

Special Economic Zones and Liberalization Avalanches

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Abstract

Special Economic Zones (SEZs) have been touted as “tools for development”. China in particular has become the beacon of SEZ success, as the zones have played an important role in the country-wide reform process. However, in many other cases, SEZs have failed. To understand when SEZs succeed and when they fail, we describe SEZs as a peculiar form of top-down decentralization, and develop a model of political entrepreneurship to explain under what conditions SEZs can be expected to help generate a transition from a rent-seeking society to a liberalized economy. This model builds on the Blanchard and Shleifer’s (2001) model to provide a better explanation for China’s success than the federalism model proposed by Weingast, Montinola, and Qian (1995).

Keywords: federalism, rent-seeking, economic reform, China, political entrepreneurship

1 Introduction

Special Economic Zones (SEZs) provide exemptions from taxes, tariffs, and regulations in the attempt to attract foreign direct investment (FDI), create employment opportunities, and increase demand for domestic products (ILO 2007; FIAS, 2008: 12-14). SEZs have become a widespread institutional phenomenon, with over 4,000 zones spread across more than half of all countries (The Economist 2015; Bell 2017). Nonetheless, our theoretical understanding of SEZs remains limited. The political economy of SEZs is substantially different from that of the standard Tiebout competition model of institutional diversity. The key difference is that SEZs are created by top-down decisions, as exceptions to the existing centralized rules, making the political dynamics very different.

Why do countries create SEZs, rather than reform more broadly? In what follows, we provide a political entrepreneurship model, which explains (a) how SEZs are created within the context of disputes among political elites with heterogeneous interests, (b) what institutional factors are likely to lead to a successful development story rather than to mere rent-seeking, and (c) under what conditions the creation of one SEZ will likely spur the creation of several other SEZs, leading to what we call a “liberalization avalanche”.

SEZs come in many different forms and take on different labels depending on areal size, target market, and types of production. The most prominent SEZ success story comes from China. China’s SEZs allowed its government to try out reforms inside the zones, before implementing them on a larger scale (Sit, 1985; Ge, 1999: 1283; Chen, 1996; Litwack and Qian, 1998; Yeung et al., 2009: 223; Leong, 2013). The zones allowed the country to “cross the river by feeling the stones,” as was famously expressed by Deng Xiaoping about the gradual Chinese reform process. South Korea’s use of SEZs provides a similar success story (Schrink 2001; Sachwald 2003).

Can China’s and South Korea’s successes be reproduced? Many, if not most, SEZs have actually failed to live up to expectations (Moberg 2014). India, for example, introduced SEZs over a decade before China. Its zones seem to have been a net loss for the country, primarily due to high infrastructure costs and poor management (Moberg 2014). Ghana’s main SEZ was praised for satisfying all of World Bank’s assessment criteria

(Farole, 2010b). Nevertheless, the zone failed. Which institutional and political conditions increase the likelihood that SEZs contribute to a country's overall development?

An SEZ scheme can be deemed successful only if it promotes economic growth in the country as a whole. The success of an SEZ should not, as is often the case, be judged by its amount of investments or structures. If an SEZ's investments and exports grow, that, in itself, does not demonstrate that the zone is beneficial for the country as a whole, as it may be shifting investments out of other regions. The zone can also create various costs on the government, in the form of infrastructure spending or lost tax revenues, which may translate to fewer resources for valuable public services.

The economic case for SEZs is also weaker when country-wide reforms would spur broader benefits and, hence, would be preferable to narrow, location-based policies. Under such conditions, the case for SEZs rests on assumptions about political feasibility and the political dynamic that the SEZs themselves might engender.

The standard benchmarks for assessing SEZ policies often gloss over critically important political processes (Nee 2000; Chen, Hillman and Gu 2002; Tian 2001; Brandt et al. 2004; Bruner and Oxoby 2012). A basic framework for assessing the political and institutional parts of SEZ schemes is still missing. To address this, we build a model of political entrepreneurship to illustrate the conditions under which SEZs can lead to what we call a “liberalization avalanche”, which makes reform reversals unlikely. For reforms to be credible, they have to be hard to reverse. But how can a discretionary policy be hard to reverse? We show how this can happen if the reform changes the cost-and-benefits structure, and, hence, gradually turns the opposition into supporters.

The top-down discretion involved in setting up the SEZ creates the danger that the SEZ will be used as a vehicle for rent-seeking. This is common, and it is one of the main reasons why so many SEZs fail to deliver on their promises (Moberg 2017: ch. 4). SEZs can also be a way of preventing and side-stepping pressures for broader reforms. This is indeed one of the main concerns cited by the World Bank (WB, 1992: 3). SEZs can be used to avoid policy changes nationwide, and thus effectively stifling wider-scale reforms.

Nonetheless, the pockets of liberalization that SEZs provide can also spur genuine development due to a specific political dynamic. Our model of political

entrepreneurship explains the conditions under which SEZs may be a useful political strategy for reform-minded elites in the face of otherwise insurmountable opposition from other elites, making SEZs a way of enabling a longer process of gradual reform.

The rest of the paper is structured as follows. In section 2, we explain why SEZs are institutionally different from a federalist system and hence why the analysis must be different. In section 3, we build a general theoretical model, to show that SEZs can spur a reform process by changing the ruling elites' incentives, which, under certain conditions, can engender a gradual, but sustainable, transition to greater openness to foreign investment and trade. We create our model of political entrepreneurship and elite dynamics by adding heterogeneity to Blanchard and Shleifer's (2001) model, and we show that this model performs better, in terms of assessing how credible the reforms are, than models of federalism such as Weingast's "market preserving federalism" (Weingast 1995; Weingast, Montinola and Qian 1995). In section 4, we use the example of the Chinese SEZ to illustrate our model, and in section 5 we also use the insights from the model to explain the failures of SEZs in other countries, such as India, Poland, and Ghana. Section 6 concludes with a discussion of implications.

2 Differences and similarities between SEZs and federalism

Federalism is commonly understood as an institutional mechanism for self-governance. The theory of federalism usually adopts a bottom-up perspective, asking why local communities would find it in their interest to give up authority to a higher-level government in some domains of activity (Buchanan & Tullock 1962: ch. 8; Tullock 1969; V. Ostrom 1991; Casella & Frey 1992; Inman & Rubinfeld 1997; Buchanan 2001; V. Ostrom and Allen 2008). Since its rebirth in 1950s and 1960s (Bowie & Friedrich 1954; Macmahon 1955; Riker 1964; Burgess 1966; Earle 1968), the literature on federalism has developed a particularly interesting comparative institutions dimension (King 1982; Riker 1987; Elazar 1987; 1993; Ter-Minassian, 1997; Watts 1998; Bednar et al., 2001; Burgess 2006).

In the context of the federalism literature, SEZs look at first glance like an extreme version of what's known as "asymmetric federalism" (Benz 1999; Stepan 1999; Beyme 2005; Congleton 2006; Swenden 2002). This is a federal system in which some regions are given greater autonomy, instead of all regions enjoying the same type of local

autonomy. However, in the case of SEZs, the emphasis on self-governance, while not absent, is generally minimal.

SEZs are a form of decentralization that departs from the typical federalist theory in three important ways. First, rather than being a more detailed system of local rules embedded in a larger system of higher-level rules, they are *explicit exemptions* from the higher-level rules. Governments generally exclude SEZs from certain trade barriers, taxes, and sometimes also from labor and environmental regulations. As such, they enjoy exceptions from laws that other parts of the country must obey. This differs from the standard model of federalism, in a way that goes far beyond asymmetric federalism.

According to the standard accounts of federalism, institutional diversity at lower administrative levels is embedded in the larger federal legal framework and laws at the local level cannot breach those at higher-levels. For example, Weingast (1995) argues that the federal level is supposed to prevent protectionist policies by local jurisdictions, as a way to sustain a resilient market order. Or, as argued by E. Ostrom (2005, ch. 9), federal level rules should assure minimal universal standards and prevent “local tyrannies”, while still allowing local experimentation. Standard federalist decentralization is a type of rule of law system, while SEZs are a type of discretionary policy.

This role of discretion and the top-down nature of the decision to decentralize affect the incentives to create SEZs and the conditions under which they succeed or fail. Under typical federalism, there are three common reasons for a failure of decentralization (Tiebout, V. Ostrom, Warren, 1961): (1) the local government does not have the authority to fix the problem (e.g. a source of pollution is outside its jurisdiction); (2) the transaction costs for inter-jurisdictional cooperation are too large and, hence, prevent the jurisdictions from coping with inter-jurisdictional externalities; (3) economies of scale are not properly utilized. None of these points are concerns in the case of SEZs because the higher-level government that grants SEZs in principle retains the power to deal with such issues.

The second difference between federalism and SEZs is that, while the standard theory of federalist decentralization focuses on policy areas, SEZs focuses on geographical regions. This is similar to asymmetric federalism. For example, special rights are granted to Quebec, which are not enjoyed by other Canadian regions. However, in case of asymmetric federalism, the regions granted special rights tend to have long-standing

historical and cultural identities.

The third difference between federalism and SEZs lies in the scope of policy areas exempted from federal control. A higher-level government carves out exceptions for an SEZ while retaining authority across most policy issues and the discretion to reverse course at any time. By contrast, to use Quebec as an example again, the Canadian Constitution Act of 1982 has granted the local government authority in areas such as health care, education, taxation, and social benefits. This cannot be easily reversed, and cannot be reversed as a discretionary measure by the federal government.

While much of the literature on federalism points to *local communities'* interests in obtaining or preserving decentralization, SEZs are commonly described as products of *central government's* interests in creating a certain type of decentralization where it does not already exist. However, why would members of a higher-level government ever want to allow exceptions to their rules for particular areas under their jurisdiction? After all, rather than ceding control by decentralizing, people in power usually have the opposite incentive. Political elites in developing countries usually benefit from the prevailing rent-seeking system, which hardly gives them the incentive to reform their economies (Rose-Ackerman 1975; 2006; Acemoglu and Robinson 2000; 2012: ch. 8; Haber 2002; Kang 2002; Nye 2009; Brollo et al. 2013). Authoritarian political elites have some incentive to promote growth (McGuire and Olson 1996; Holcombe and Boudreaux 2013), in particular when they have a claim of the wealth creation (Leeson and Harris 2018). However, this growth may not come to pass because they cannot credibly commit to preserve the pro-growth policies over the long term (Boettke 2009; Leeson 2011).

With SEZs specifically, whether they promote development or are merely expressions of rent-seeking depends on the incentives of policymakers. The economies of developing countries are already rife with distortions and rent-seeking, and we must ask why the government would create SEZs. If a majority of the political elites actually wants to liberalize the economy, they can do so more effectively by introducing general reforms, rather than selective SEZs. Yet as we will show in the next section, the peculiar institutional aspects of SEZs can actually allow them to change incentives of policymakers, through a gradual process that generates lasting change.

3 A model of SEZ-driven liberalization avalanches

SEZs are top-down granted privileges, where the central government explicitly allows breaches of higher-level rules. As such, they cannot be created locally without a higher-level government's permission. In countries with more than two administrative levels, SEZs can sometimes be granted exceptions either from central level rules or from some of the lower level rules. It is therefore no wonder that SEZs have been described as enclaves acting as a foreign territory (Chaudhuri and Yabuuchi, 2010).

From a theoretical point of view, the fundamental role of top-down discretion means that we cannot model SEZs simply by using a version of Tiebout competition (McPhail and Tarko 2017). The role that inter-jurisdictional competition plays must be understood from the point of view of a model of political entrepreneurship at the higher-level government.

The heterogeneity of elites and the need to agree about an SEZ at the central level are critical factors for understanding the process by which SEZs may or may not promote economic development. Our model is based on two simplifying assumptions. First, while treating government as a heterogeneous group of individuals, rather than a monolithic agent, it simplifies this notion by assuming that this heterogeneity is due solely to divergent opportunities. This part of the model expands on Blanchard & Shleifer's (2001) framework for top-down control in a federal system by adding heterogeneous political elites and rent-seeking at the central level.

Second, we build on the standard public choice account of the transition from mercantilism that emphasizes the switch of government revenues from rent-seeking to taxation (Ekelund & Tollison, 1981; Nye, 2007; Braithwaite, 2008, ch. 1). The Ekelund & Tollison (1981) rent-seeking model has been used to describe both real-life socialism (Levy 1990; Shleifer & Vishny 1992; Anderson & Boettke 1997) and state capitalism (Aligica & Tarko 2012). While simple, it helps us describe elite dynamics in developing countries.

3.1 *The case of a homogeneous, pro-growth central government*

In Blanchard and Shleifer's (2001) model, a local government chooses to promote growth if

where p is the ratio of the probability that the local government stays in power if it promotes growth to the probability that it stays in power if it prevents growth. The parameter a is the share of local revenues that the central government allows the local level to keep, and y is economic output from growth-promoting policies. Finally, b is the benefit to the local government in the form of rents from rent-seeking, generated from pursuing growth-suppressing policies.

A central government can raise the magnitude of p both by rewarding local officials for good economic performance and by deposing them if they perform badly. In the words of Blanchard and Shleifer (2001), “[t]he local government is more likely to choose growth, the stronger the stick (the higher p), the bigger the carrot (the higher a), the larger the growth potential (the higher y), and the smaller the benefits of capture or the lower the costs of reining in competition for rents (the lower b)”. They conclude that “for federalism to function and endure, it must come with political centralization”.

To come to this conclusion, however, Blanchard and Shleifer assume that the central government is united in the pursuit of maximizing economic growth. In their model, local governments can be captured by growth-oppressing interests, while the central government cannot. The analysis thus ignores the possibility that central government officials prevent reforms because they too benefit from the rent-seeking system.

Much of Western European economic history tells of the adverse motives of ruling elites (Ekelund & Tollison, 1981; Nye, 2007; Braithwaite, 2008, ch. 1). Within European mercantilist societies, liberal reforms occurred only if “the major elites benefited from commercialization and could successfully cut off those who would oppose the spread of national commerce” (Nye, 2009: 59). The change emphasized in this literature is the switch from rent-seeking to taxation. When developments occur that reduce the costs of setting up an effective system of taxation, the government has an incentive to open the economy and obtain more revenues from taxation and less from rent-seeking.

Without accounting for rent-seeking at the central government level, Blanchard and Shleifer do not provide an explanation for how reform can come about by a central

government that does not already stand united behind reform. As such, while we borrow the structure of their model in our examination, we also need to add aspects of elite heterogeneity and a presumption of wealth maximization on all levels of government, to show how SEZs can promote reform.

3.2 *Elite heterogeneity in a rent-seeking society*

By introducing elite heterogeneity, we can analyze the internal dynamics of a rent-seeking government. We assume that local leaders have discretion over local policies and can determine the balance between taxation and rent-seeking.

A local leader who decides to rely more on taxation rather than on rent-seeking will want to host an SEZ to increase tax revenues further. This is because SEZs liberalize the economy more than the prevailing central-level rules allow, through its exemptions from federal taxes, tariffs, and some regulations. But a local leader can only obtain an SEZ if there is enough support for the policy at the central level. This is why the typical Tiebout competition model, which assumes policy discretion at local levels, is of limited use.

We assume that the central government allows for SEZs as a response to demand from local elites. The heterogeneity of central decision makers stems from the divergent interests of the local leaders with whom they are connected. In a system based on crony relations, the central level elites depend on connections with local elites, and different central elites have different local connections (Aligica and Tarko 2014).

The divergent interests of the local elites stem from the fact that some local leaders can see higher profits from taxing an open economy than others. Some areas have higher growth potential than others, because they are more attractive to investors. For example, an area on the coast benefits more from tariff exemptions because they can more easily attract exporting investors. In other areas, local practices and institutions may prevent effective tax collection, thus raising the cost of extracting taxes. The key observation here, and key simplifying assumption we adopt, is that *elite heterogeneity does not stem from divergent preferences, but from divergent costs of rent-seeking and taxation*. This allows us to model the change in incentives over time in a non-ad hoc manner, as we do not need to assume changing preferences.

The trade-off between taxation and rent-seeking for the local elites can be expressed as a revenue-maximizing Leviathan model. For illustration, we are using the example of a Cobb-Douglas production function with constant returns to scale, but the result holds for a broad range of production functions (see Annex for the general proof):

$$\text{Log } f(T, R) = \lambda \text{Log}(T) + (1 - \lambda) \text{Log}(R) \quad 2$$

λ denotes the level of local liberalization, i.e. the balance between the potential revenue from taxation versus rent-seeking. We assume that the parameter takes on the values $0 < \lambda < 1$.

This setup is similar to that of Blanchard and Shleifer, with the revenue from taxation, $T = \text{pay}$, while the revenue from rent-seeking is $R = b$. When $\lambda = 1$, no revenue is generated from rent-seeking. This corresponds to idealized economic liberalism. When $\lambda = 0$, the elites get all their revenues from rent-seeking. Classical mercantilist societies in Europe approached the latter system, primarily due to low state capacity (Ekelund and Tollison, 1981; Nye, 2007). In the simplest form, we may identify f as revenue, although it may also include non-financial considerations, such as positional goods and power.

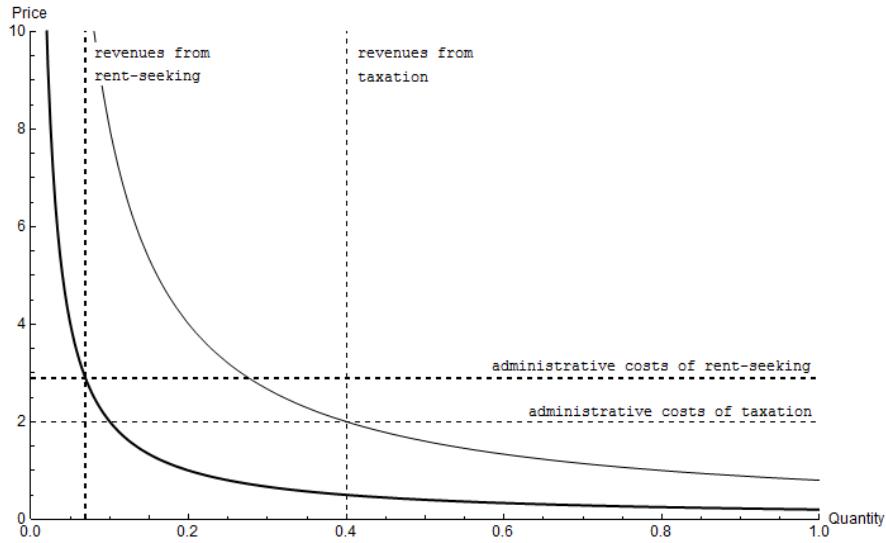
We model elite heterogeneity through their different costs of extracting taxes or implementing the regulatory system that creates rents. Let C_{tax} and C_{rents} represent the administrative costs of taxation and rent-seeking respectively. The total revenue obtained by taxing and/or rent-seeking is limited by the production possibility frontier (PPF). We assume constant opportunity costs of taxation or rent-seeking, i.e. a linear PPF, $B = C_{\text{tax}}T + C_{\text{rents}}R$, where B is the total budget of a local elite.

Maximizing f with respect to T and R , subject to the PPF constraint, gives the share of rent-seeking and taxation for each region:

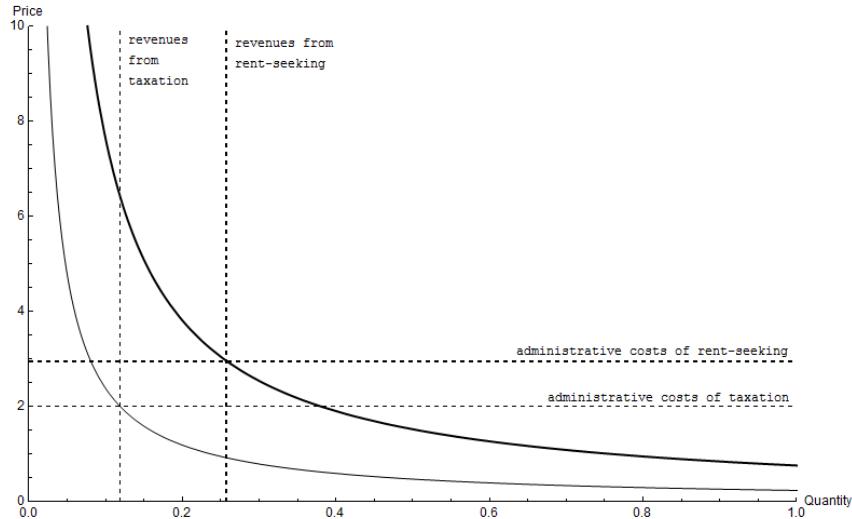
$$\begin{cases} T = \lambda \frac{B}{C_{\text{tax}}} \\ R = (1 - \lambda) \frac{B}{C_{\text{rents}}} \end{cases} \quad 3$$

FIGURE 1: Governance functions under the rent-seeking/taxation trade-off

(a) For a liberalized system



(b) Under low liberalization



Legend: thick line: demand for rent-seeking; thin line: demand for taxation

We can interpret these as the local Leviathans' "governance functions", identifying the extent to which they specialize in rent-seeking or taxation. Figures 1a and

1b illustrate this. When liberalization in a region is low (low λ), the revenues from rent-seeking rise above the revenues from taxation. By contrast, increased liberalization (high λ) raises the potential revenues from taxation while lowering the revenues from rent-seeking.

3.3 Political and economic externalities of SEZ creation

The introduction of an SEZ is not an isolated event, as liberalization in one area generates economic and political externalities for other regions. We can model these externalities in the following way: An SEZ in region k , generating a local change $\Delta\lambda_k$, creates an institutional externality on the other regions: $\Delta\lambda_i = L_{ik}\Delta\lambda_k$. When $0 < L_{ik} < 1$, the externality of k upon i is in the liberalizing direction. By contrast, if $-1 < L_{ik} < 0$, liberalization in k would decrease liberalization in area i .

Several possible factors that can make inter-jurisdictional institutional externalities, L_{ik} , positive have been explored in the empirical literature. Simmons and Elkins (2004) show that reputation effects can significantly affect the diffusion of liberalization policies. Wang (2013) finds that SEZs lead to more investment even in other areas of the country, so that the zones did not grow at the expense of other regions. Such spillovers to the local economy increase the benefits of relying more on taxation and less on rent-seeking, and, hence, contribute to the positive institutional externality. SEZ might also create broader demand for factors of production outside the SEZ. This too will contribute to the liberalization externalities of SEZs.

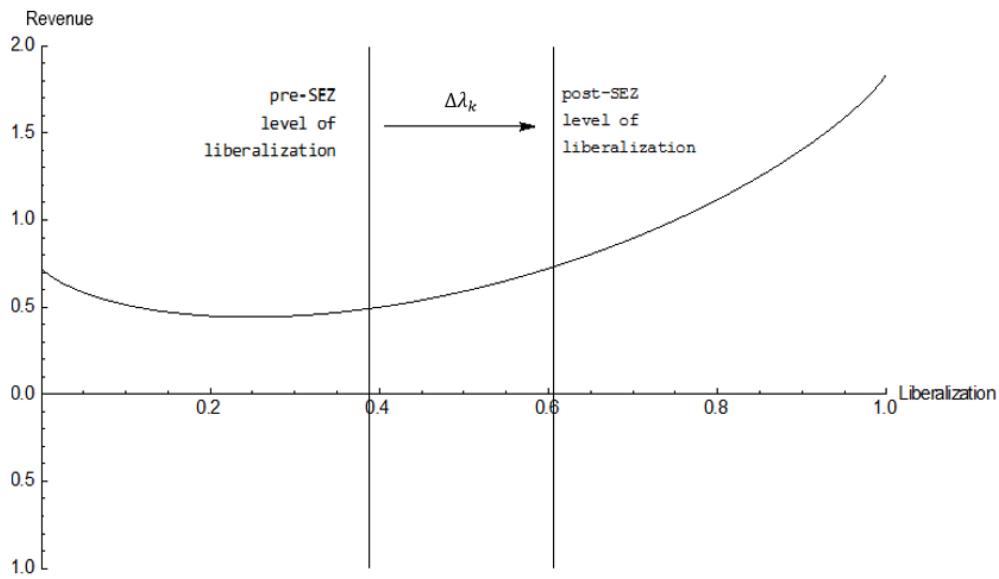
The liberalization externality affects the trade-off local leaders make between taxation and rent-seeking policies. We can see this by introducing the governance functions (3) back into the production functions (2). We obtain the revenue of each local elite member given the existing level of liberalization in their region (fig. 2 and 3):

$$\text{Log } f(\lambda) = \lambda \text{Log} \left(\lambda \frac{B}{C_{\text{tax}}} \right) + (1 - \lambda) \text{Log} \left((1 - \lambda) \frac{B}{C_{\text{rents}}} \right) \quad 4$$

This expression has a minimum and, hence, shows that no member of the elite

is ever fully satisfied with the existing degree of liberalization, since they will generally prefer either a higher or lower level of λ . Whether local elites are in favor or against more liberalization depends on the current level of liberalization in their regions. However, the level of liberalization cannot be determined solely by local elites, as in a classic Tiebout competition model, because the creation and policies of SEZs are the result of top-down centralized decisions.

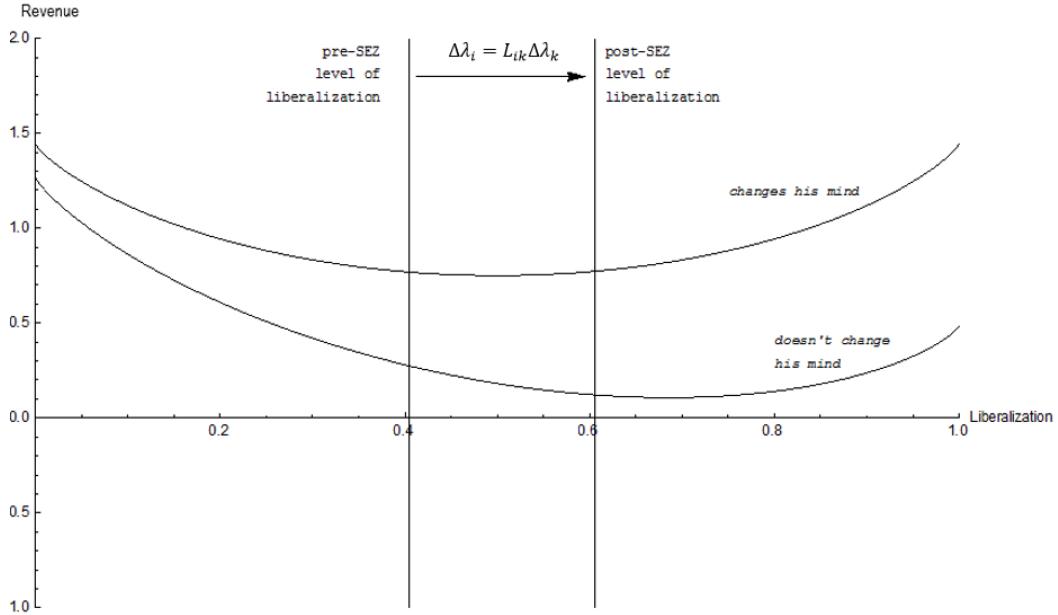
FIGURE 2: Incentive compatibility: supporters of SEZ prefer further liberalization, rather than a reversal of reform



We can now analyze whether an SEZ leads to a liberalization avalanche or to a policy reversal. The externality generated by liberalization in one place either increases or decreases the revenues, $f(\lambda)$, of local elites on other places. The introduction of an SEZ raises the level of λ for all local elites for which $0 < L_{ik} < 1$. Because $f(\lambda)$ has only one minimum, a local leader in favor of liberalization (with the pre-SEZ level of λ already to the right of the minimum) then becomes an even stronger advocate for liberalization and thus also for more SEZs (fig. 2). (As shown in the Annex, this conclusion is true for a wide range of production functions.) Some of the elites switch from being against to being in favor of liberalization, as the creation of the SEZ pushes the level of liberalization to the right of the minimum of their utility function (fig. 3). For them, after the creation of the

SEZ, further liberalization increases revenues, while smaller reversal in the direction of less liberalization decreases it: $f(\lambda + \Delta\lambda) > f(\lambda - \Delta\lambda)$.

FIGURE 3: Appeasement of opponents: when liberalization externalities are positive, some opponents of SEZs change their mind



In theory, the creation of an SEZ could either spur more liberalization or generate a backlash, since we can imagine that L_{ik} could be negative. Overall, the creation of zone k spurs further liberalization if its average institutional externality is greater than zero:

$$\langle L_k \rangle = \sum_i L_{ik} > 0 \quad 5$$

If the liberalizing externalities of SEZs are positive, the creation of one SEZ thus tends to lead to the creation of further SEZs. As we explained above, there are several factors that can make this to be the case.

As one zone gives more members of the elite the incentive to support further SEZ

initiatives, more local leaders will want to pursue an SEZ for their region. As the number of elites against SEZs diminishes, it becomes increasingly cheap to obtain the approval of central government. With a growing share of local leaders in favor of SEZs, the SEZ opposition loses steam. Eventually, a majority of the elites prefers liberalization, and can pursue broad liberalizing reforms without having to introduce more SEZs. Broad liberalizations will incentivize even more local leaders to dismantle their rent-seeking systems in favor of economic growth and taxation.

3.4 Credible commitments to market reforms

Development policies work only if the government can credibly commit to them (North & Weingast 1989; Boettke, 2009). This will not be the case with SEZs if the government that created the zones may be just as quick to reverse them. If investors do not believe that the government will keep the rules in place, they will likely not be attracted there in the first place. We will see examples of this in the next section.

A government can credibly commit to the SEZ scheme only if the policy is incentive compatible. As we have shown above, if the average liberalization externalities are positive and a liberalization avalanche starts, SEZs will generate their own incentive compatibility, by increasing the number of elite members who benefit from liberalization. The policy is thus not dependent on any other mechanism to prevent its reversal. There is no need for benevolent elites because the policy is not in danger of reversing under less benign future administrations. Furthermore, the model does not rely on identifying some *specific institutions* that need to be preserved. Top-down discretion is in the very nature of SEZs. As such, the SEZs are credible only if the incentives of political elites are guaranteed to remain allied with liberalization, regardless of what particular institutions and policies these elites may choose.

To illustrate this point better, consider the different perspective on the credibility of reform provided by Weingast's (1995) idea about "market preserving federalism". Weingast, Montinola and Qian (1995) describe China as a system where the central government is committed to preserving federalism, but Chen, Hillman, and Gu (2000) and Chen (2004) show that this commitment has *not* been all that credible. The Chinese central government had revenue-sharing agreements with the local governments according

to which the local governments would keep a certain fraction of the local taxes they collected. But when the central government's revenues decreased, this weakened the revenue-sharing arrangements, prompting the central government to set up its own tax collection for the first time. In other words, contrary to Weingast, Montinola and Qian (1995), the central government could not make a credible commitment to the "federalism" of the revenue-sharing agreements.

The "market preserving federalism" model does not explain the continued success of the SEZs, but our elite dynamic model does. The SEZs have never been a true federal system, but a top-down policy. As such, what matters are the incentives at the top. To the extent that there is no incentive to move in the direction of rent-seeking and away from consolidating the tax system, the SEZ system will continue to work fairly well. As such, even as the promise of fiscal decentralization was broken, SEZs still remained relatively unaffected. This is precisely because they are defined as exceptions to the rules. In a system based on discretion, paying too much attention to the rules, such as the income sharing system, is a mistake. One needs to pay attention to the *incentives* of policy makers. It is, thus, not surprising that, despite the decline in fiscal decentralization, the creation of SEZs in China has continued unabated (Wang, 2013). The SEZs may thus have served as a more robust substitute to standard federalist decentralization, which can be understood in terms of the elite incentives dynamics we described.

The model can also make sense of situations when liberalization avalanches don't happen or break down. In this model, such a breakdown comes down to negative inter-jurisdictional externalities. This can happen either because the rules of the SEZs are badly set up, and, for example, they are drawing resources to the zone at the expense of other regions, or because of non-financial reasons. Furthermore, as mentioned, what is being maximized may be more complex than just wealth. Especially under authoritarian regimes, factors like power and control, may be more important to the ruling elites than material wealth. As such, they may go against the liberalization process, and against SEZs institutional privileges, if such liberalization endangers their political control. We return in section 5 to more examples of SEZs failures.

4 How SEZs reformed China

China offers the best illustration of an SEZ-driven liberalization avalanche. The Chinese reform period began in the late 1970s, and SEZs are generally acknowledged as playing a prominent part in the subsequent Chinese “growth miracle” (Ge 1999: 1283; Li, Li & Zhang 2000).

China has a decentralized system, both fiscally and politically. Xu (2011) describes the Chinese system as a “regionally decentralized authoritarian regime”. Because the central authority appoints local officials, it is not a standard federal system, although the country is both politically and fiscally decentralized (Xu 2011; Liand Zhou 2005). China also exemplifies how SEZs can be embedded in a system of multiple administrative levels. There are five hierarchical levels of government: central, provincial, prefecture, county, and township. Chinese SEZs have been introduced both by the central government and by the lower provincial or prefecture levels, thus carving out exceptions to the rules of the different levels of government (Wang 2013).

In line with our model, demand for SEZs came not from the central level but from local officials. The first initiative for the creation of an SEZ came from representatives of China Merchants’ Steam Navigation Company, based in Shekou in Guangdong province, who had property and other commercial interests in nearby Hong Kong. They persuaded the Minister of Communications, Ye Fei, to grant them a special deregulated area for conducting business with the then British territory, making Minister Fei one of the early proponents of zones within the central elites. The government subsequently declared the Shekou Industrial Zone in 1979 (Sit, 1985: 75; Crane, 1990: 26, 156). Thus, although the zone was established from the top-down, the initiative reflected local interests.

Disputes surrounding the SEZs and the lack of government consensus on the policy reveal the heterogeneity and divergent interests of the Chinese elite. Deng Xiaoping, the then Vice Premier of China, who is the person most commonly associated with the policy, was not initially a supporter. The SEZs had only a handful of advocates back in 1979-1980, and Deng only came on board with the idea around 1983-1984, when several other central leaders started supporting it (Crane 1990: 156). Elite heterogeneity was also

reflected on the local level, as geographical areas with larger potential, mainly thanks to coastal locations, tended to opt for and obtain SEZs.

More members of the Chinese elite started supporting the SEZs as they grew in quantity and size. As a result, the SEZ could continue despite serious challenges. In 1985, a corruption scandal in Hainan allowed SEZ opponents to point at the problems with SEZs. More government monitoring and central power over the SEZs followed (Crane 1990: 111-16). Yet, these were mostly rhetorical changes. SEZ proponents had by then also grown powerful and plentiful enough to see to it that the policy was not reversed.

The lack of consensus surrounding the zones prompted reform gradualism. SEZs initially did not enjoy much political independence from provincial and state authorities. This reflected careful compromises with the protectionist elite. More political decentralization came in 1981-1982, when the authority over the SEZs was divided between local, regional and state levels (Crane 1990: 55). In 1984, further reforms gave SEZ factory managers substantial responsibilities (pp. 82-5). Growing SEZ support also prompted the central government to remove several regulations and bureaucratic obstacles for SEZ businesses (pp. 76-9). After a slow start, industrial investments in the SEZs then started to increase substantially (p. 101).

To appease the elites fearing the loss of their rent-seeking revenues, the reformers also agreed that the SEZs would aim to attract more foreign investors and fewer national companies. This should have lowered the risk of domestic companies moving to the SEZs from other areas. They also agreed on a policy that explicitly combined SEZs with import substitution. Protectionist local elites catering to protected businesses would thus have less incentive to resist SEZs. As a result, the SEZ expansion could continue despite the opposition (Crane 1990: 117-22). The SEZs were thus introduced gradually, and only when they were not perceived as too threatening by the protectionist elite. More straightforward liberalization of regional or central rules would have been opposed more vigorously, as they would have overtly challenged the existing power structure.

In line with our model, China's SEZs seem to have had positive investment-related externalities. With more SEZs, more regional leaders benefited from the tax revenues that decentralization granted them, which gave the SEZs growing support. Regional governments, seeing that they benefited from hosting growing communities of

enterprises and productive people, did not want to see the reforms reversed (Weingast, Montinola and Qian 1995: 69). Conservative officials who felt threatened by the SEZ reforms found themselves in a shrinking minority.

The weakening SEZ opposition set the stage for the liberalization avalanche in China. The number of SEZs has grown dramatically since the 1980s. The share of municipalities hosting SEZs was 9% in 1985. In 1992, all provincial capitals were given SEZ status and, by 1995, almost 70% of Chinese municipalities hosted SEZs. By then, the liberalization avalanche had clearly played out. In 2008, this share stood at 95% (Wang 2013: 136; Alexander 2014).

Concurrently, China liberalized nationally. Between 1980 and 1985, China's score in the Fraser Institute's Index of Economic Freedom improved substantially, from 4.0 to 5.1, followed by further improvements to 6.39 in 2012. Corruption may still be a problem in China, but it is no more prevalent than in other countries at the same level of development (Ramirez 2014).

5 Why SEZs fail

The model we have presented not only shows why the Chinese SEZ scheme succeeded but also how SEZ schemes can fail to bring about economic reforms despite superficially looking like successes. We reiterate that real SEZ success comes from bringing about beneficial reforms that would not have taken place otherwise. For this to be possible, SEZs need to generate positive institutional externalities upon other regions. By the "positive institutional externalities" of an SEZ at location X, we mean that local elites in connected areas Y, are enabled to gain more from taxation and less from rent-seeking than before. While such externalities may be positive in many countries, a country may also have an institutional set-up making them negative, in which case the dynamic depicted in fig. 3 does not play out.

The absence of heterogeneous elites would also not be commensurate with a liberalization avalanche. If elites have homogenous interests, agreement to implement SEZs becomes suspicious. The homogeneity would allow them to pursue broad reforms, which are less complicated and distortionary, and more effective than SEZs. If policy-makers with homogeneous interests are introducing SEZs, they are probably just aiming to

create rent-seeking opportunities or scapegoats to avoid broader reforms (Moberg 2017: ch. 4). Hence, with a unified government, SEZs are either a mistake or a deliberate tool for rent-creation. One possible exception to this conclusion is if some critical knowledge is missing, such that policy trial-and-error is necessary. In practice, however, this is rarely the case, as most reforms in developing countries involve fairly obvious forms of economic liberalization, such as removing the license raj in India.

TABLE 1: Growth of SEZs in the last 10 years

Country Name	ILO2007	Bell2016	New Zones
Bangladesh	5349	6309	960
Philippines	78	277	199
India	8	193	185
China	168	295	127
Colombia	12	104	92
Honduras	26	102	76
Saudi Arabia	8	49	41
United States	256	289	33
North Korea	0	26	26
United Arab Emirates	16	38	22
Japan	2	22	20
Nigeria	6	24	18
Russia	1	16	15
Kosovo	0	11	11
Denmark	0	10	10
Kazakhstan	0	10	10
Laos	0	10	10
Oman	0	10	10
Turkmenistan	0	10	10

ILO2007 is the International Labor Office count (Boyenge 2007)

Bell2016 is the most recent available count (Bell 2017)

As shown in Table 1, many countries are attempting to replicate the Chinese

success. Nonetheless, many SEZs schemes have in fact failed. Let us briefly explore some of these examples.

India's SEZ scheme, initiated in 1965, failed for a long time to generate much investment or employment (Gopalakrishnan, 2011: 139). Here, an obvious problem was that the program was highly centralized, with the government determining both the location and often the type of production in different zones (Seshadri and Storr, 2010). Not only did this make it hard for the Indian government to get the scheme right. It also meant that the SEZs presented an inferior solution to broader liberalization, which the central government could have pursued if it actually stood united in favor of reforms.

With a new SEZ law, introduced in 2005, the Indian government took some steps towards decentralization. The initiative was an explicit attempt to emulate the Chinese SEZ success by creating larger zones (Mitra, 2007: 15). However, imitating the superficial features of the Chinese program is unlikely to make the Indian SEZ scheme successful. The SEZs are still created primarily on state government initiatives, instead of being advocated by reform-minded elites with more local interests. Success is more likely to happen when local political entrepreneurs see SEZs as an opportunity for gain by moving away from a rent-seeking system and toward taxation of an open economy. The failure of SEZs when this local push is missing showcases the limits of the Blanchard and Schleifer (2001) model, which assumes well-intentioned top-down interventions.

Jagdish Bagwati has also noted that SEZs in China are a political mechanism designed to go around the lack of democratic accountability, and has argued that India's use of SEZs was likely to be misguided, as it detracted from broader liberalization measures (Bagwati cited in Narayanan and Nair 2006). In his words,

SEZs are a sort of scaffolding with which you climb to more openness. Hopefully, that demonstration (of openness in SEZs) will show that it is worth having these policies. But now that you have the building, why do you need the scaffolding? Already the policies have changed. So, I think [adopting more SEZs] is a step backwards.

This is an important remark, especially considering that Bagwati has previously defended SEZs as a strategy of development. He has previously argued that SEZs are a

way of connecting developing countries to the global economy, and has argued against various anti-globalization concerns, e.g. about the exploitation of women in SEZs (e.g. see Bagwati 2004, ch. 7). He has also previously noted that SEZs have been promoted as a way of escaping union power, but Indian SEZs have in fact maintained unionization rights within the SEZs (Bagwati 2004, p. 176).

Poland's SEZ scheme also looks like a scheme driven by other motivations than general reforms. In the 1990s, the Polish government used SEZs as a redistribution tool, meant to revitalize areas devastated by the industrial decline that followed the collapse of socialism. The scheme was highly centralized, which allowed the government to reallocate resources from more successful to less successful areas. However, this also meant that the SEZ framework was open to manipulation, which allowed businesses to influence the policy to serve their interests. The redistributive nature of the system implies that the inter-jurisdictional externalities have been negative. As a result, while the scheme has expanded greatly, the SEZs look more like vehicles for rent seeking. They have likely played a larger role in misallocating resources than promoting development in the country as a whole (Gwosdz et al., 2007: 831).

More than half of Sub-Saharan countries have introduced SEZ schemes, but most of them have shown disappointing performance. Investment attracted to African SEZs has often been unsustainable and vulnerable to political developments (Farole, 2011: 67-69). Nigeria's zones sparked a conflict with the customs authorities, which refused to give up their revenues by implementing lower tariffs (Farole, 2010a: 20). And the zone program in Senegal in 1991 served primarily as a safety valve for protected domestic businesses (Baissac, 2011: 12).

Ghana may provide the best example of how SEZ schemes can fail despite superficially superior design. It is worth taking a closer look in order to illustrate the importance of paying attention to the political dynamics. Introduced in 1995, Ghana's SEZ program looked promising by the standard benchmarks. According to a World Bank report, it was "one of the best designed, most flexible, and most innovative" in Africa (Farole, 2010b: 23). It had stable rules and codes that contributed to a seemingly secure and reliable business climate (Farole, 2010b: 12). Ghana also relied on the private sector for zone development, which is regarded as "best practice" for SEZs (Farole, 2010b: 15).

Like China, Ghana introduced large zones, diversified into a wide range of businesses, including services (Farole, 2010b: 3; Ge, 1999: 1269; Fenwick, 1984: 380). The incentives for businesses were in fact more attractive, clearer, and more transparent in Ghana than in China (Farole, 2010b: 12). Superficially, it seemed that Ghana would be at least as successful as China in using SEZs to promote reforms.

However, the SEZs in Ghana were not the result of local advocacy and did not reflect local interests. Instead, they were created under a political agreement as part of the central government's industrialization strategy (Ansah, 2006). As a result, it lacked liberalization externalities. The centerpiece of the scheme was the SEZ in the port of Tema, about 16 miles east of Accra (Farole, 2010b: 3). The government granted the right to develop the Tema zone and the control over the development of Ghana's Port Authority to Business Focus. This was a company owned by Datuk Shah Omar Shah, a Malaysian businessman with close links to the Malaysian prime minister and his party (Ansah, 2006: 274; Farole, 2011: 193). However, when disagreements erupted over infrastructure and service delivery at Tema, Business Focus halted its ongoing development, and Ghana's government was unable to make the company resume its work (Ansah, 2006: 286; Farole, 2010b: 4). The SEZ at Tema was more or less deserted until 2005, when the World Bank started sponsoring the project (Farole, 2010b: 4; Shan, 2011).

Five years later, the SEZ scheme was described as a relative success in the African context (Farole, 2011: 70). However, by 2009, around 98% of its FDI originated in single factory zones, which are not really zones but rather single companies enjoying special privileges. Single factory zones, reflecting companies' ability to obtain fiscal favors from the government, are hardly harbingers of national reform. In 2010, such companies accounted for 36% of the country's exports, while the zone at Tema stood for only 8% (Farole, 2010b: 9, 11).

The problem with Ghana's SEZs was not a misfortunate zone location. The Tema port has been important for Ghana's economy for decades. Ghana was in no way a country somehow incapable of reform. It saw substantial liberalizing and growth-promoting reforms more than a decade before the SEZ. Instead, the problem was that those initiating the SEZ scheme lacked the incentive to create a zone that could attract enough investors, and thus promote broader liberalization in the country. In part because

of a cumbersome registration process for SEZ firms, policies at Tema were actually no freer than the rest of the country (Farole, 2010b: 16, 18). The reason why the World Bank has been over-optimistic about Ghana's SEZs is because they focused on standardized policy and institutional benchmarks, while the problem was in fact one of misdirected incentives of the main decision-makers involved.

These examples illustrate the point that the absence of local interest is a red flag that warns about the absence of potential for real economic benefits of SEZs. The incentive structure of SEZs is much more reliable as a sign of success than the often-touted success criteria, such as proximity to a port or strong central government commitment. Although SEZs are, by their nature, the result of top-down decisions, and they are not federalism, they are nonetheless more likely to succeed when they are closer to the idea of federalist self-governance.

6 Conclusion

We have argued that special economic zones (SEZs) can be a powerful tool in the pursuit of countrywide liberalizing reforms, but only under specific conditions. SEZs can be, and usually are, mere vehicles for rent-seeking. However, by understanding how SEZs can become successful, we also see how they can generate a gradual process towards countrywide reform, which may be more reliable than a single country-wide reform. The “liberalization avalanche” process described here is harder to reverse because it gradually expands the range of elites who favor reform.

It is often assumed that economic liberalization depends on a unified leadership that is committed to reform (Haggard et al., 1990: 26; Sachs, 2012). Centralized power under a benevolent despot or a unified leadership is seen as a condition for reliable economic reforms (Blanchard and Shleifer, 2001). We have argued that such conditions are neither necessary nor favorable for an SEZ-driven reform process, but actually make it less likely to happen.

Can China's success story with SEZs be reproduced? We have seen how many, if not most, SEZs have failed to live up to expectations. India's zones seem to have been a net loss for the country, primarily due to high infrastructure costs and poor management (Moberg 2014). Ghana's main SEZ was praised for satisfying all of World Bank's

assessment criteria (Farole, 2010b). Nevertheless, the zone failed.

Alas, it seems that SEZs success depends on the prevailing institutional context where they are introduced, and whether SEZs can be a viable institutional opportunity to be speculated by political entrepreneurs with strong local interests. This is what allowed the Chinese SEZs to play an important role in China's reforms (Litwack and Qian, 1998). The prospect of higher tax revenues led local officials to push for their creation. Thanks to a fractionalized government, the Chinese SEZs could expand despite the opposition of powerful government officials to liberalization.

The heterogeneity of interests not only explains China's success, but also why different countries see different results from SEZ programs that on the surface look similar. The main problem with SEZs is not that they fail to live up to the goals of their initiators. It is that under the wrong circumstances, these goals are not economic liberalization and growth, but political favors and rent-seeking.

Whether SEZs promote development thus depends on the incentives faced by the policymakers who choose to use them. Our analysis does not provide a recipe for centralized government to create successful SEZ programs, but rather for external observers, be they academics or World Bank advisors, to distinguish between SEZs programs with and without potential to promote economic development. When central government officials provide ambitious plans for zones to open up and grow the economy, the question must always arise whether the zones constitute mere vehicles for rent seeking. Unintuitively, it is when the zones are introduced in opposition to the ruling elite that the SEZ model can live up to all its potential.

Annex

Problem: Let functions $T(\lambda)$ and $R(\lambda)$ be obtained by maximizing $f(T, R, \lambda)$ subject to the constraint $B = \tau T + \rho R$. Find $f(T, R, \lambda)$, such that $\forall \lambda \geq \Lambda$, $h(\lambda) = f(T(\lambda), R(\lambda), \lambda)$ is a monotonously increasing function.

Solution: Function $h(\lambda)$ is monotonously increasing iff it has at least one minimum for $\forall \lambda \geq \Lambda$. Technically, we are good searching for an extremum, as the f can be redefined as $-f$, if the rightmost extremum happens to be a maximum. To find the extremum, we define the Lagrangean:

$$L(T, R, \lambda, \mu) = f(T, R, \lambda) + \mu[B - \tau T - \rho R]$$

Maximizing the Lagrangean leads to the following set of equations:¹

$$\begin{cases} \rho f_T - \tau f_R = 0 \\ \tau T + \rho R = B \end{cases} \quad (\text{A1})$$

We define the Jacobian determinant:

$$J(T, R, \lambda) = \rho f_T - \tau f_R$$

Furthermore, we add the condition that h has an extremum:

$$\frac{dh}{d\lambda} = 0 \implies \frac{d}{d\lambda} f(T(\lambda), R(\lambda), \lambda) = f_T \frac{dT}{d\lambda} + f_R \frac{dR}{d\lambda} + f_\lambda = 0 \quad (\text{A2})$$

We obtain functions $\frac{dT}{d\lambda}$ and $\frac{dR}{d\lambda}$ by differentiating system (A1):

$$\begin{cases} \frac{d}{d\lambda} J(T, R, \lambda) = 0 \\ \frac{d}{d\lambda} \tau T + \rho R = \frac{d}{d\lambda} B \end{cases} \implies \begin{cases} J_T \frac{dT}{d\lambda} + J_R \frac{dR}{d\lambda} + J_\lambda = 0 \\ \tau \frac{dT}{d\lambda} + \rho \frac{dR}{d\lambda} = 0 \end{cases} \implies \begin{cases} \frac{dT}{d\lambda} = \frac{\rho J_\lambda}{\tau J_R - \rho J_T} \\ \frac{dR}{d\lambda} = \frac{\tau J_\lambda}{\rho J_T - \tau J_R} \end{cases}$$

Substituting these in eq. (A2) we obtain:

¹ We use the subscript notation, $\frac{\partial f}{\partial x} \equiv f_x$.

$$f_\lambda \tau J_R - \rho J_T = 0$$

Consequently, a sufficient condition for function $h(\lambda)$ to have a minimum is for

$$f_\lambda(T(\lambda), R(\lambda), \lambda) = 0 \quad (\text{A3})$$

All production functions that obey this condition lead to the same conclusion as the Cobb-Douglas production function we use in the main text. This means that the production function must depend on λ only indirectly, via functions $T(\lambda)$ and $R(\lambda)$. In other words, the level of liberalization does not affect the revenues directly, but only through its effects on rent-seeking and taxation.

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