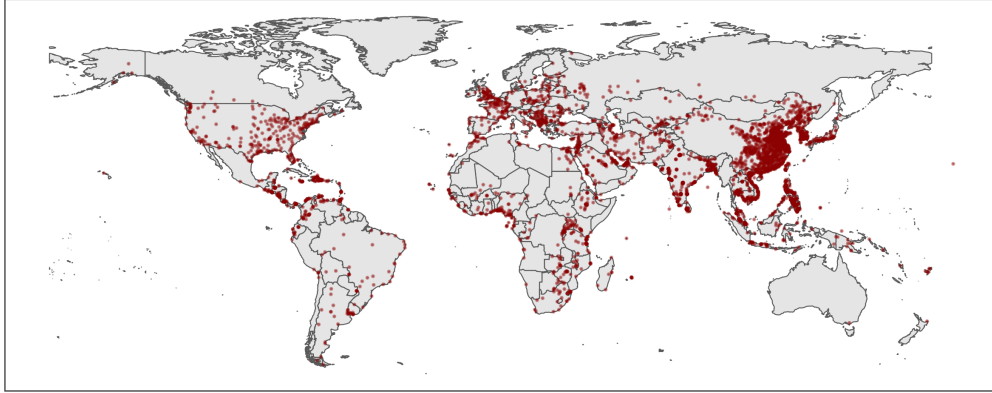


Figure 1. Locations of SEZs active in 2021, authors and [Adrianople Group \(2021\)](#)

start the structural transformation. SEZs are restricted commercial enclaves where infrastructure and policy benefits, such as tax breaks, lower tariffs, and looser regulations, are bundled together and provided to firms located in physically demarcated zones. The United Nations Commission on Trade and Development (UNCTAD) defines such zones using three criteria: “Clearly demarcated geographical area [with] A regulatory regime distinct from the rest of the economy... [and] Infrastructure support” ([UNCTAD, 2019](#), 133). As [Radelet \(1999, 3\)](#) writes, export-oriented zones are “enclave[s] in which the problems of poor trade policies, weak infrastructure, and inconsistent rule of law that plague the rest of the economy are at least partially eliminated so that firms can become more competitive and more fully integrated into the global economy.” Given these benefits, zones have been gaining in popularity in recent decades. A recent survey conducted by the Adrianople Group identified around 5,000 such zones, which is in line with UNCTAD’s estimate in 2019 (see [Figure 1](#)).

At the core of the governance problem lies the potential intervention by elites and bureaucrats, who benefit from creating inefficiency—such as rent-seeking and corruption—in the commercial environment. We argue that SEZs can enhance efficient commercial governance through two steps. First, the place-based nature of SEZs makes it feasible to create a geographically distinct and more efficient governance regime. If implemented at a nationwide scale, the policy benefits offered by industrial policies can attract rent-seeking

and corruption ([Ades and Di Tella, 1997](#)), especially in countries without strong enough institutional support to monitor and rein in such attempts ([Brierley, 2020](#)). The designated space created by SEZs makes it easier to monitor rent-seeking activities.

Second, while zones help enhance monitoring and reduce elite intervention in commercial governance, political leaders may still lack the expertise to reassure investors of an efficient governance environment within zones. To further improve the efficiency of business operation within zones, leaders can delegate governance authority to agents with a pro-business bias.² For example, Rwanda's Special Economic Zone Authority is a subsidiary of the country's Development Board. The Development Board has 10 members, only one of whom has government experience. Moreover, three members are foreign nationals, including the Chair of the Board. Or consider Gabon's Monitoring Committee (*Comité de Suivi*) regulating its "privileged economic zones," which is required to be composed by a majority of non-government officials. Other countries do the opposite and offer no avenue for direct private participation in the regulation of their zones (e.g., Tanzania). The participation of these non-government entities can further enhance what [Evans \(1995\)](#) referred to as "embedded autonomy." This means that the state is "embedding" or linking the regulatory apparatus into the private sphere. This helps maintain more transparent and credible information transmission between business networks and policymakers, increasing efficiency in commercial governance and reducing the cost of doing business.

Yet, while political leaders can authorize zone agents to improve the commercial environment within zones to attract more investment, a biased agent undermines the policy autonomy of the leader. For example, when giving the private sector too much control over the policymaking within zones, leaders may lose control over the migration policy, leading to greater exemptions in importing foreign workers and undermining domestic employment. Zones may also have looser regulatory standards related to the

²Similar to [Lindsey \(2017\)](#), delegation to biased agents facilitates the information transmission in the policymaking process, which improves the governance efficiency.

environment and health, potentially undermining the welfare of citizens living close to the zones. The loss of control over these policies may lead to domestic backlash. Hence, such a tradeoff between efficiency in commercial governance and policy autonomy suggests that there exists an optimal design of zone governance. In the next section, we propose a formal model to explain how to design a parallel commercial regime under the shadow of the broader public institutions. The model characterizes the conditions under which zones are adopted, the corresponding optimal agent bias, and the heterogeneous effect of zones on structural transformation.

3 A model of fragmented commercial governance

The model features three actors: the leader (L), the zone agent (A), and the firm (F).

Setup L aims to achieve political support through boosting investment, denoted k . To create a better commercial environment, L employs the institutional innovation of carving out a separate space (Z) to establish a distinct institutional quality from the rest of the economy (O). In addition, L can delegate governance authority to A with a pro-business bias b . A then exerts effort, e , to shape the commercial environment within Z . Outside of the zone, the institutional quality is $\alpha \in [0, \infty)$, which represents the cost of doing business, including factors related to conditions of infrastructure, bureaucratic efficiency, level of corruption, etc. A greater α means a weaker institution quality. With A 's efforts, the cost of doing business will take a discount $\phi(e) = 1 - \eta e$. Greater effort leads to lower $\phi(e)$ ($\eta > 0$). As such, the institutional quality within Z is $1 - \phi(e)\alpha$. Given this menu of institutional options, F then decides whether to invest in Z or O and how much to invest, which, consequently, affects L 's political support.

Sequence The model begins with L determining whether to use zones $s \in \{0, 1\}$ and the bias of zone agent b . Then, A determines her effort e to improve the institutional quality

within zones. F then determines whether to invest, how much to invest ($k \in [0, \infty)$), and whether to invest in Z ($g \in \{0, 1\}$).

Payoffs L 's utility has two components:

$$U_L(s, b) = \underbrace{[sg + (1-s)(1-g)]k}_{\text{Political Support}} - \underbrace{\frac{1}{2}\delta b^2}_{\text{Autonomy Loss}}$$

First, political support is determined by whether Z is available ($s = 1$) or not, and whether the investment is in Z ($g = 1$) or not. Investment is useful for political support only when L uses Z and F chooses Z over O , or when L does not use Z and F chooses O . This specification assumes that L can deploy Z in places where political support matters the most. We assume that investment translates into political support due to job creation, wage increases, and economic growth. Second, L pays a cost for the autonomy loss due to the delegation of zone governance to A with bias b . The cost function takes the form of $\frac{1}{2}\delta b^2$, suggesting that the autonomy cost increases faster as A becomes more biased. This is because shallow delegation allows for less costly reforms, while greater degrees of delegation may tackle more difficult issues, leading to a greater increase in cost.

A 's utility has two components:

$$U_A(e) = \underbrace{gk}_{\text{Economic Rents}} - \frac{1}{2b}e^2$$

First, A obtains economic rents from the investment in Z : gk , suggesting that A does not benefit from investment in O . Second, A pays a cost $\frac{\psi}{2b}e^2$ for improving the institutional quality within Z . A with a more pro-business bias has greater competence in reducing the operational cost in Z , and hence pays a smaller cost. A 's efforts to improve Z 's institutional quality lead to a discount factor $\phi(e) = 1 - \eta e$ on the operational cost based on the external institutional quality α , with $\eta > 0$.

F 's utility is as follows:

$$U_F(k, g) = \begin{cases} [1 - \underbrace{\phi(e)\alpha}_{\text{Operational Cost}}]Tk - \frac{1}{2}k^2 - \underbrace{Gk}_{\text{Rents}} & \text{if } k > 0, g = 1 \\ (1 - \underbrace{\alpha}_{\text{Operational Cost}})Tk - \frac{1}{2}k^2 & \text{if } k > 0, g = 0 \\ 0 & \text{if } k = 0 \end{cases}$$

F 's productivity is captured by T . If F decides to invest in Z with an amount of capital k , $1 - \phi(e)\alpha$ of the investment enters production due to the operational cost $\phi(e)\alpha$. Hence, F 's revenue from producing in Z is $[1 - \phi(e)\alpha]Tk$. F also pays the capital cost $\frac{1}{2}k^2$ and the rents for being in Z : Gk . If F decides to invest in O , F 's revenue is $(1 - \alpha)Tk$, which will be equal to or smaller than the case in Z because O does not enjoy the same institutional superiority as Z . However, F does not need to pay zone rents if investing in O . Lastly, if F decides not to invest, its payoff is 0.

All parameters are public information.

Equilibrium The equilibrium concept is Subgame-Perfect Nash Equilibrium (SPNE). We provide an intuitive illustration of actors' equilibrium behaviors. The formal presentation of the equilibrium and the solution is in [Appendix A](#).

At the equilibrium, the leader's decision to adopt zones is determined by the tradeoff between the additional investment induced by zones and the political autonomy loss due to delegation. Delegating to a more biased agent leads to more institutional improvement within zones, motivating firms to invest more in zones. However, a more biased zone agent also means that the leader may have to give up control over important domestic policies, which could lead to domestic backlash. Therefore, the leader adopts zones only when the additional investment induced by zones exceeds the autonomy loss due to delegation.

To understand how the broad public institution shapes this choice, we analyze the

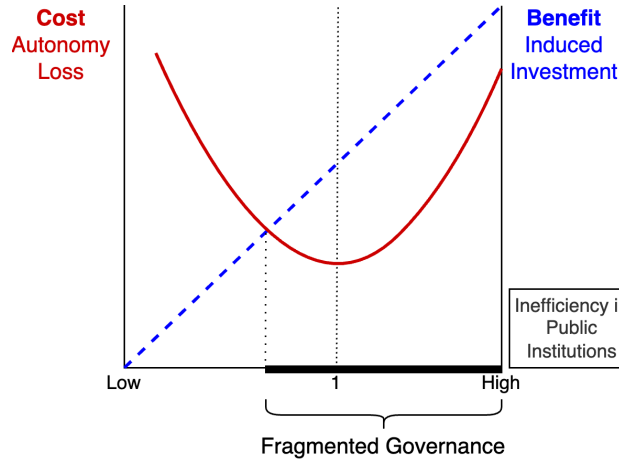


Figure 2. Cost and Benefits of Delegation to the Leader

Note: The x-axis represents the inefficiency in broader public institutions (α), with the left indicating low inefficiency and the right high inefficiency. The left y-axis represents the cost of delegation, which corresponds to the red solid curve. The right y-axis represents the benefit of delegation, corresponding to the blue dashed line.

leader's choice of agent bias under two circumstances. First, when the broader public institutions are so weak that no investment outside of the zone would be profitable for the firm, the leader needs a more biased agent to *correct* for inefficiencies in the public institutions. As the public institutions weaken, the needed agent bias increases because only more competent agents can afford to exert more effort to correct for the inefficiency and make zones a viable option for the firm. Second, when the broader public institutions are strong enough to make investing outside the zone profitable, the required agent bias increases as the public institution improves. Unlike the scenario above, the zone here is *competing* with the public institutions. Only more biased agents can afford to create a more competitive institutional setting for zones in an economy with an already efficient commercial environment. Therefore, the required agent bias (and the corresponding autonomy loss) follows a U-shaped curve conditional on the public institutions, represented by the red solid line in Figure 2.

The benefit of induced investment is shaped by the inefficiency that zones eliminate compared to the broader public institutions. As inefficiencies in the outside commercial

environment increase, zones have the potential to offer a greater degree of institutional efficiency and therefore induce more investment, which is illustrated by the blue dashed line in Figure 2.

In summary, with strong public institutions, zones only induce limited additional investment at the cost of high autonomy loss. However, when the public institutions are weak, zones can induce high enough additional investment to make up for the autonomy loss. As long as the induced investment exceeds autonomy loss (the horizontal black rug), zones are an attractive policy tool for leaders. As is shown in Figure 2, leaders adopt zones when the benefit of induced investment (blue dashed line) exceeds the cost of autonomy loss (red solid curve), represented by the space of the horizontal black rug. This suggests that as inefficiency in the broader public institutions increases, zones are more likely to be adopted.

Hypothesis 1 *Countries with weak institutions are more likely to create SEZs than countries with stronger institutions.*

As for the choice of agency bias, the optimality is achieved when the marginal cost of autonomy loss due to agency bias equals the marginal benefit of induced investment in zones. When inefficiency in public institutions increases, delegating to a more biased agent helps address more inefficiencies in zones. This allows zones to attract more investment, pushing up the marginal benefit of delegation. As such, leaders are willing to increase the marginal cost of delegation, leading to an increase in agent bias. Therefore, as the broader public institutional quality deteriorates, the zone agent is likely to be more biased in favor of business.

Hypothesis 2 *Countries with weaker institutions are more likely to delegate governance authority to private entities.*

Lastly, we investigate the heterogeneous effect of zones on structural change in the economy. As countries with weak institutions are more likely to adopt zones, and when

they do so, they tend to delegate zone governance to more biased agents, this means, at the equilibrium, zones in countries with weaker public institutions need to induce even more investment to make up for the high autonomy loss due to high agency bias. Given that zones are a form of industrial policy aiming for structural transformation, investment in zones can be interpreted as the means to achieve such goals. Hence, we expect zones to have a greater effect on structural change in countries with weaker institutions.

Hypothesis 3 *The marginal effect of zones on structural economic transformation is greater for countries with weaker institutions.*

Discussion While the model focuses on the optimal design of zones in the shadow of the existing broader public institutions, our model set-up abstracts away from the potential uncertainty that may lead to a withdrawal of the outsourced zone governance. This reappointment risk may undermine the commercial environment within zones and lead to a hold-up of investment into zones.

In our conceptualization, the design of zones *is not* intended to address the commitment problem. While political leaders can theoretically withdraw their appointment of zone agents under certain circumstances, it may not be in their interest to do so. To convince investors of the credibility of the commercial environment within zones, as our empirical evidence shows, leaders usually pair zone adoption with other hand-tying institutions such as bilateral investment treaties (BITs) ([Arias, Hollyer and Rosendorff, 2018](#)).

Theoretically, we can introduce a stage after the firm has made the investment decision where the leader decides whether to withdraw the agent appointment to address some random shock. With this change, the firm's investment decision takes into account that the zone institution may deteriorate with some probability. Hence, zones will not be as profitable, leading to a lower magnitude of investment in zones. Since zones become less profitable for leaders due to their inability to commit to policy certainty, only countries that benefit more from zones can still adopt zones. Hence, while this change leads to a

selection of more productive firms into zones and countries with weaker institutions to adopt this strategy, it does not change the fundamental logic of the model that countries with weak institutions are more likely to adopt zones.

4 The case of industrial park development in Uganda

Above, we argue that leaders of countries with weak public institutions are most incentivized to delegate commercial authority to zone managers in order to promote growth. In this section, we examine the case of Uganda to illustrate the political dynamics predicted by our theory above, before turning to the cross-national results. The case illustrates two important dimensions of our theory: both the impetus policymakers felt to segment commercial governance off from ineffective public bureaucracies, as well as the initial difficulty Uganda faced from a publicly-run SEZ program before seeking deeper private-sector involvement.

Uganda serves as an ideal testing ground given that it is a “hybrid regime” and electoral autocracy (Tripp, 2010). The regime’s early efforts at building legitimacy focused on security, which served to attract greater commercial activity (Rubongoya, 2007, 84-5), though Museveni initially maintained economic policies that provided for a large state presence. But Museveni changed course in the early 1990s and began a series of market-oriented reforms, including the privatization of previous parastatal companies (Oloka-Onyango and Barya, 1997, 125-6). Thus, from early on in his reign to the present, Museveni has sought to win the support of the domestic and international business class. As Mwenda (2007) writes, “the strongest business interests are those underwritten by multinational capital and the capital of the Indo-Ugandans who returned after Amin fell...for those interests to support the prodemocracy struggle would be to risk dispossession” (pp. 35-6).

In recent decades, Uganda has pursued reforms meant to boost manufacturing and export trade. Following efforts by other countries in the region (Tang, 2023), Uganda has

recently embarked on a policy of establishing special economic zones, often in the image of China's SEZs (Kibera, 2020). While Uganda had experimented with an industrial park in the capital city of Kampala in the early 2000s, little had been done elsewhere in the country. This changed around 2015. As outlined in Uganda's National Development Plan (i.e., "Uganda Vision 2040") in the lead-up to the 2016 election, the government outlined its intention to build more industrial parks in order to facilitate increasing "export[s] of processed agricultural commodities and simple manufactured goods" (p. 64 and 176).

In 2018, Uganda reformed the regulatory regime governing industrial zones. Consistent with the theory presented above, one of the key issues for the reform efforts was to alter the composition of the board with jurisdiction over the zones. The prior law was seen as inadequate in part because of the excessive reliance on the board for disinterested bureaucrats with little business experience. Moreover, the board had fairly broad representation from numerous other government agencies, with the private sector in the minority. As it was put by one member of Parliament when discussing inadequacies with the existing regime: "...we are trying to create a better environment for investment, middlemen are also becoming a problem to many of our foreign investors... [the ministries and departments] are just getting money out of these people and by doing so, they are chasing them [investors] out of this country." One member of Parliament complained that the original Board with jurisdiction over parks was staffed by "13 were old retired civil servants, and the time has come to consider people in business [to serve on the board]. There are those who are in investment and who can even advise as serious board members."³. Consistent with our expectations, Uganda reformed the program such that private sector representation on the board rose from 33% to 70% after the reform.

While sites were planned throughout the country by the Uganda Investment Authority, they were typically funded in partnership with foreign—typically Chinese—investors. As a result, between the 2016 and 2021 elections, 4 new zones were created throughout

³Parliament of Uganda, Hansard, 28 April 2018, p. 7

the country.⁴ A key aspect of this wave of zone development is the private nature of the zone management. Consistent with the theory presented above, we see Uganda delegate the daily operation of the parks to foreign investors whose preferences are more plausibly aligned with those of potential investors. Moreover, the zone managers can more effectively represent the investors' interests to the government. But beyond that, this policy has effectively privatized an aspect of Uganda's global commercial diplomacy. That is, the Chinese firms that have created these parks must now compete with each other in order to promote investment in their zones and profit from their own investments. One such firm, Tian Tang Group, advertises itself as such:

Tian Tang Group is familiar with Uganda's market ... and [has] a good external relationship with local government departments, trade associations, and financial institutions. We will play a leading role to demonstrate and promote the development of Chinese enterprises in Uganda.

Delegating everyday commercial governance to a private firm can effectively improve governance because the long-term benefits of providing good governance are internalized by the firm. This benefit was not lost on the Government. This logic was addressed directly in a recent parliamentary session. Evelyn Anite, an official from the Ministry of Finance, Planning and Economic Development at the time, put it, Uganda would

lease 619 acres to Mr Paul Zhang [a foreign investor and CEO of Tian Tang Group]. The understanding...is that the Government provides the infrastructure for the industrial park, but Mr Paul Zhang would have to travel abroad and attract investors to the park...he has not failed, and we have 50 factories there.⁵

President Museveni clearly considers these zones to be an important aspect of commercial governance in the country. He would frequently visit the groundbreaking ceremonies of the zones. For example, one visit to the Mbale Industrial Park during the 2020 presidential campaign was a highlight on TV news and noted Museveni's promise that the park

⁴These are the Sino-Uganda Mbale Industrial Park, Soroti Industrial Park, Liao Shen Industrial Park, and the Uganda-China Free Zone Park.

⁵Parliament of Uganda, Hansard, 3 October 2024, p. 14715.

would ultimately create 200,000 new jobs in the area. While the promises may be hyperbolic, it is clear that Museveni sees such economic zones as integral to not only promoting economic growth but also selling that growth to voters. In the following sections, we examine these features of the political economy of zone development on a cross-national panel of countries.

5 A global dataset of SEZs and relevant laws

We build an original dataset of the establishment of zones and laws governing them across Africa. Prior scholarship on zones has focused on their economic consequences and has generally relied on data that are either cross-national snapshots of active zones in a given year (Boyenge, 2007; Bost, 2010; UNCTAD, 2019) or single-country case studies (e.g., Busso, Gregory and Kline, 2013; Wang, 2013; Alkon, 2018; Grant, 2020).⁶ While the bulk of this paper is devoted to a close examination of zone construction in Africa specifically, a key contribution of this paper is that we build on prior efforts to construct a *global* dataset on special economic zones⁷ but expand them in three important ways. First, we identify the establishment history of each zone. This means that we can track the timing of zone establishment and construct a global panel data set of zones. Second, based on the laws and websites of authorities governing the zones, we track the zone governance structure at the country level. Finally, we correct errors and mistakes that we find in extant datasets and add zones that were not included in prior efforts.

To create the zone establishment date, we use the zone designation as a proxy. Information on the date of zone activation suffers severe missingness, largely because reporting on zones is scattered and heterogeneous across countries. By contrast, designation dates are more consistently available. We therefore use the date of designation as our primary

⁶One partial exception to this is Yücer and Siroën (2017) who collected data on the introduction of export-processing zone legislation globally over time.

⁷Specifically, those created by Adrianople Group (2021), which can be found at <https://www.openzonemap.com/>, and Boyenge (2007).

Figure 3. Total Number of Designated SEZs in Africa (2000 vs. 2024)

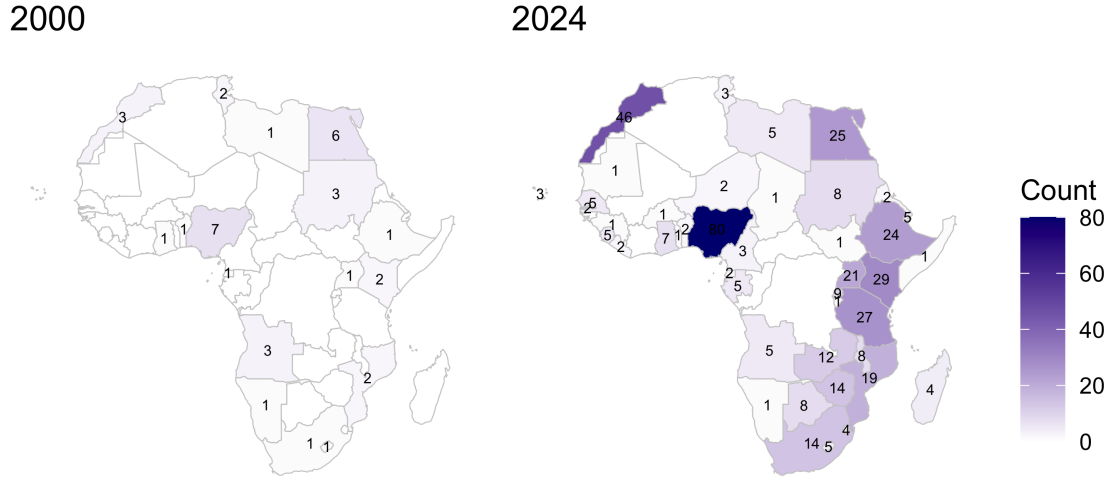
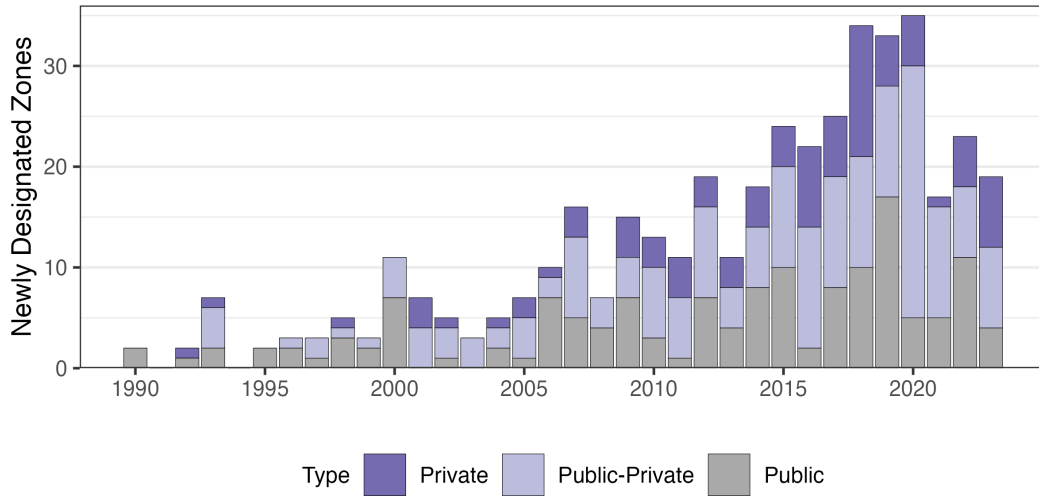


Figure 4. Growth of newly designated SEZs in Africa



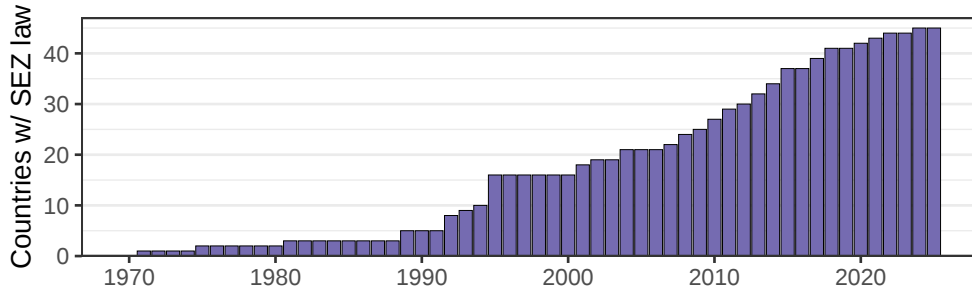
a sharp drop in 2020 when the COVID-19 outbreak started.

A second empirical contribution of our paper is a new panel dataset covering the universe of laws regulating special economic zones in Africa. We conducted web searches to identify and download all publicly available laws and regulations related to the governance of SEZs. Our search included laws that govern any kind of multi-firm place-based economic zones (i.e., we excluded single-firm export processing zones). We have identified and coded over 100 such laws in Africa; 45 countries on the continent have passed at least one law governing zones (see Figure 5).

The dataset captures information on specific features included in these laws, ranging from the structure of zone governance to regulatory exemptions granted to firms operating within zones. We document a wide degree of variation across different regulatory regimes. The most common benefit is exemption from tariffs (84%) or corporate income tax holidays (80%). Others include exemptions from national labor laws (40%), such as Nigeria's ban on labor strikes for employees of firms operating zones for 10-years or less. Other policy exemptions we track relate to issues such as migration, land acquisition, the environment, capital repatriation, and so on.

In addition to policy exemptions, we also find variation (and this is the subject of our

Figure 5. Increasing set of countries with SEZ laws



analyses below) on how governing authority over zones is structured. For example, the Nigerian rule banning labor strikes within zones was not written or passed by the Nigerian legislature. Rather, it was promulgated by the Nigeria Export Processing Zones Authority (NEPZA), the agency tasked with regulating zones in the country. Interestingly, NEPZA is also mandated to have the majority of its leadership composed of representatives from the private sector. Contrast this with other countries, such as South Africa, which grants its zone agency the power to only issue advice to the government ministry with jurisdiction over zones. A full list of variables included in the dataset is given in Appendix B. In what follows, we use these and other data to test the implications of our theory of zone development outlined above.

6 SEZs as an institutional substitute

In this section, we evaluate empirically how countries with weak legal institutions alter the design and intensity of their zone development regime in order to better substitute for a weak governance regime. Specifically, we find evidence that countries with weak legal institutions both build more zones and delegate more regulatory and administrative authority to agencies that exhibit a greater degree of embeddedness within the private sector.

Do countries with weak institutions build more zones? Table 1 presents a correlational analysis of the determinants of zone establishment in Africa. The outcome variable is the cumulative number of designated zones in a given year. Our key variable of interest is the quality of a country's domestic legal institutions. As our theory argues that leaders use zones to address their inability to commit to good commercial governance, the measure of democratic institutions needs to capture the governance aspect of democracy. Hence, we focus on a country's rule of law developed by the Varieties of Democracy project (Coppedge et al., 2018), which captures features closely connected to commerce-facilitating institutions (Li, Owen and Mitchell, 2018), such as contract enforcement, property rights protection, and a predictable legal environment. To improve readability, we flip the direction of the rule of law score, so higher values indicate lower quality legal institutions. We conduct robustness checks with other measures of democracy in Table A2 in the Appendix. We iteratively add other relevant factors into the regressions, including logged measures of population and GDP per capita, the number of bilateral investment treaties (BITs) and preferential trade agreements (PTAs) that are in force, a country's ideal point distance from China, and whether there is an election in the next year. We present estimates from OLS regressions with country and year-fixed effects. This means that we rely on within-country variation in the rule of law to predict changes in zone establishment.

Across all specifications, there is a consistently positive correlation between weak rule of law and the number of active zones in a country, and the significance becomes stronger as more control variables are included in the regression. We also find a positive association for the number of BITs in force, suggesting that BITs and zones are complementary, as they are both meant to improve the regulatory and contracting environment for foreign investment. Yet, we find the opposite for PTAs, which presents a stronger statistical significance. This is perhaps because many of the zones seek to attract investment by providing tariff exemptions. Often, these exemptions are tied to rules that limit the value of products that can be imported into the host country. This way, zones can act like a

Table 1. Countries with weaker rule of law tend to build more zones

	DV: N. of Designated Zones				
	(1)	(2)	(3)	(4)	(5)
Weak Rule of Law	0.23*	0.23*	0.26**	0.38***	0.38***
	(0.13)	(0.12)	(0.11)	(0.12)	(0.12)
Log GDP Per Capita		0.40*	0.41*	0.20	0.20
		(0.21)	(0.21)	(0.24)	(0.24)
Log Population		0.67	0.62	-0.17	-0.17
		(1.04)	(0.96)	(1.21)	(1.21)
N. of BITs			0.02**	0.02	0.02
			(0.01)	(0.01)	(0.01)
N. of PTAs			-0.04**	-0.09**	-0.09**
			(0.02)	(0.04)	(0.04)
Ideal Point Distance from China				-0.05	-0.05
				(0.20)	(0.20)
Election next year					-0.02
					(0.02)
Country FE	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
Observations	1,510	1,487	1,487	1,268	1,268

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Reports coefficients estimated using quasi-Poisson maximum likelihood. Standard errors clustered at the country level. Weak Rule of Law is defined as the standardized inverse of V-Dem's Rule of Law index, so higher values indicate weaker legal institutions.

tariff safety valve for countries seeking inbound investment but are unable or unwilling to lower protective tariffs for all firms. Zones and PTAs thus appear to serve as partial substitutes. In the last two columns of Table 1, we show that the relationship between the rule of law and the number of active zones is robust after controlling for a country's political distance from China and the upcoming election events. More specifically, despite the insignificance, we find that countries that are more politically distant from China based on the UNGA voting records (Bailey, Strezhnev and Voeten, 2017) tend to have fewer zones, which is consistent with the diffusion of zones along the political alignment. Figure A5 presents the results of the leave-one-country-out test based on Model (5) in Table 1 and shows that the baseline results are not driven by any single country.

Table 2. Robustness Check: Checks and Balances, Corruption, Clientelism

	DV: N. of Designated Zones							
	Checks and Balances				Clientelism		Corruption	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Weak Rule of Law		0.49** (0.19)		0.44*** (0.16)		0.26** (0.13)		0.38 (0.27)
Legislative Constraints _{VDem}	-0.43 (0.63)	0.65 (0.85)						
Political Constraints _{POLCON}			0.34 (0.42)	0.64 (0.40)				
Clientelism _{VDem}					1.42*** (0.47)	0.89* (0.49)		
Regime Corruption _{VDem}							1.16*** (0.44)	0.01 (1.01)
Country FE	✓	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Control	✓	✓	✓	✓	✓	✓	✓	✓
Num. obs.	1254	1254	1151	1151	1268	1268	1268	1268

Notes: Standard errors clustered at the country level. * p<0.1, ** p<0.05, *** p<0.01.

Table 2 shows the results of the robustness checks. One alternative explanation is that countries with a weak rule of law also have fewer checks and balances in their institutions, leading to a higher likelihood of zone designation by the executive. In Columns (1)-(4), we independently controlled for legislative constraints on the executive from VDem and the political constraint from the POLCON dataset. We do not find that political constraints on the executive play a significant role in the number of zone designations. After controlling for these political constraint measures, the coefficients of weak institutions are still positive and significant. Another alternative explanation is that zones are an effective policy tool to distribute benefits to key voters in exchange for political support. In Columns (5) and (6), we control for Clientelism Index from VDem. While countries with greater clientelism do have more zones, confirming this alternative explanation, we find that weak rule of law is still a statistically significant determinant of zone designation. This suggests that even if zones can be used as clientelist policy tools, good commercial governance within zones is still a necessary condition for the clientelist goal to be achieved. Lastly, we control for

regime corruption, which is an alternative measure for a weak commercial environment. In Columns (7) and (8), we find that corruption has a strong and statistically significant effect on zone designation, and the coefficient of weak rule of law becomes insignificant once we control for corruption. These patterns confirm our argument that the function of SEZs is to provide a circumscribed space with an improved commercial institutional efficiency compared to the rest of the economy.

Are zones designed differently across different institutional contexts? Our argument implies that countries with weaker institutions will delegate zone governance to agents with more pro-business biases. We rely on our original dataset of SEZ laws across Africa and focus on the share of the members leading the agency that are from the private sector. Some zone laws specify whether the agency leadership is required to sit with individuals who are not government officials, and many laws further specify the exact identity of the member to sit on the leadership board of a zone agency. We code the share of such individuals who are from the private sector. Given our theoretical expectation that countries with weaker institutions will be more likely to delegate to private actors, we expect a positive coefficient on the weak rule of law on the share of private-sector actors on the zone board.

The results are given in Table 3. We find broad support for our expectation that countries with weak legal institutions are more likely to have more private-sector actors on the zone governance board. Column (1) and (2) show the baseline results with different batteries of control variables. One standard deviation increase of weak rule of law score can lead to 6% increase in private-sector members on the zone board, which has a mean of 16.6% across all country-year pairs.

To investigate further this result, Columns (3) to (6) examine whether the results are driven by an alternative explanation of checks and balances. Countries with weak rule of law also tend to have more checks and balances on the executive, making it more difficult

Table 3. Weak Rule of Law and Private Governance

	DV: Share of Private Sector Member on Zone Board									
	Baseline		Checks and Balances				Clientelism		Corruption	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Weak Rule of Law	0.06*** (0.02)	0.06*** (0.02)		0.07*** (0.02)		0.06*** (0.02)		0.05*** (0.02)		0.05 (0.03)
GDP per capita	0.04 (0.05)	-0.04** (0.02)	-0.06* (0.03)	-0.04* (0.02)	-0.05* (0.02)	-0.04** (0.02)	-0.05** (0.02)	-0.04** (0.02)	-0.04** (0.02)	-0.04** (0.02)
Total Population	-0.11 (0.21)	0.04 (0.11)	0.03 (0.12)	0.05 (0.12)	0.07 (0.14)	0.03 (0.13)	0.04 (0.12)	0.04 (0.12)	0.04 (0.11)	0.04 (0.12)
N. of BITs		-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)
N. of PTAs		0.03** (0.01)	0.03** (0.01)	0.03** (0.01)	0.03** (0.01)	0.03** (0.01)	0.03** (0.01)	0.03** (0.01)	0.03** (0.01)	0.03** (0.01)
Chinn-Ito Financial Openness		0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.02 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
Legislative Constraints			-0.03* (0.02)	0.02 (0.02)						
Political Constraints (POLCON)					-0.01 (0.01)	0.01 (0.01)				
Clientelism							0.04** (0.02)	0.00 (0.02)		
Regime Corruption									0.05*** (0.02)	0.01 (0.03)
Country FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Num. obs.	867	816	811	811	775	775	816	816	816	816
Num. groups: cown	44	43	43	43	41	41	43	43	43	43
Num. groups: year	53	52	52	52	52	52	52	52	52	52
R ² (full model)	0.90	0.93	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.93
R ² (proj model)	0.12	0.37	0.30	0.36	0.30	0.38	0.33	0.37	0.35	0.37
Adj. R ² (full model)	0.89	0.92	0.91	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. R ² (proj model)	0.11	0.36	0.29	0.35	0.30	0.38	0.32	0.36	0.35	0.36

Standard errors clustered at the country level. * p<0.1, ** p<0.05, *** p<0.01.

to appoint private-sector members on the zone board. As shown in Columns (3) and (5), countries with stronger checks and balances do have a smaller share of private actor on zone board, and controlling for checks and balances in Columns (4) and (6), the effect of weak legal institutions still hold, suggesting that the zone board composition is not driven by institutional constraints.

In Columns (7) and (8), we examine the alternative explanation of clientelism. As the place-based nature of zones allows political leaders to target key voters geographically, and appointing private-sector actor on the zone board is an effective strategy to reward key voters, the previous result could be driven by this distributive concern. The results show that countries with stronger clientelism propensity do have a greater share of private actors on zone board, but this effect becomes statistically insignificant once we include weak rule of law into the regression model, and the baseline results hold after controlling for clientelism.

Last, we examine the role of corruption in Column (9) and (10). We use weak legal institution to capture the cost of doing business related to “everyday” governance problem, and one prevalent problem in daily business operation is corruption. Hence, we expect countries with a greater corruption problem to have more private-sector representation in the zone board. As expected, regime corruption has a statistically significant and positive coefficient on zone board composition. The coefficient of weak rule of law become insignificant once controlling for regime corruption, suggesting that the effect is channeled through corruption and confirming our expectation for the mechanism.

7 SEZs as an institutional shortcut to structural change

Data. In this section, we evaluate the impact of zone development on foreign direct investment and trade. Zones are also designed to incentivize foreign firms to increase investment and upgrade the kinds of products being manufactured for export. We then

Table 4. Zone establishment predicts increases in FDI flows and trade complexity

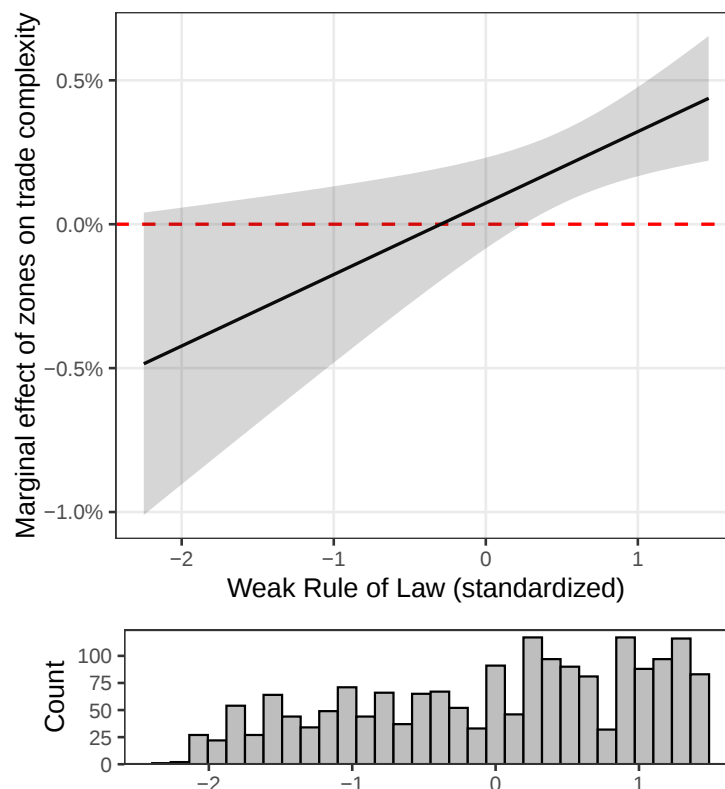
	FDI flows		Differentiated product share	
	(1)	(2)	(3)	(4)
Active zones	0.19*** (0.07)	0.19*** (0.07)	0.01 (0.01)	0.01 (0.01)
Active zones $\times$ Weak Rule of Law		0.03 (0.11)		0.02** (0.01)
Controls	✓	✓	✓	✓
Country FE	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Observations	1396	1396	1354	1354

Notes: *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$ Table present coefficients from OLS regression. Standard errors clustered by country. FDI data from World Bank Development Indicators. Trade data for columns 3 and 4 obtained from [Gaulier and Zignago \(2010\)](#) and products classified according to classification created by [Rauch \(1999\)](#). Weak Rule of Law is defined as the standardized inverse of V-Dem's Rule of Law index, so higher values indicate weaker legal institutions. Full results can be found in Appendix E.

examine whether zone development is associated with increased complexity of a country's export products. Rather than looking at overall trade, we expect zones to alter the kinds of products manufactured and exported from the country. We therefore examine whether the products that a country exports become more or less complex as the number of zones increases within the country. We examine this by calculating the share of products (by value) exported from the country that are differentiated, meaning they are not commodities traded on an exchange or tied to a reference price. We adopt the product classification developed by [Rauch \(1999\)](#). We merge this classification scheme with trade data at the 4-digit level obtained from [Gaulier and Zignago \(2010\)](#). We use OLS to regress these outcomes on zone activity interacted with our weak rule of law indicator, along with a variety of covariates and country and year fixed effects.

Results. The main results across our four outcomes are presented in Table 4. We first report a positive and statistically significant effect of zone development on FDI flows,

Figure 6. Zones exert a larger effect on the complexity of trade in countries with weaker rule of law institutions (based on results presented in Table 4, Column 4).



Notes: Shaded region represents 95% confidence intervals. Weak Rule of Law is defined as the standardized inverse of V-Dem's Rule of Law index, so higher values indicate weaker legal institutions. The range of weak rule of law corresponds to the observed range in the sample. Bottom panel plots a histogram of the Weak Rule of Law measure.

which comes out to a roughly .19 standard deviation increase in yearly FDI flows (that corresponds to an increase of roughly \$300 million). We then interact our measure of zone development with the standardized measure of rule of law weakness (i.e., higher values indicate a worse rule of law score). Although positive, the interactive effect is imprecisely estimated. In Columns 3-4, we replicate the same specification but instead regress the share of a country's exports in more complex, differentiated products. Here, we find a positive association between zone development and trade complexity, though it is statistically insignificant. In substantive terms, we find a 1 percentage point increase in the differentiated share for each standard deviation increase in zone development. In Column 4, however, we find that this positive association is increasing as a country's legal

institutions deteriorate. Figure 6 plots the marginal effect of each new zone development on trade complexity across differing levels of rule of law strength. We find that the positive effect of zone development on trade complexity is concentrated within countries at or above the mean in rule of law weakness (this is, at or below roughly .4 on the V-Dem Rule of Law index). While there is little effect at the mean, countries that are 1 standard deviation above the mean see an increase in average trade complexity of roughly 0.25% per zone. The estimates presented here are consistent across a variety of specifications for each outcome (see Appendix E). Overall, we interpret these results to suggest that while zones have similar impacts on FDI in general, the effect on the relative productivity of FDI is greater when countries have lower capacity public institutions. This suggests that zones can help countries overcome their institutional disadvantages when seeking to integrate into global markets.

8 Conclusion

In this paper, we present two new panel datasets on the establishment and legal frameworks governing special economic zones across Africa. Using these data, we document the expansion of zone development on the continent and argue that such place-based industrial policy can help countries compensate for weaknesses in their broader commercial governance institutions. Consistent with this argument, we find that countries with weaker institutions are more likely to designate a larger number of zones and to delegate zone governance to private-sector actors whose expertise can lead to more pro-business policy-making. We also show that zone development is associated with improvements in the complexity of a country's export profile and that this relationship strengthens as institutional quality declines.

Distinct from the previous studies that conceptualize industrial policy as development engine (Wang, 2013; Alkon, 2018; Tang, 2023) and distributive tool (McGillivray, 2004;

[Rickard, 2018](#); [Grant, 2020](#); [Hai, 2025](#)), we show that the design of industrial policy may also be driven by the need to substitute for inefficiency in domestic institutions. While the conventional wisdom of the relationship between institution and global capitalism suggests that institutions like democracy, property right protection, and rule of law are necessary conditions for economic growth ([Li and Resnick, 2003](#); [Li, Owen and Mitchell, 2018](#); [Nunn, 2007](#)), we show that an innovative arrangement of parallel institutions can break this relationship. By carving out a circumscribed space and establishing a distinct commercial environment, leaders can achieve global economic integration without undertaking costly nationwide liberal reforms to improve commercial governance.

While we focus on the institutional substitution function of zones in this paper, this perspective is not contradictory to the developmental or distributive functions of zones. Instead, our paper explains why zones become the form of industrial policy being taken and under what conditions zones can be effective policy tools for growth and distribution. Although it is beyond the scope of this paper to explain how zones are used for distributive purposes, who the winners and losers are, and when zones can effectively contribute to development, our paper points to one pathway of how zones can be captured: economic elites may take advantage of weak state capacity to isolate a new space to establish a distinct environment that is friendly to the operation of their capital, potentially at the cost of state power and citizen welfare.

Considering the existing focus on growth prospects in SEZ studies by previous scholars and policymakers ([World Bank Group, 2017](#)), the institutional substitute function of these zones suggests that a more comprehensive investigation is needed to understand the broader impact of zones. With outsourced governance to private entities in circumscribed spaces and diminished incentives to improve commercial governance in the rest of the economy, we may witness a withdrawal from democratic institutions, deterioration of state regulatory power and legal infrastructure, enlarged national inequality, and overlooked citizen welfare ([Slobodian, 2023](#)). Such potential points to the underlying

negative consequences of embeddedness in industrial policy, an often attributed source for the success of East Asian industrial policy ([Evans, 1995](#)). As zones are still gaining unprecedented popularity as a policy tool at the global scale, the urgency to understand the broader impact of zones constitutes a promising space for future research.

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Appendix for “The Political Economy of Place-Based Industrial Policy in Africa”

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A Model Equilibrium

Let $\phi(e) = 1 - \eta e$, where $\eta > 0$ and $e \leq \frac{1}{\eta}$. Assume that $\eta < (\frac{\delta}{T^3})^{\frac{1}{4}}$ and $\alpha^{max} = (\frac{\delta}{\eta^4 T^3})^{\frac{1}{3}}$.

L 's strategy is

$$(s^*, b^*) = \begin{cases} (1, \frac{\alpha^2 \eta^2 T^2}{\delta}) & \text{if } \begin{cases} \alpha \leq 1 \text{ (O is profitable for F)} \\ \alpha \geq (\frac{\delta G}{\eta^4 T^4})^{\frac{1}{4}} \text{ (Z is more profitable than O for F)} \\ \alpha \geq (\frac{2\delta G}{\eta^4 T^4})^{\frac{1}{4}} \text{ (Z is more profitable than O for L)} \\ \alpha \leq (\frac{\delta}{\eta^4 T^3})^{\frac{1}{3}} \text{ (Max e)} \end{cases} \\ (1, \frac{\alpha^2 \eta^2 T^2}{\delta}) & \text{if } \begin{cases} \alpha > 1 \text{ (O is not profitable for F)} \\ \frac{\eta^4 T^4}{\delta} \alpha^4 - T\alpha + (T - G) \geq 0 \text{ (Z is profitable for F)} \\ \frac{\eta^4 T^4}{\delta} \alpha^4 - 2T\alpha + 2(T - G) \geq 0 \text{ (Z is more profitable than O for L)} \\ \alpha \leq (\frac{\delta}{\eta^4 T^3})^{\frac{1}{3}} \text{ (Max e)} \end{cases} \\ (0, 0) & \text{otherwise} \end{cases}$$

A 's strategy is

$$e^* = \begin{cases} b\alpha\eta T =: e_{int}^* & \text{if } \alpha \leq 1, b \geq \frac{G}{\alpha^2 \eta^2 T^2} \\ b\alpha\eta T =: e_{int}^* & \text{if } \alpha > 1, b \geq \frac{G - (1 - \alpha)T}{\alpha^2 \eta^2 T^2} \\ \frac{G}{\alpha\eta T} =: e_{bind}^* & \text{if } \alpha \leq 1 - \frac{G}{2T}, \frac{G^2}{2(1 - \alpha)T} \frac{1}{\alpha^2 \eta^2 T^2} \leq b < G \frac{1}{\alpha^2 \eta^2 T^2} \\ 0 & \text{otherwise} \end{cases}$$

F 's strategy is

$$(k_Z^*, k_O^*, g^*) = \begin{cases} (T(1 - \phi(e)\alpha) - G, T(1 - \alpha), 1) & \text{if } \alpha \leq 1, \phi(e) \leq \frac{1 - \frac{G}{T}}{\alpha}, \phi(e) \leq 1 - \frac{G}{T\alpha} \\ (T(1 - \phi(e)\alpha) - G, T(1 - \alpha), 0) & \text{if } \alpha \leq 1, \phi(e) \leq \frac{1 - \frac{G}{T}}{\alpha}, \phi(e) > 1 - \frac{G}{T\alpha} \\ (T(1 - \phi(e)\alpha) - G, 0, 1) & \text{if } \alpha > 1, \phi(e) \leq \frac{1 - \frac{G}{T}}{\alpha} \\ (0, T(1 - \kappa_\alpha), 0) & \text{if } \alpha \leq 1, \phi(e) > \frac{1 - \frac{G}{T}}{\alpha} \\ (0, 0) & \text{if } \alpha > 1, \phi(e) > \frac{1 - \frac{G}{T}}{\alpha} \end{cases}$$

Using backward induction, we start with F 's optimization problem. F 's optimal non-zero investment in Z and O is

$$k_Z^* = (1 - \alpha + \eta e \alpha)T - G, \quad k_O^* = (1 - \alpha)T$$

The left panel of Figure A1 presents F 's parameter space. The X-axis corresponds to the institutional quality in O , with the left indicating a better quality than the right. The Y-axis corresponds to the institutional improvement factor due to A 's effort, with the lower side indicating greater improvement. The vertical dotted line corresponds to the threshold of

investment in O , with the left of the threshold representing the space where investing in O is profitable for F . In other words, when $\alpha \geq 1$, investing in O is not profitable and $k_O^* = 0$. When $\alpha < 1$, investing in O is profitable and $k_O^* > 0$. The red curve ($\phi(e) = \frac{1-\frac{G}{T}}{\alpha}$) corresponds to the threshold of investment in Z , below which investing in Z is profitable for F . Hence, when the outside institution is not good enough ($\alpha > 1$), Z is the only way for investment to happen if the institutional improvement is great enough. When both the outside institution ($\alpha \leq 1$) and the institutional improvement ($\phi(e) < \frac{1-\frac{G}{T}}{\alpha}$) are strong enough, both Z and O are profitable for F . The blue curve ($\phi(e) = 1 - \frac{G}{T\alpha}$) corresponds to the indifference curve between investing in Z and O , below which Z is more profitable than O . Hence, F invests in Z over O when Z provides strong enough institutional superiority compared to existing institutions.

We can see that the level of institutional improvement for F to invest in Z ($g^* = 1$) follows a U-shape relationship with the quality of outside institutions, represented by the solid curves in the left panel of Figure A1. On the left ($\alpha < 1$), as the outside institution improves, more institutional improvement is required for Z to provide a more competitive investment environment than O . On the right ($\alpha \geq 1$), as the outside institution deteriorates, more institutional improvement is required to correct for the existing inefficiency.

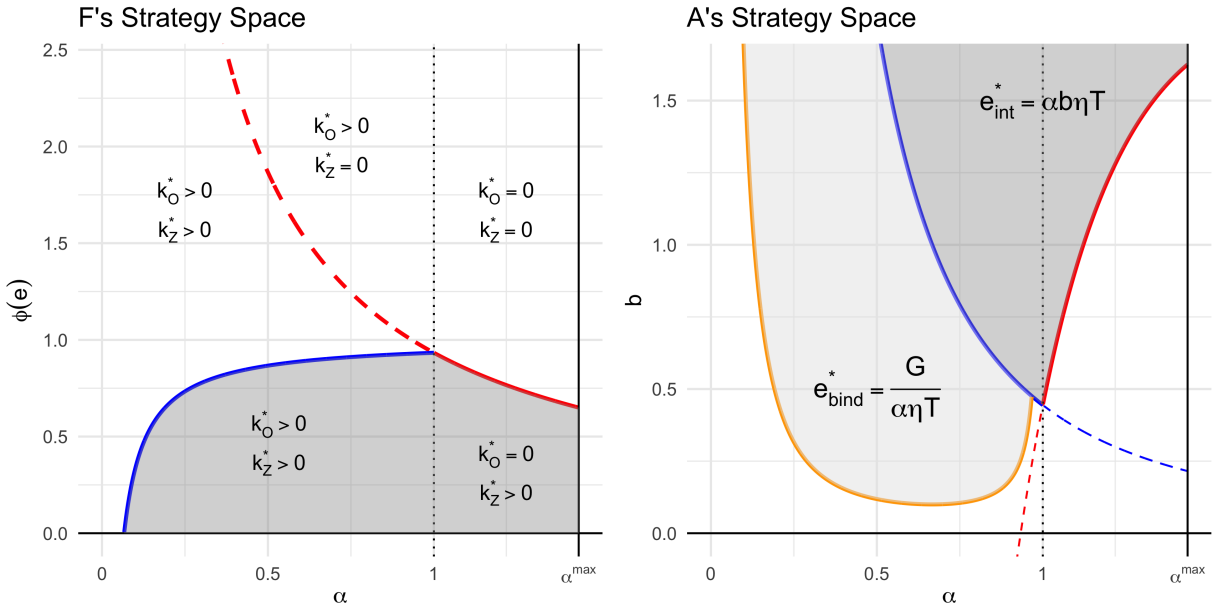


Figure A1. F and A 's Strategy Space

$\eta = 0.1, \delta = 1, G = 1, T = 15$.

Note: The darker shaded space is when Z 's institution is efficient enough that F invests in Z . The lighter shaded space is when F is indifferent between Z and O . The blue curve is the indifference curve for F between investing in Z and O . The red curve is the indifference curve for F between investing in Z and not investing. The orange curve is the indifference curve for A between exerting effort e_{bind}^* and not exerting effort.

Now, we turn to A 's optimization problem. A balances the benefits of investment flows

to Z against the cost to improve Z 's institutional quality. The right panel of Figure A1 shows the parameter spaces of A 's optimal strategy. When investment in O is profitable for F ($\alpha \leq 1$), A exerts efforts

$$e^* = b\alpha\eta T =: e_{int}^*$$

so that F chooses Z over O . We can see that a more biased A exerts more efforts and that as the outside institution weakens ($\alpha \uparrow$), A 's effort increases. e_{int}^* is only feasible when A is biased enough: $b \geq \frac{G}{\alpha^2\eta^2T^2}$, which is captured by the space above the blue curve. From the shape of the blue curve, we also see that as the outside institution improves, the threshold of bias for A to exert efforts increases. This is because when the outside institution is good enough, F calls for better institutional quality within zones, leading to only A with greater pro-business bias to be capable of governing Z .

When investment in O is not profitable for F ($\alpha > 1$), A also exerts efforts e_{int}^* , but the threshold of bias becomes $b \geq \frac{G-(1-\alpha)T}{\alpha^2\eta^2T^2}$, which is represented by the red curve in right panel of Figure A1. As the outside institution worsens, greater institutional improvement is needed for Z to be profitable for F . This increases the threshold of bias, as only the more biased agents are capable of correcting for the inefficiency in the existing institutions.⁸

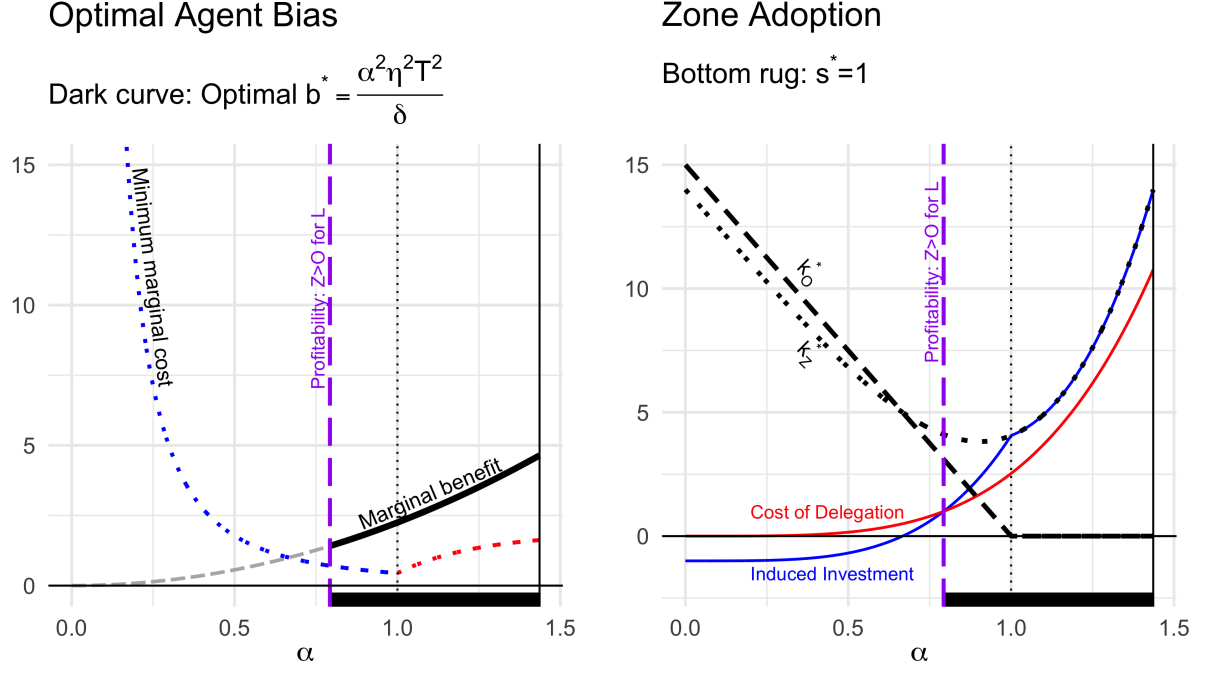
Lastly, when both Z and O are profitable for F , but only O is chosen based on e_{int}^* , A can exert efforts

$$e^* = \frac{G}{\alpha\eta T} =: e_{bind}^*$$

to make F indifferent between Z and O . This strategy is only profitable for A with $b \in [\frac{G^2}{2(1-\alpha)T\alpha^2\eta^2T^2}, G\frac{1}{\alpha^2\eta^2T^2})$, which is represented by the lighter shaded space in Figure A1. This happens only when the outside institutional quality is good enough ($\alpha \leq 1 - \frac{G}{2T}$). Under this scenario, A 's bias does not affect the level of efforts exerted, and improvements in the outside institutional quality lead to greater efforts by A because A 's efforts aim to make Z as competitive as O .

Finally, we analyze L 's strategy. From L 's utility function, we know that $s^* = 0$ if $g^* = 0$, and $s^* = 1$ if $g^* = 1$. Hence, we can transform L 's optimization problem to the optimal choice of b , which is obtained when the marginal benefit of investment in Z with respect to an additional unit of agent bias is equal to the marginal cost of a more biased agent. The left panel of Figure A2 presents how the optimal bias is obtained. The dotted blue and red curves are the marginal cost of delegation at the minimal agency bias for Z to be chosen by F , which is obtained from the right panel of Figure A1. As $k_Z^*(e_{int}^*) = (1 - \alpha)T - G + b\alpha^2\eta^2T^2$, the marginal benefit of delegation is $\alpha^2\eta^2T^2$, which is represented by the gray and black curve. When the marginal benefit curve is greater than the marginal cost curve, L can increase agency bias to achieve a higher profit until the

⁸Worsened outside institution also reduces the bias threshold because a greater α increases A 's effort at the equilibrium, which increases the institutional improvement and reduces the required agent bias. As discussed in Appendix A, which of these two countervailing effects dominates is determined by F 's productivity. In Figure A1, we assume that $T \geq G + \frac{1}{2}(\frac{\delta}{\eta^4})^{\frac{1}{3}}$, suggesting that F is highly productive. Figure A3 shows the cases when F is moderately productive ($2G \leq T < G + \frac{1}{2}(\frac{\delta}{\eta^4})^{\frac{1}{3}}$) and of limited productivity ($T < 2G$).



$$\eta = 0.1, \delta = 1, T = 15, G = 1$$

Figure A2. L 's Optimal Zone Design and the Optimal Investment Under the Design

point when the marginal benefit equals the marginal cost of delegation. This happens at the black solid curve. Hence, we obtain the optimal agency bias $b^* = \frac{\alpha^2 \eta^2 T^2}{\delta}$. As the outside institution quality deteriorates, the optimal agency bias increases.

Given the optimal choice of agency bias, we can now analyze the conditions of zone adoption. The right panel of Figure A2 presents the condition under which L adopts Z .⁹ L trades zone benefits of induced investment inflows with the autonomy loss due to delegation. The blue solid curve represents the benefit of adopting zones, the induced investment: $k_Z^* - k_O^*$. This blue curve is obtained by subtracting k_O^* (the black dashed line) from k_Z^* (the black dotted line). The red solid curve represents the cost of autonomy loss due to delegation, which is the cost component $\frac{1}{2}\delta b^2$ in L 's utility function. L adopts Z when the induced investment exceeds the cost of delegation (to the right of the purple dashed vertical line). Therefore, countries with weaker outside institutions are more likely to adopt zones.

Solution We solve the model using backward induction.

F 's Optimization Problem

⁹The pattern in Figure A2 holds when the autonomy loss is of a moderate range ($\delta \in (\eta^4 T^3, \frac{128}{27}\eta^4(T-G)^3]$) and when F 's productivity is high enough ($T \geq \frac{4 \times 2^{\frac{1}{3}}}{4 \times 2^{\frac{1}{3}} - 3}G$). The calculation is in Appendix A.

F 's optimal investment if $g = 1$ satisfies $\frac{\partial U_F(k_Z^*, g=1)}{\partial k} = T(1 - \phi(e)\alpha) - k_Z^* - G = 0$

$$K_Z^* = T(1 - \phi(e)\alpha) - G$$

This is feasible when $1 - \phi(e)\alpha \geq \frac{G}{T}$. F 's profit is

$$\pi_Z^* = \frac{1}{2}[T(1 - \phi(e)\alpha) - G]^2$$

F 's optimal investment if $g = 0$ satisfies $\frac{\partial U_F(k_O^*, g=0)}{\partial k} = T(1 - \alpha) - k_O^* = 0$

$$k_O^* = T(1 - \alpha)$$

This is feasible when $\alpha \leq 1$. F 's profit is

$$\pi_O^* = \frac{1}{2}[T(1 - \alpha)]^2$$

When both Z and O are feasible, F chooses Z over O ($g = 1$) when $\pi_Z^* \geq \pi_O^*$, which is

$$\phi(e) \leq 1 - \frac{G}{T\alpha} =: \bar{\phi}(e)$$

Therefore, when the outside institutional quality increases, F requires greater institutional improvement within zones ($\phi(e) \downarrow$).

F 's strategy is

$$(k_Z^*, k_O^*, g^*) = \begin{cases} (T(1 - \phi(e)\alpha) - G, T(1 - \alpha), 1) & \text{if } \alpha \leq 1, \phi(e) \leq \frac{1 - \frac{G}{T}}{\alpha}, \phi(e) \leq 1 - \frac{G}{T\alpha} \\ (T(1 - \phi(e)\alpha) - G, T(1 - \alpha), 0) & \text{if } \alpha \leq 1, \phi(e) \leq \frac{1 - \frac{G}{T}}{\alpha}, \phi(e) > 1 - \frac{G}{T\alpha} \\ (T(1 - \phi(e)\alpha) - G, 0, 1) & \text{if } \alpha > 1, \phi(e) \leq \frac{1 - \frac{G}{T}}{\alpha} \\ (0, T(1 - \kappa_\alpha), 0) & \text{if } \alpha \leq 1, \phi(e) > \frac{1 - \frac{G}{T}}{\alpha} \\ (0, 0) & \text{if } \alpha > 1, \phi(e) > \frac{1 - \frac{G}{T}}{\alpha} \end{cases}$$

A 's Optimization Problem

Now, we turn to A 's optimization problem: $\frac{\partial U_A}{\partial e} = g \frac{\partial k^*}{\partial e} - \frac{1}{b}e$. Let $\phi(e) = 1 - \eta e$ subject to $\eta > 0$ and $e \leq \frac{1}{\eta}$. When $g = 0$, $e_0^* = 0$. When $g = 1$,

$$e_{int}^* = b \frac{\partial k_Z^*}{\partial e} = b\alpha\eta T$$

Hence, $\frac{\partial e_{int}^*}{\partial b} > 0$, $\frac{\partial e_{int}^*}{\partial \alpha} > 0$, and $\phi(e_{int}) = 1 - b\alpha T\eta^2$.

e_{int}^* is relevant under two cases. First, $k_O^* = 0$, and $k_Z^* > 0$. This requires that

$$\alpha > 1, \text{ and } \phi(e) \leq \frac{1 - \frac{G}{T}}{\alpha}$$

which means $\alpha > 1$ and $b \geq \frac{G-(1-\alpha)T}{\alpha^2\eta^2T^2}$. Second, $K_O^* > 0$, $K_Z^* > 0$, and F chooses Z over O . This requires that

$$\alpha \leq 1, \phi(e) \leq \frac{1 - \frac{G}{T}}{\alpha}, \text{ and } \phi(e) \leq 1 - \frac{G}{T}$$

which means $\alpha \leq 1$, and $b \geq \frac{G}{\alpha^2\eta^2T^2}$.

In the second case, when $\frac{G-(1-\alpha)T}{\alpha^2\eta^2T^2} \leq b < \frac{G}{\alpha^2\eta^2T^2}$, Z is not as good as O for F . A can choose

$$e_{bind}^* = \frac{G}{\alpha\eta T}$$

to make F indifferent between Z and O , as long as doing so is profitable: $U_A(e_{bind}^*) \geq U_A(e = 0) = 0$. Hence, we need $b \geq \frac{G^2}{2(1-\alpha)\alpha^2\eta^2T^3}$. This threshold needs to fall within the admissible range of b , which means $\frac{G^2}{2(1-\alpha)\alpha^2\eta^2T^3} \leq \frac{G}{\alpha^2\eta^2T^2}$.¹⁰ We obtain $T \geq \frac{G}{2(1-\alpha)}$ or, equally, $\alpha \leq 1 - \frac{G}{2T}$.

Therefore, A 's strategy is

$$e^* = \begin{cases} b\alpha\eta T =: e_{int}^* & \text{if } \alpha \leq 1, b \geq \frac{G}{\alpha^2\eta^2T^2} \\ b\alpha\eta T =: e_{int}^* & \text{if } \alpha > 1, b \geq \frac{G-(1-\alpha)T}{\alpha^2\eta^2T^2} \\ \frac{G}{\alpha\eta T} =: e_{bind}^* & \text{if } \alpha \leq 1 - \frac{G}{2T}, \frac{G^2}{2(1-\alpha)T} \frac{1}{\alpha^2\eta^2T^2} \leq b < G \frac{1}{\alpha^2\eta^2T^2} \\ 0 & \text{otherwise} \end{cases}$$

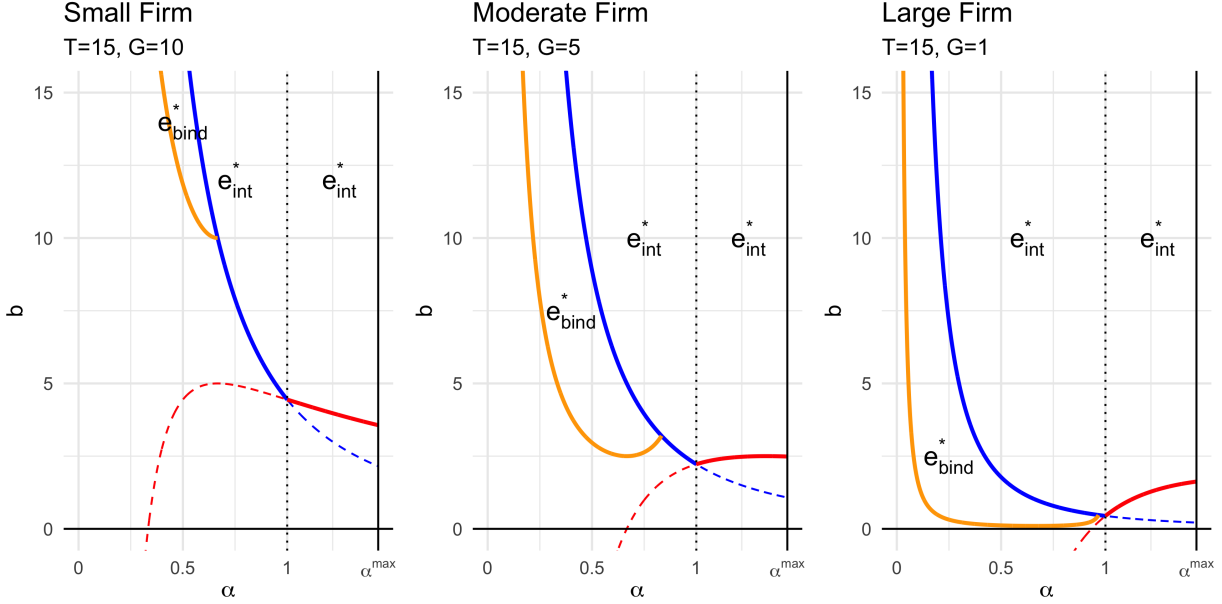
Figure A3 shows A 's parameter space with different levels of firm productivity. Consider the space for e_{int}^* . First, as F becomes more productive, holding everything else

constant, the required bias reduces ($\frac{\partial \frac{G}{\alpha^2\eta^2T^2}}{\partial T} < 0$, $\frac{\partial \frac{G-(1-\alpha)T}{\alpha^2\eta^2T^2}}{\partial T} < 0$). Second, F 's productivity also shapes the relationship between α and the bias threshold. α has two countervailing effects on the bias threshold. On the one hand, as α increases, more institutional improvement within zones is required to make Z profitable for F , which increases the bar of agent bias. On the other hand, as α increases, the equilibrium effort that A exerts increases, which reduces the need for more biased agents and reduces the bias threshold.

Given that $\frac{\partial \frac{G-(1-\alpha)T}{\alpha^2\eta^2T^2}}{\partial T} = \frac{2(G-T)-T\alpha}{\alpha^3\eta^2T^2}$, when $\alpha \leq \frac{2(T-G)}{T}$, the threshold-increasing effect dominates, and when $\alpha > \frac{2(T-G)}{T}$, the threshold-reducing effect dominates. As $\alpha \in [1, \alpha^{max}]$, which effect is present and dominates is determined by F 's productivity. When F is of limited productivity ($T \leq 2G$)—represented by the red curve in the left panel of Figure

¹⁰We also requires that Z is profitable under e_{bind}^* , which means $\phi(e_{bind}^*) \leq \frac{1 - \frac{G}{T}}{\alpha}$. We obtain $\alpha \leq 1$.

A3—only the threshold-reducing effect is available. When F is of moderate productivity ($2G < T \leq \frac{2G}{2-\alpha^{\max}}$), represented by the red curve in the middle panel of Figure A3, as α increases, the threshold-increasing effect dominates first and then the threshold-reducing effect overrides. When F is highly productive ($T > \frac{2G}{2-\alpha^{\max}}$), only the threshold-increasing effect is present, as is represented by the red curve in the right panel of Figure A3.



$$\eta = 0.1, \delta = 1, \gamma = 0.1$$

Figure A3. A 's Strategy Space: Heterogeneous Firm Productivity

L 's Optimization Problem

For L , we examine the optimization problem with respect to s first. When $g = 0$, $U_L(g = 0) = (1 - s)k - \frac{1}{2}\delta b^2$. Hence, $s_0^* = 0$ and $b_0^* = 0$.

When $g = 1$, $U_L(g = 1) = sk - \frac{1}{2}\delta b^2$. Hence, $\frac{\partial U_L(g=1)}{\partial s} = k$. We have $s_1^* = 1$. We can transform L 's optimization problem to be a choice of b : $U_L(s^* = 1) = k - \frac{1}{2}\delta b^2$. We consider L 's optimal choice of b and whether L decides to use Z under the following three cases.

Case 1: $e^* = e_{\text{int}}^* = b\alpha\eta T$ when $\alpha \leq 1$, $b \geq \frac{G}{\alpha^2\eta^2T^2}$, and $e_{\text{int}}^* < \frac{1}{\eta}$.

$$k_Z^*(e_{\text{int}}^*) = (1 - \alpha)T - G + b\alpha^2\eta^2T^2$$

L 's optimization problem with respect to b is $\frac{\partial U_L(e_{\text{int}}^*)}{\partial b} = \frac{\partial k_Z^*(e_{\text{int}}^*)}{\partial b} - \delta b = 0$. We have

$$b_{11}^* = \frac{\alpha^2\eta^2T^2}{\delta}$$

From $\frac{\partial b_{11}^*}{\partial \alpha} > 0$, we know that as α increases, L is likely to delegate to more biased agent.

For this strategy to work, we need

$$b_{11}^* \geq \frac{G}{\alpha^2 \eta^2 T^2} \text{ and } e_{int}^*(b_{11}^*) < \frac{1}{\eta}$$

We obtain $\alpha \geq (\frac{\delta G}{\eta^4 T^4})^{\frac{1}{4}}$ and $\alpha \leq (\frac{\delta}{\eta^4 T^3})^{\frac{1}{3}}$. Under this case, b_{11}^* will be chosen if $U_L(g = 1|b_{11}^*) \geq U_L(g = 0|b_0^*)$, which gives us

$$\alpha \geq (\frac{2\delta G}{\eta^4 T^4})^{\frac{1}{4}}$$

This suggests that when both Z and O are profitable, and Z is more profitable than O for F , L uses Z when the outside institution is not good enough.

Case 2: $e^* = e_{int}^* = b\alpha\eta T$ when $\alpha > 1$, $b \geq \frac{G-(1-\alpha)T}{\alpha^2\eta^2 T^2}$. Similar to the previous case, we obtain $k_Z^*(e_{int}^*) = (1-\alpha)T - G + b\alpha^2\eta^2 T^2$ and the optimal bias $b_{11}^* = \frac{\alpha^2\eta^2 T^2}{\delta}$. For this strategy to work, we need

$$b_{11}^* \geq \frac{G-(1-\alpha)T}{\alpha^2\eta^2 T^2} \text{ and } e_{int}^*(b_{11}^*) < \frac{1}{\eta}$$

We obtain $\frac{\eta^4 T^4}{\delta} \alpha^4 - T\alpha + (T-G) \geq 0$ and $\alpha \leq (\frac{\delta}{\eta^4 T^3})^{\frac{1}{3}}$. Under these conditions, L chooses Z when $U_L(g = 1|b_{11}^*) \geq U_L(g = 0|b_0^*) = 0$, which gives us

$$\frac{\eta^4 T^4}{\delta} \alpha^4 - 2T\alpha + 2(T-G) \geq 0$$

Case 3: $e^* = e_{bind}^* = \frac{G}{\alpha\eta T}$ when $\alpha \leq 1 - \frac{G}{2T}$, $b \in [\max\{\frac{G^2}{2(1-\alpha)T} \frac{1}{\alpha^2\eta^2 T^2}, \frac{G-(1-\alpha)T}{\alpha^2\eta^2 T^2}\}, \frac{G}{\alpha^2\eta^2 T^2})$.

$$k_Z^*(e_{bind}^*) = (1-\alpha)T$$

L 's optimization problem with respect to b is $\frac{\partial U_L(e_{bind}^*)}{\partial b} = -\delta b$. Hence, the optimal level of bias is

$$b_{12}^* = 0$$

As a result, the optimal level of Z is

$$s_{12}^* = 0$$

To avoid the functional form of $\phi(e)$ from constraining the parameter space, we assume that $(\frac{\delta}{\eta^4 T^3})^{\frac{1}{3}} > 1$, suggesting that $\eta < (\frac{\delta}{T^3})^{\frac{1}{4}}$. This means that $\alpha^{max} = (\frac{\delta}{\eta^4 T^3})^{\frac{1}{3}}$. Therefore, L 's

strategy is

$$(s^*, b^*) = \begin{cases} \left(1, \frac{\alpha^2 \eta^2 T^2}{\delta}\right) & \text{if } \begin{cases} \alpha \leq 1 \text{ (O is profitable for F)} \\ \alpha \geq \left(\frac{\delta G}{\eta^4 T^4}\right)^{\frac{1}{4}} \text{ (Z is more profitable than O for F)} \\ \alpha \geq \left(\frac{2\delta G}{\eta^4 T^4}\right)^{\frac{1}{4}} \text{ (Z is more profitable than O for L)} \\ \alpha \leq \left(\frac{\delta}{\eta^4 T^3}\right)^{\frac{1}{3}} \text{ (Max e)} \end{cases} \\ \left(1, \frac{\alpha^2 \eta^2 T^2}{\delta}\right) & \text{if } \begin{cases} \alpha > 1 \text{ (O is not profitable for F)} \\ \frac{\eta^4 T^4}{\delta} \alpha^4 - T\alpha + (T - G) \geq 0 \text{ (Z is profitable for F)} \\ \frac{\eta^4 T^4}{\delta} \alpha^4 - 2T\alpha + 2(T - G) \geq 0 \text{ (Z is more profitable than O for L)} \\ \alpha \leq \left(\frac{\delta}{\eta^4 T^3}\right)^{\frac{1}{3}} \text{ (Max e)} \end{cases} \\ (0, 0) & \text{otherwise} \end{cases}$$

We impose the following assumptions to constrain our attention to cases where the cost of delegation (δ) is at a moderate level so that Z is not deterred.

First, to make sure that Z is relevant to L with $\alpha > 1$, we assume that $\left(\frac{\delta}{\eta^4 T^3}\right)^{\frac{1}{3}} > 1$, which means that $\delta > \eta^4 T^3$.

Second, to make Z more profitable than O for L at the equilibrium when $\alpha > 1$, we assume that $\frac{\eta^4 T^4}{\delta} \alpha^4 - 2T\alpha + 2(T - G) \geq 0$ always holds, which means $\delta \leq \frac{128}{27} \eta^4 (T - G)^3$. This also requires that $\eta^4 T^3 < \frac{81}{16} \eta^4 (T - G)^3$, which means $3T \leq 4 \times 2^{\frac{1}{3}} (T - G)$.

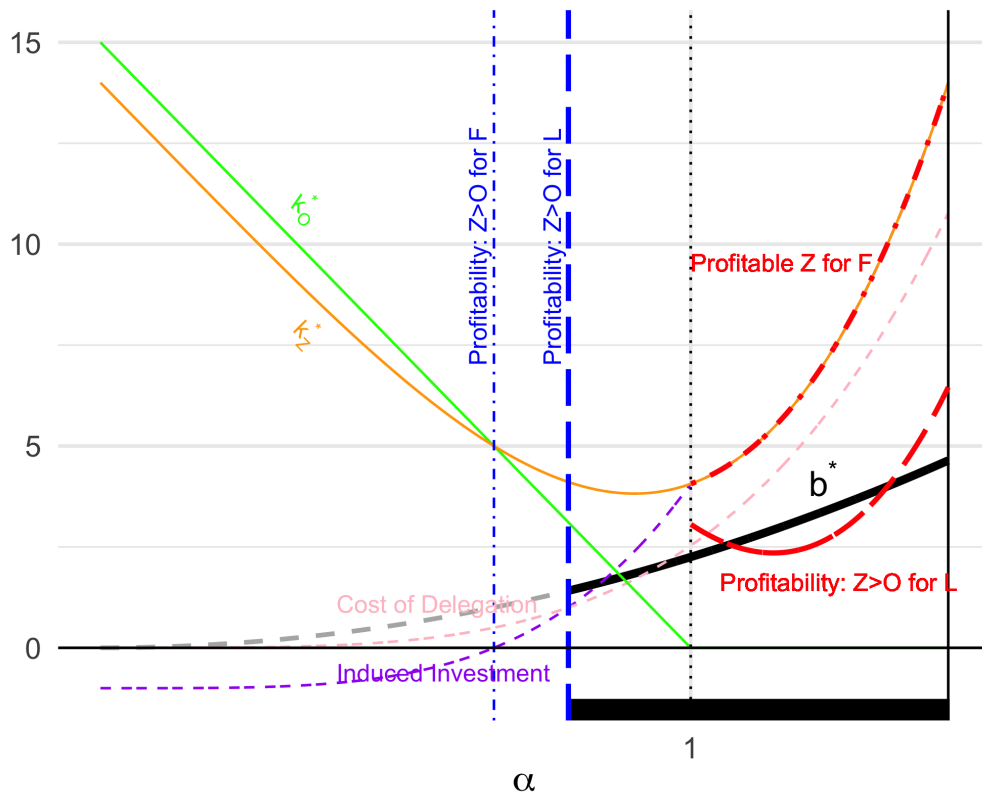
Third, to make Z profitable for F at the equilibrium when $\alpha > 1$, we assume that $\frac{\eta^4 T^4}{\delta} \alpha^4 - T\alpha + (T - G) \geq 0$ always holds, which means $\delta \leq \frac{256}{27} \eta^4 (T - G)^3$. This requires that $\eta^4 T^3 < \frac{256}{27} \eta^4 (T - G)^3$, which means $3T \leq 4 \times 4^{\frac{1}{3}} (T - G)$.

Therefore, we assume that $\delta \in (\eta^4 T^3, \frac{128}{27} \eta^4 (T - G)^3]$ and $T \geq \frac{4 \times 2^{\frac{1}{3}}}{4 \times 2^{\frac{1}{3}} - 3} G$.

Figure A4 shows the conditions for Z to be taken and the optimal level of bias. The green and orange solid lines correspond to F's investment in O and Z at the equilibrium. The blue dash-dot line is the condition for Z to be profitable to F. The pink dashed line represents the delegation cost, which is $\frac{1}{2} \delta b^{*2} = \frac{1}{2} \frac{\eta^4 T^4}{\delta} \alpha^4$. The purple dashed line represents the induced investment at the equilibrium, which equals $k_Z^* - k_O^*$ (green-orange). The blue dashed line is the threshold above which Z is more profitable than O for L. This happens when the induced investment (pink) exceeds the cost of delegation (purple). When the red dash-dot line is above 0, Z is profitable to F. When the red dashed line is above 0, Z is more profitable than O for L. Z will be adopted by L in the space to the right of both blue lines, and when both the red curves are above zero.

Optimal Agent Bias

Bottom rug: $s^* = 1$; Dark curve: Optimal $b^* = \frac{\alpha^2 \eta^2 T^2}{\delta}$.



$\eta = 0.1, \delta = 1, T = 15, G = 1$.

Figure A4. L 's Optimal Zone Design

B SEZ Law Data Overview

Table A1. SEZ Law Codebook

Variable	Description
country	Country in which law /regulation was passed
year	Year reform entered into force
reform	Name of reform

Continued on next page...

Table A1. SEZ Law Codebook (continued)

Variable	Description
reform_type	Type of reform (law, regulation)
agency	Does law create an oversight/monitoring agency?
agency_name	Name of the agency 2
agency_independent	Is the agency independent?
agency_advisory	Is the agency purely advisory in nature?
agency_private_required	Is the agency required to be staffed by non-government affiliated individuals?
agency_private_members	How many members are meant to be non-government affiliated?
agency_gov_members	How many members are meant to be government affiliated?
agency_powers_dispute	Does the agency have jurisdiction over disputes stemming from zones?
dispute_settlement_exception	Does the law create a specialized dispute resolution procedure for zone-related disputes?
reg_exception	Does the law allow for any regulatory exception for firms within a zone?
reg_exception_environment	Does the law create exceptions from national environmental regulations for firms operating within zones?
reg_exception_tax	Does the law create exceptions from national tax rules (e.g., corporate income tax holidays) for firms operating within zones?
reg_exception_tariff	Does the law create exempt firms operating in zones from normal tariffs?
migration_exception	Does the law create a specialized or simplified procedure for migrating to the country for employees related to firms operating in zones?

Continued on next page...

Table A1. SEZ Law Codebook (continued)

Variable	Description
capital_repatriation	Does the law ensure tax-free capital repatriation?
private_management	Does the law allow for zones to be owned or managed by private entities?
ppp_management	Does the law allow for zones to be owned or managed by public-private partnerships?
one_stop_shop	Does the law harmonize administrative procedures into a single office?
land_acquisition_exception	Are there specialized or simplified procedures for acquiring land for zone development?
foreign_ownership_exception	Are foreign firm owners given special guarantees?

C Further Tests on the Relationship Between Rule of Law and Zones

C.1 Alternative institutional measures (Table A2)

Table A2. Association between regime type and zone development across multiple indicators

	DV: # of Designated Zones			
	(1)	(2)	(3)	(4)
Rule of Law	-0.38*** (0.12)			
Polity IV		-0.11 (0.17)		
BMR Democracy			-0.17** (0.07)	
Polyarchy				-0.27*** (0.09)
log GDP per capita	0.20 (0.24)	0.13 (0.25)	0.21 (0.23)	0.19 (0.24)
log total population	-0.17 (1.21)	-0.49 (1.25)	0.06 (1.19)	-0.20 (1.15)
n. of BITs	0.02 (0.01)	0.02 (0.01)	0.01 (0.01)	0.01 (0.01)
n. of PTAs	-0.09** (0.04)	-0.12*** (0.04)	-0.10** (0.05)	-0.10** (0.04)
Ideal point distance from China	-0.05 (0.20)	0.09 (0.26)	-0.06 (0.20)	-0.08 (0.20)
Election next year	-0.02 (0.02)	-0.02 (0.04)	-0.02 (0.02)	-0.01 (0.02)
Country FE	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Observations	1268	1169	1268	1268
Num. groups: iso	43	41	43	43
Num. groups: year	31	30	31	31

Standard errors clustered at the country level. * p<0.1, ** p<0.05, *** p<0.01.

C.2 Jackknife Test (Figure A5)

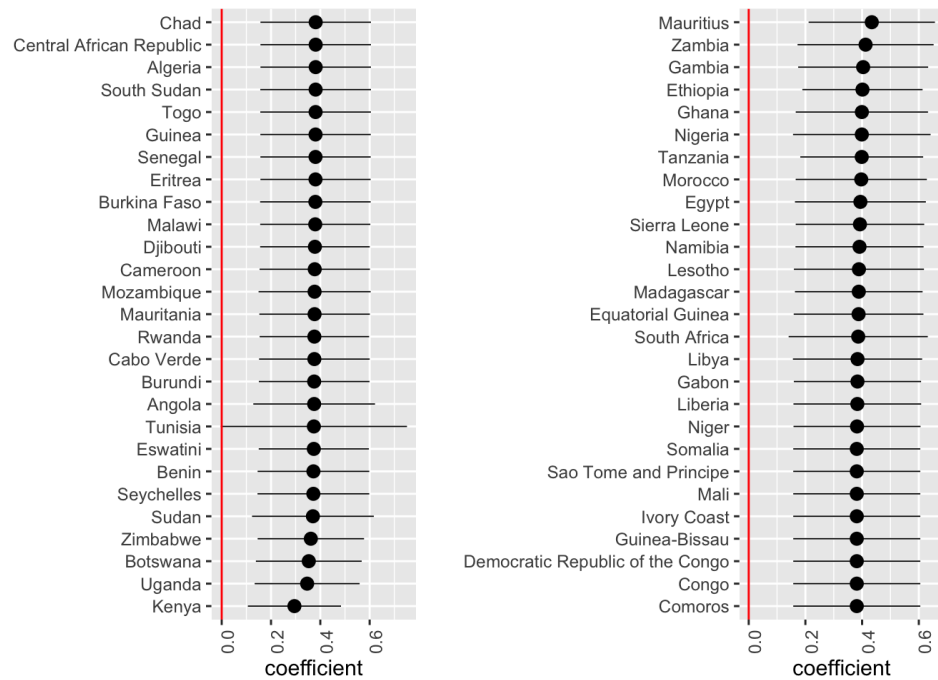


Figure A5. Results Leaving One Country Out

D Further Tests on the Relationship between Rule of Law and Zone Governance

D.1 Results on Other Dimensions of Zone Governance Design (Table A4)

D.2 Robustness Check on Weak Rule of Law and Private Governance at the Law Level (Table A5)

E Full results, Table 4

E.1 FDI flows

Table A3. Zones associated with increased FDI flows

	DV: FDI flows (standardized)				
	(1)	(2)	(3)	(4)	(5)
Active zones	0.23** (0.11)	0.24** (0.11)	0.22** (0.10)	0.25*** (0.09)	0.19*** (0.07)
Weak rule of law		0.11 (0.07)	0.13* (0.07)	0.13* (0.07)	0.12 (0.07)
ln GDP per cap.			0.16 (0.10)	0.13 (0.15)	0.09 (0.15)
GDP growth			0.00* (0.00)	0.01 (0.00)	0.01 (0.00)
ln Population			-0.64 (0.75)	-0.55 (0.81)	0.53 (0.77)
Capital acct. openness				-0.01 (0.04)	0.01 (0.04)
BITs					0.01 (0.01)
PTAs					0.11** (0.05)
Country FE	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
Observations	1636	1636	1595	1396	1396
Adj. R ²	0.36	0.36	0.36	0.37	0.39

*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$

Table A4. Weak Rule of Law and Zone Governance: Other Features

	Property Rights	Dispute		Regulatory Exception							Zone Management		
	Capital Repatriation	Dispute Power	Settlement Arena	Foreign Ownership	Labor	Environment	Tax	Tariff	Migration	Land	Private	PPP	One-Stop
Weak Rule of Law	0.07* (0.04)	-0.03 (0.02)	-0.02 (0.03)	-0.01 (0.03)	0.02 (0.06)	-0.00 (0.02)	0.08 (0.05)	0.06 (0.05)	0.03 (0.04)	-0.00 (0.02)	-0.00 (0.06)	-0.02 (0.05)	-0.02 (0.04)
GDP per capita	-0.08 (0.06)	-0.06 (0.04)	-0.03 (0.05)	0.03 (0.04)	-0.02 (0.09)	-0.09** (0.04)	0.14 (0.10)	-0.06 (0.04)	-0.09 (0.06)	0.01 (0.04)	0.07 (0.08)	-0.09 (0.06)	-0.02 (0.07)
Total Population	0.24 (0.20)	0.45* (0.24)	0.67** (0.25)	0.44 (0.27)	0.59 (0.35)	0.70*** (0.18)	-0.21 (0.30)	0.30 (0.21)	0.50** (0.21)	0.46** (0.23)	-0.28 (0.60)	0.48 (0.30)	0.65** (0.25)
N. of BITs	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.01)	-0.00 (0.01)	0.00 (0.00)	0.01** (0.00)	-0.01 (0.00)	-0.01 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.01 (0.01)	-0.02** (0.01)	-0.00 (0.00)
N. of PTAs	-0.01 (0.01)	0.00 (0.02)	0.00 (0.02)	0.00 (0.02)	-0.01 (0.02)	0.03*** (0.01)	-0.01 (0.01)	0.02 (0.01)	-0.00 (0.01)	0.00 (0.01)	-0.01 (0.04)	0.04* (0.02)	-0.00 (0.01)
Chinn-Ito Financial Openness	0.01 (0.03)	0.01 (0.02)	-0.01 (0.03)	0.01 (0.02)	-0.01 (0.03)	0.01 (0.02)	0.01 (0.02)	0.02 (0.01)	-0.03 (0.02)	-0.01 (0.02)	0.00 (0.04)	0.02 (0.03)	-0.01 (0.03)
Country FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Num. obs.	816	816	816	816	816	816	816	816	816	816	816	816	816
Num. groups: coun	43	43	43	43	43	43	43	43	43	43	43	43	43
Num. groups: year	52	52	52	52	52	52	52	52	52	52	52	52	52
R ² (full model)	0.90	0.89	0.87	0.89	0.80	0.78	0.76	0.82	0.91	0.93	0.80	0.83	0.86
R ² (proj model)	0.09	0.08	0.10	0.04	0.04	0.37	0.09	0.09	0.14	0.09	0.04	0.12	0.09
Adj. R ² (full model)	0.89	0.88	0.86	0.87	0.77	0.75	0.72	0.80	0.90	0.92	0.78	0.81	0.84
Adj. R ² (proj model)	0.08	0.07	0.09	0.03	0.04	0.37	0.09	0.09	0.13	0.09	0.04	0.11	0.09

Standard errors clustered at the country level. * p<0.1, ** p<0.05, *** p<0.01.

Table A5. Weak Rule of Law and Private Governance (Law-Level)

	Baseline		Checks and Balances				Clientelism		Corruption	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Weak Rule of Law	0.09** (0.04)	0.10** (0.04)		0.17*** (0.05)		0.12*** (0.04)		0.07 (0.06)		0.02 (0.05)
GDP per capita	0.20*** (0.05)	0.13** (0.06)	0.13 (0.09)	0.14** (0.05)	0.16* (0.09)	0.16** (0.06)	0.18* (0.09)	0.16* (0.08)	0.18** (0.07)	0.17** (0.07)
Total Population	0.10** (0.04)	-0.07 (0.07)	-0.02 (0.09)	-0.10 (0.07)	-0.04 (0.14)	-0.09 (0.12)	-0.04 (0.09)	-0.07 (0.08)	-0.06 (0.09)	-0.07 (0.08)
N. of BITs		0.00 (0.00)	-0.00 (0.01)	0.00 (0.00)	0.00 (0.01)	0.00 (0.00)	0.00 (0.01)	0.00 (0.00)	0.00 (0.01)	0.00 (0.00)
N. of PTAs		0.01 (0.02)	0.02 (0.02)	0.01 (0.02)	0.01 (0.02)	0.01 (0.02)	0.01 (0.02)	0.01 (0.02)	0.01 (0.02)	0.01 (0.01)
Chinn-Ito Financial Openness		-0.01 (0.02)	-0.01 (0.02)	-0.02 (0.02)	-0.01 (0.02)	-0.02 (0.02)	-0.03* (0.02)	-0.02 (0.02)	-0.02 (0.01)	-0.02 (0.02)
Legislative Constraints			-0.25 (0.17)	0.33* (0.16)						
Political Constraints (POLCON)					0.06 (0.05)	0.09 (0.08)				
Clientelism							0.42** (0.19)	0.25 (0.22)		
Regime Corruption									0.54*** (0.16)	0.49* (0.28)
Country FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Num. obs.	84	78	78	78	73	73	78	78	78	78
Num. groups: cown	42	41	41	41	39	39	41	41	41	41
R ² (full model)	0.86	0.89	0.88	0.90	0.89	0.91	0.89	0.90	0.90	0.90
R ² (proj model)	0.34	0.45	0.40	0.46	0.41	0.51	0.44	0.46	0.50	0.50
Adj. R ² (full model)	0.71	0.73	0.71	0.73	0.72	0.76	0.73	0.73	0.76	0.75
Adj. R ² (proj model)	0.29	0.34	0.28	0.34	0.28	0.38	0.33	0.34	0.40	0.38

Standard errors clustered at the country level. * p<0.1, ** p<0.05, *** p<0.01.

E.2 Differentiated product share

Table A6. Zones associated with increases in trade complexity

	DV: Differentiated trade share			
	(1)	(2)	(3)	(4)
Active zones	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
Active zones $\times$ Weak Rule of Law	0.01** (0.01)	0.01* (0.01)	0.02** (0.01)	0.02** (0.01)
Weak rule of law	-0.04* (0.02)	-0.04 (0.02)	-0.03 (0.02)	-0.04 (0.02)
ln GDP per cap.		-0.06** (0.03)	-0.06** (0.03)	-0.05* (0.03)
GDP growth		-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)
ln Population		0.09 (0.16)	0.14 (0.19)	0.14 (0.19)
BITs			-0.00 (0.00)	-0.00 (0.00)
PTAs			0.01 (0.01)	0.01 (0.01)
Capital acct. openness				-0.01 (0.01)
Country FE	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Observations	1476	1439	1387	1354
Adj. R ² (full model)	0.78	0.80	0.81	0.82

Notes: * $p < 0.01$; * $p < 0.05$; * $p < 0.1$. Standard errors clustered by country.

F Parish-level electoral results

F.1 Average voteshares over time

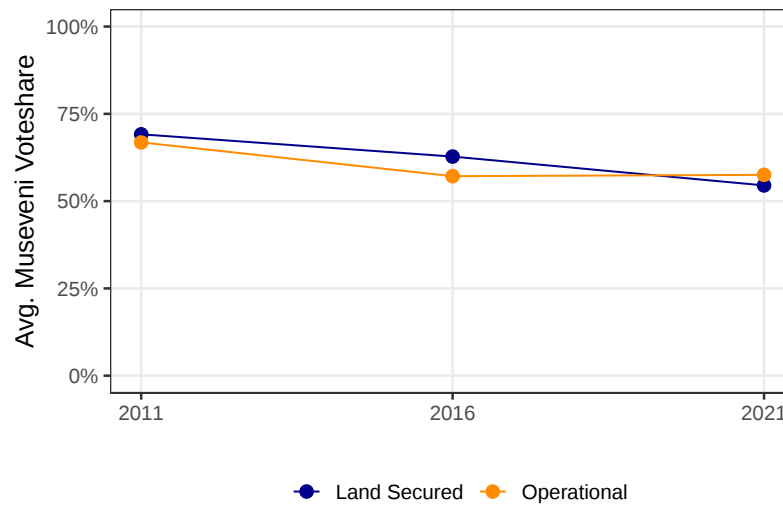


Figure A6. Average voteshare for Museveni in active and soon-to-be-active zone areas (25-mile radius)

F.2 Alternative specifications and data

	DV: Museveni vote share (p.p.)			
	(1)	(2)	(3)	(4)
Near SEZ _{After active}	7.073* (3.803)	9.670*** (2.107)	9.758*** (1.814)	9.665*** (1.747)
Near SEZ _{Before active}	1.038 (1.749)	−0.021 (1.460)	−0.002 (1.442)	−0.044 (1.432)
<i>Flexible controls</i>				
Distance to Kampala		✓	✓	✓
Reg. voters ₂₀₁₁			✓	✓
% Male voters ₂₀₁₆				✓
<i>Fixed effects</i>				
District	✓	✓	✓	✓
Parish	✓	✓	✓	✓
Year	✓	✓	✓	✓
Observations	13,986	13,986	13,986	13,986
Adj. R ²	0.691	0.826	0.830	0.832

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Standard errors clustered at the district level. Flexible controls are interacted with year dummies. Baseline year is 2016. “After active” and “Before active” dummies refer too 2021 and 2011 election years, respectively.

Table A7. Uganda electoral results, 2011–2021 (Full sample)

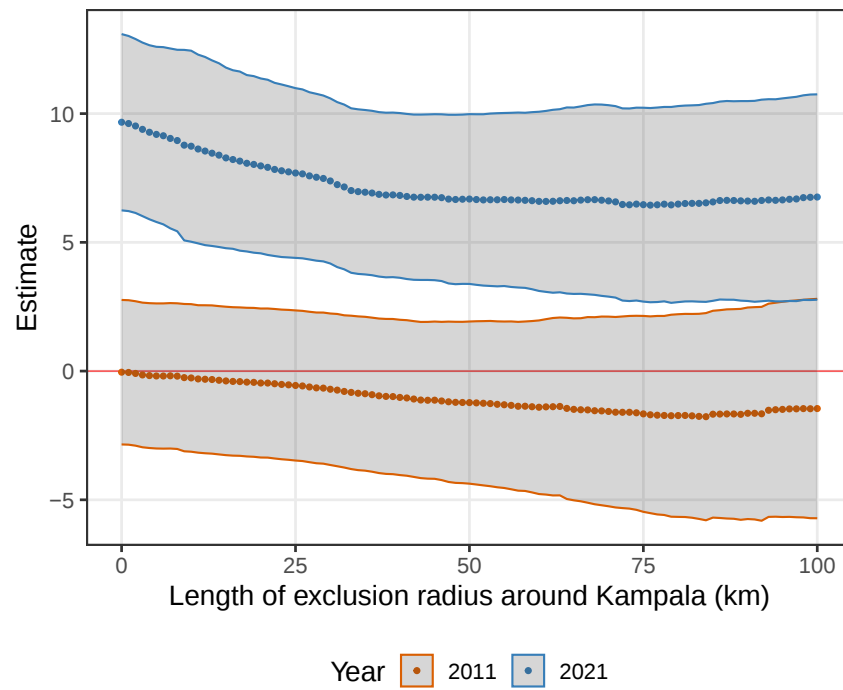


Figure A7. Sensitivity to excluding Kampala from sample

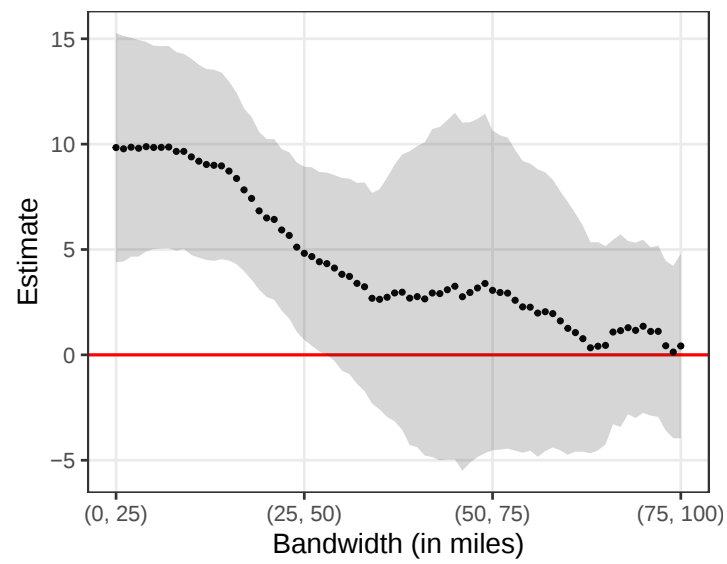
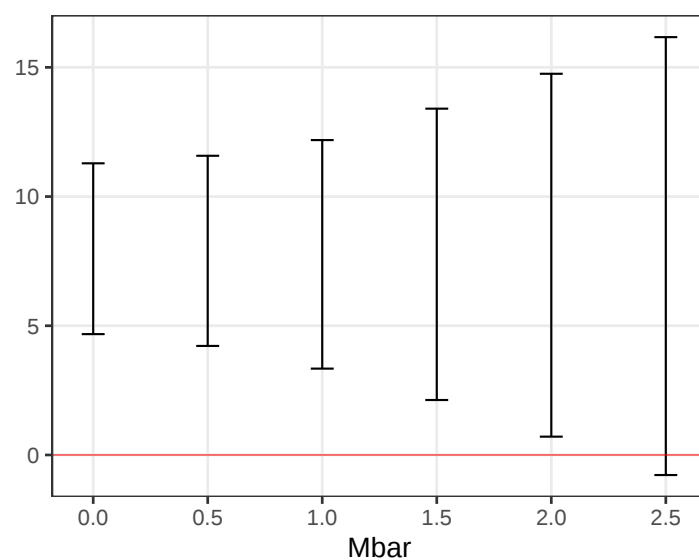


Figure A8. Results from sample that only includes parishes with stable boundaries



Notes: “Mbar” refers to a hypothetical violation of the parallel trends assumption, given as a factor of the observed pre-treatment trends.

Figure A9. Robust 95% confidence sets across varying levels of post-treatment parallel trends violations.

F.3 Alternative outcome: Total votes

	DV: Total votes for Museveni			
	(1)	(2)	(3)	(4)
Near SEZ _{After active}	150.703** (64.259)	164.129*** (38.470)	127.422*** (44.104)	131.321*** (43.021)
Near SEZ _{Before active}	75.517* (39.612)	26.745 (40.193)	37.587 (38.682)	38.568 (38.487)
<i>Flexible controls</i>				
Distance to Kampala		✓	✓	✓
Reg. voters ₂₀₁₁			✓	✓
% Male voters ₂₀₁₆				✓
<i>Fixed effects</i>				
District	✓	✓	✓	✓
Parish	✓	✓	✓	✓
Year	✓	✓	✓	✓
Observations	7541	7541	7541	7541
Adj. R ²	0.824	0.868	0.874	0.874

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Presents estimates from OLS regressions. Standard errors clustered at the district level. Flexible controls are interacted with year dummies. Baseline year is 2016. “After active” and “Before active” dummies refer too 2021 and 2011 election years, respectively. Excludes parishes within 25 miles of Kampala center.

Table A8. Uganda electoral results (votes for Museveni), 2011–2021

F.4 Alternative outcome: Turnout

	DV: Turnout (p.p.)			
	(1)	(2)	(3)	(4)
Near SEZ _{After active}	0.018 (0.014)	0.010 (0.013)	0.007 (0.012)	0.007 (0.012)
Near SEZ _{Before active}	0.039** (0.016)	0.025 (0.016)	0.018 (0.018)	0.018 (0.018)
<i>Flexible controls</i>				
Distance to Kampala		✓	✓	✓
Reg. voters ₂₀₁₁			✓	✓
% Male voters ₂₀₁₆				✓
<i>Fixed effects</i>				
District	✓	✓	✓	✓
Parish	✓	✓	✓	✓
Year	✓	✓	✓	✓
Observations	7554	7554	7554	7554
Adj. R ²	0.550	0.554	0.556	0.556

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Standard errors clustered at the district level. Flexible controls are interacted with year dummies. Baseline year is 2016. “After active” and “Before active” dummies refer too 2021 and 2011 election years, respectively.

Table A9. Electoral turnout, 2011–2021

G Survey results

G.1 Survey samples

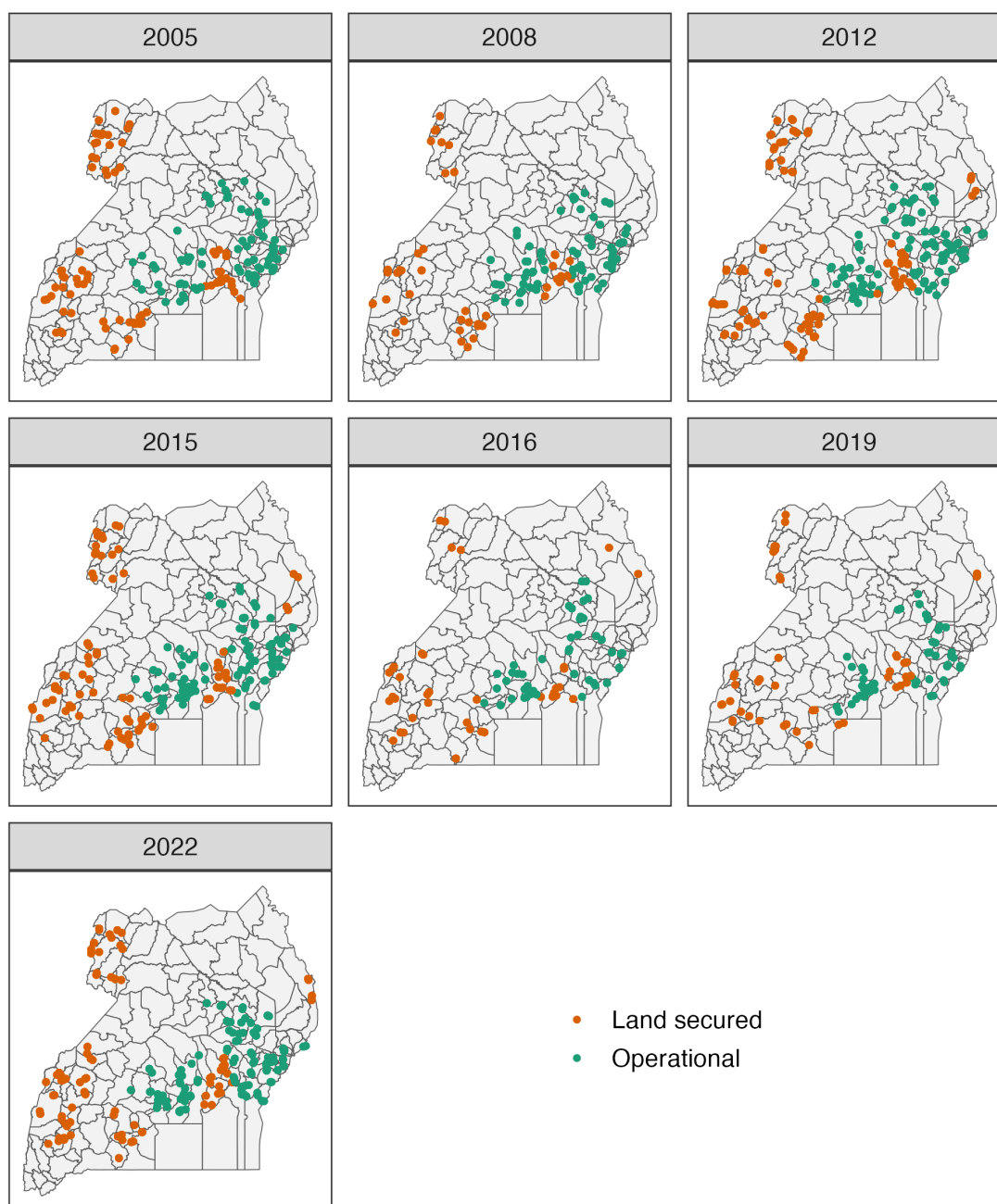


Figure A10. Maps of samples included in the analyses of survey data from the Afro-barometer

G.2 Afrobarometer Questions (outcome variables)

Present economic conditions of the country and personal living conditions:

Let's discuss economic conditions. In general, how would you describe:

A. The present economic conditions of this country?

- ☐ Very Bad (1)
- ☐ Fairly Bad (2)
- ☐ Neither good nor bad (3)
- ☐ Fairly good (4)
- ☐ Very good (5)
- ☐ Don't know/did not reply (dropped)

B. Your own present living conditions?

- ☐ Very Bad (1)
- ☐ Fairly Bad (2)
- ☐ Neither good nor bad (3)
- ☐ Fairly good (4)
- ☐ Very good (5)
- ☐ Don't know/did not reply (dropped)

Future economic conditions of country:

Looking ahead, do you expect the following to be better or worse? Economic conditions in this country in twelve months time?

- ☐ Much worse (1)
- ☐ Worse (2)
- ☐ Same (3)
- ☐ Better (4)
- ☐ Much better (5)
- ☐ Don't know/did not reply (dropped)