Three Essays on State Capacity

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ABSTRACT

This dissertation involves three essays on state capacity. The first essay presents a formal model of state building as a domestic bargaining game between local elite and central ruler to explore the relationship between warfare and fiscal centralization. In this study, I show that the central ruler's future expectations are a key determinant of the chosen method of fiscal expansion under war pressure. Fiscal decentralization, rather than fiscal centralization, is more likely when wars create a high survival threat for the ruler. The Ottoman Empire in the nineteenth century is used as a case study to demonstrate the results of the model. The second essay analyzes the historical determinants of state capacity by looking at the interactions between early statehood and the colonial period experiences. Using ordinary least squares and instrumental variables regressions on a cross-country dataset of colonized and non-colonized countries, I find that the impact of early (pre-1500) statehood on current state capacity is conditional on colonization. Early statehood is positively associated with state capacity for non-colonized countries while it is negatively associated with state capacity for colonized countries. The final essay analyzes the relationship between bureaucratic quality, democracy and trade liberalization. In this essay, I argue that bureaucratic quality shapes the effect of democracy on trade liberalization because bureaucrats play an active role in the trade policymaking process when bureaucratic quality is high. Using panel data, I find evidence in line with existing arguments that democracy is positively correlated with trade liberalization. However, this effect only exists in countries with low levels of bureaucratic quality. When bureaucratic quality is high, the relationship between the level of democracy and trade liberalization weakens.

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1 Three Essays on State Capacity

This dissertation involves three essays on state capacity. The first essay, *War and State Capacity: Is Fiscal Centralization the Only Answer?*, presents a formal model of state building as a domestic bargaining game between the local elite and central ruler. The essay reveals conditions that lead to fiscal centralization and decentralization under the threat of war. The second essay, *Historical Origins of State Capacity: The Diffusion of the Modern State* analyzes the historical determinants of state capacity by looking at the interactions between early (pre-1500) statehood and the colonial period experiences. The final essay, *Bureaucratic Quality, Democracy, and Trade Policy* analyzes the effect of state capacity, particularly bureaucratic quality, on policymaking. For this purpose, the trade liberalization wave of developing countries (1970-1999) is used as the global policymaking setting. In the remainder of this section, three separate abstracts for each project will follow.

Fiscal capacity is key for states. Without tax revenue, states cannot invest in public goods or redistribution. The literature points to modern warfare as an important trigger of the development of fiscal capacity in early modern Europe, yet warfare does not play an important role in state building outside Europe. Why has the positive effect of warfare on state formation been limited to Western Europe before the nineteenth century? How did the states outside Europe respond to war pressure? In order to answer these questions, the first essay, *War and State Capacity: Is Fiscal Centralization the Only Answer?*, presents a formal model of state building as a domestic bargaining game between the local elite and the central ruler. When war poses a serious survival threat, the central ruler chooses from the two available strategies to increase central revenues: fiscal centralization and fiscal decentralization. The local elite accepts or rejects the central ruler's chosen strategy. In the equilibrium, fiscal centralization requires prospects for survival and economic growth. If the ruler has short time horizons, fiscal decentralization is a shortcut to increase central revenues at the expense of higher revenues in the future.

The second essay, *The Diffusion of the Modern State*, theorizes that the modern state

diffused to the world after it emerged in Western Europe. Early statehood and colonization experiences determine the type and the motivation of the diffusion. In order to support this theory, the paper analyzes the empirical relationship between early statehood, colonization, and their interaction. Using a cross-country dataset of colonized and non-colonized countries, the paper shows that the impact of early (pre-1500) statehood on current state capacity is conditional on colonization. Early statehood is positively associated with modern state capacity for non-colonized countries, whereas the relationship between early statehood and modern state capacity is negative for colonized countries. Results are consistent with the theory on the diffusion of modern state. Modern state institutions diffuse to colonized countries with low levels of early statehood after colonization and to non-colonized countries with high levels of early statehood through international competition. Diffusion does not take place in colonized countries with high levels of early statehood since colonizers rely on existing political institutions for extractive purposes. Non-colonized countries with low levels of early statehood do not experience diffusion since neither colonization nor competition is in place.

The third essay, *Bureaucratic Quality, Democracy, and Trade Policy*, takes state capacity, i.e. the quality of bureaucracy, as an independent variable to explain variations in policy-making across the world. Bureaucratic quality is defined as a state's ability to collect taxes and provide services with insulated and expert bureaucracies without major disruptions to policymaking. Using a cross-section time-series dataset, the essay analyzes bureaucratic quality, democracy, and their interaction as the determinants of variations in trade policy during the trade liberalization wave of developing countries between 1970 and 1999. The results show that the effect of democracy on trade openness is significantly higher for low bureaucratic capacity states than high bureaucratic capacity states. In other words, developing democracies were more likely to liberalize trade when they had lower quality bureaucracies. The findings provide supporting evidence towards the theory that bureaucracy played a role in the trade liberalization process when bureaucratic quality is high.

2 War and Fiscal Capacity: Is Centralization the Only Answer?

2.1 Introduction

The modern state, defined as a state that can raise revenues with a centralized system of taxation and expert bureaucracies, first emerged in early modern Europe(Hintze, 1975; Brewer, 1988; Tilly, 1992; Ertman, 1997). Drawing from this period, Tilly (1992) famously stated that war made state. Recent empirical studies presented evidence for the positive association between interstate wars and state building in early modern Europe (Besley and Persson, 2009; Dincecco, 2011; Karaman and Pamuk, 2013; Gennaioli and Voth, 2015). Therefore, war is pointed out as a major determinant of the modern state in the literature. On the other hand, regional studies of sub-Saharan Africa (Herbst, 2000) and Latin America (Centeno, 2002) conflict with the findings on the bellicist theory of state formation. Why has the positive effect of modern warfare on state formation been limited to Western Europe before the nineteenth century? How did the states outside Europe respond to the war pressure? What role did the war play in the formation of modern states outside Europe after the nineteenth century?

Fiscal capacity is key for states. Without tax revenue, states cannot invest in public goods or redistribution. Existing theories of successful state building are developed specifically from the experience of advanced industrial countries of Western Europe. Thus, how weak states build capacity remains a puzzle. Almost by definition, the local elite plays an important role in the operation of weak states. Using a formal model, this paper presents how the decision to fiscally centralize or decentralize is a key outcome of the strategic interaction between local and central elite. What motivates this study is the crucial role decentralized tax collection played in the state capacity building in the developing world. This paper fills a gap in the literature as the existing models of state building discussed predominantly the role fiscal centralization plays in fiscal capacity and therefore, state building.

The simple logic that binds warfare to the modern state is that warfare requires money. States rely on different sources of revenues to finance wars such as centralized and decentralized tax collection and international loans. Advancements in military technology motivate innovation in revenue generation methods. For instance, advancements in military technology forced Western European rulers to increase central budgets between the fifteenth and eighteenth centuries. As a result, they established centralized systems of taxation (Dincecco, 2011) and expert bureaucracies, i.e. the modern state. Fiscal centralization, under which revenues are collected directly by central bureaucrats, replaced fiscal decentralization in Europe.[1] Alternative methods to increase central revenues, such as international loans, were also available to rulers in other parts of the world in different time periods. In the nineteenth century, Latin American states and the Ottoman Empire financed their wars by partly relying on international loans.

Expanding central revenues under fiscal decentralization has also been possible. Under fiscal decentralization, local revenues are collected by the local elite and transferred to the central government. In other words, taxes are collected by decentralized actors; although at least some proportion of the revenues is eventually directed to the central budget. Therefore, making changes in the arrangements with the local notables can lead to increases in central revenues. China, at the beginning of the twentieth century, and Poland, in the early modern period, picked fiscal decentralization over fiscal centralization in increasing central revenues. The Ottoman Empire settled in fiscal decentralization by the end of the nineteenth century after experimenting with fiscal centralization. The question becomes, when do central rulers prefer to invest in fiscal centralization rather than trying to collect revenues through decentralized methods by relying on existing elite networks?

In this study, I show that the central ruler's expectations for the future are a key determinant of the chosen method of fiscal expansion under war pressure. For this purpose, a formal model is used to focus on the trade-offs between fiscal centralization and decentralization. I

[1] Adoption of different taxes such as progressive taxes is also attributed to mass warfare in the literature (Scheve and Stasavage, 2010).

treat the method of fiscal expansion as an outcome of the bargaining between central rulers and local elites. The key takeaway from the model is that fiscal decentralization, rather than fiscal centralization, is more likely when wars create a high survival threat for the ruler. Central rulers are more likely to pick fiscal decentralization over fiscal centralization when their need for revenue is immediate because fiscal centralization requires investment. On the other hand, fiscal decentralization is a shortcut to increasing central revenues at the expense of higher revenues in the future. The model also shows that revenue increases with decentralized methods are more likely when the level of economic growth is lower. Countering the common understanding in the literature, the model shows that the formation of a modern state that can raise revenues with a centralized system of taxation and expert bureaucracies can be hindered as a result of a war threat depending on the war's expected outcome in the eyes of a decision-maker – the central ruler. Under the expectation of collapse, fiscal expansion with fiscal decentralization is preferred. Expectations from future shape the behavior of the ruler. The Ottoman Empire in the nineteenth century is used as a case study to demonstrate the results of the model because the Ottomans faced a significant survival threat throughout that time period. The Ottoman Empire was characterized as the "sick man of Europe" by European states at the time, and the dissolution of the empire was seen as imminent.

In the literature, war is seen as a major determinant of state building. Tilly (1992) shows the critical role of interstate war pressure in the European state building trajectories. Recent empirical studies corroborated the positive association between interstate wars and fiscal centralization in early modern Europe (Besley and Persson, 2009; Karaman and Pamuk, 2013; Dincecco and Katz, 2014; Gennaioli and Voth, 2015). The theoretical accounts of modern state building assert that rapid advancements in war technologies provided the incentives for European kings to develop state institutions capable of extracting resources directly from societies under the constant pressure of war (Brewer, 1988; Tilly, 1992; Gennaioli and Voth, 2015). This finding explains why European wars before the fifteenth century did

not lead to modern state building. Rapid economic growth (Burgess and Stern, 1993) and urban/industrial economic structure (Tilly, 1992; Karaman and Pamuk, 2013) are also listed as conditions specific to the state building process of Western Europe.

Although existing theories of modern state building are still dominated by the Western European experience, previous social science research successfully challenged the generalization of a European phenomenon into a universal fact. Additional findings from sub-Saharan Africa (Herbst, 2000) and Latin America (Centeno, 2002) support the fact that war pressure does not necessarily lead to fiscal centralization outside Western Europe. Centeno (2002) argues that the constant warfare in Latin America has led to the destruction of state institutions rather than state building. Similarly, Herbst (2000) argues that the constant warfare in Africa was not followed by state building due to the absence of necessary structural conditions in the continent. Queralt (2019) shows that the emergence of global capital markets undermined the association between war and state building in the developing world. Barkey (1994) argues that the Ottoman Empire exemplifies an alternative path of state building. Ottoman Empire preferred to decentralize tax collection practices under the pressure of war. Instead of investing in building a centralized fiscal state, the Ottoman state subcontracted the right to collect taxes to private interests in order to get funding to finance wars with European states and Russia (Barkey, 2008).

This paper contributes to the growing body of regional studies that challenges the bellicist theory of state formation by showing that war does not always make state. The paper argues that the short time horizons of the decision-maker stemming from the significant weakness of the state can hinder the relationship between war and modern state building. This argument is in line with the empirical findings of Schenoni (2021). Schenoni (2021) shows that the empirical association between war and state building is undermined with the state capacity outcomes of the consistent losers of wars in Latin America.

In the formal model literature, war threat is universally seen as a determinant. Besley and Persson (2011) present a model of state capacity building to explain strategic decisions

to invest in fiscal capacity with a focus on the competition between the incumbent and the opposition with a system of exogenous re-election. Later studies analyze under what conditions war causes a state building outcome. Using a formal model, Gennaioli and Voth (2015) show that wars increase fiscal capacity only when the relevance of expenditures at shifting the war outcome are larger relative to the cost of increasing fiscal capacity. Queralt (2019) introduces loans as an alternative form of war investment in the face of a war threat using a decision-theoretic model. Queralt (2019) analyzes when obtaining loans, rather than investing in fiscal centralization, is a better response to a war threat from the perspective of the ruler.

The major contribution of the paper is that it shows, formally, that the relationship between war and state building depends on the ruler's expectations from the outcome of the war. If the decision-maker has short time horizons due to expectations of a future collapse, they have no incentive to invest in fiscal decentralization. When the state is significantly weaker than the rival states, war is a real threat to survival. In the model, this relative weakness is captured with a variable that reflects the shorter time horizons of the central ruler. This argument is a contribution to the other conditions in the formal model literature such as war technology (Gennaioli and Voth, 2015) and availability of international loans (Queralt, 2019).

The remainder of the paper is structured in the following manner. Section 2 puts the study into a theoretical framework with a more detailed discussion of the theoretical, empirical, and game-theoretical findings in the literature on war and state building. Section 3 describes the model. Section 4 illustrates the historical case of the Ottoman Empire in the nineteenth century. Section 5 concludes the paper.

2.2 Modern State Building and War

The argument made in this paper is based on the critical junctures framework (Collier and Collier, 1991). The modern fiscal state is treated as a legacy of the state building

critical juncture that took place in early modern Western Europe. In Collier and Collier (1991) terms, this critical juncture was triggered by interstate warfare and was embedded in *antecedent conditions*, such as military revolution, power dynamics between kings and aristocracy, and geography. The emergence of the modern fiscal state in early modern Europe occurred in the form of an *extended period of reorientation* (Collier and Collier, 1991) as it took centuries to be completed. Nevertheless, critical junctures can also be in the form of brief periods in which one direction is taken. Some critical junctures may entail *considerable discretion* whereas in others the choice is deeply embedded in *antecedent conditions* (Collier and Collier, 1991).

In this paper, I treat the emergence of the modern state, i.e. fiscal centralization, as an outcome of considerable discretion. Central rulers of the developing world can choose to implement fiscal centralization in order to increase central revenues after observing the Western European fiscal institutions and bureaucracies. In other words, rulers of the weak states can also choose to improve their traditional fiscal states, rather than building modern states, to increase central revenues. Recent literature shows that delegating tax collection to the local elite is still a viable strategy for weak states (i.e. states that do not have an established tax collection capacity and strong bureaucracy) (Khan, Khwaja and Olken, 2015; Sanchez de la Sierra, 2020; Balan et al., 2020). In a similar vein, Dincecco (2011) points to the failure of the theories that assume fiscal centralization for fiscal capacity building in explaining variations in authoritarian governments.

The structure of the model in this essay derives from the evidence in the literature. The two major players of the model, the central ruler and the local elite, are discussed in the literature as major decision-makers in tax collection. The critical role of the central ruler in determining tax collection methods is obvious as the ruler, by definition, is in charge of the central budget. The local elite also plays an important role in fiscal expansion even under different institutional settings. Blaydes and Chaney (2013) define the relationship between the ruler and local elites in Europe as productively adversarial in creating political stability.

Although the norms surrounding the prevailing relationship between land and elites within the Ottoman Empire were very different from Western Europe and the military recruitment process (mamlukism) is found to be a factor that prevents the rise of the local elite in Ottoman Empire Blaydes (2017), Karaman and Pamuk (2010) presents how the local elite in the Ottoman Empire played an active role in tax collection, and they had the power to capture some portion of tax revenue for personal gains.

The distinction between the modern state and the traditional state is attributed to the fiscal practices in the literature. For instance, He (2013) introduces the distinction between modern fiscal states and traditional fiscal states. According to his framework, a major distinction between these two types of states is based on their revenue generation practices. Traditional fiscal states rely on decentralized tax collection whereas modern fiscal states rely on centralized tax collection and therefore, strong bureaucracies.

Parameters that capture economic growth is part of the fiscal centralization model in section 2.3.3. According to Wallerstein (1974), changes in domestic economic structure triggered the modern state building due to the elite needs to govern economic activity. For instance, industrializing European states experienced a switch from agriculture-based economic structures to urban-based economic structures. During the same time, Ottoman Empire relied on agriculture-based economic structures. Tilly (1992) argues that the differences in state building experiences across Europe were driven by the differences in economic structures. He distinguishes economies as rural and urban regions. He places Western European states, such as the Dutch Republic, England, and France, in the latter category. Political concessions are also pointed out as determinants of a modern state building process in the literature. For instance, Tilly (1992) stresses the importance of parliaments in providing security guarantees to the landed elite in return for their concessions. According to Greif, Milgrom and Weingast (1994), representative institutions are important to provide a venue for the elite to overcome collective action problems. The strength of parliaments varied with time and region. For instance, the Ottoman Empire did not have strong representative institutions

during the state building nineteenth century. The existing ones were weak and regularly threatened by absolutism. Barkey (1994) argues that the ruler had the capacity to raise over elites and could play them against each other due to collective action problems in the Ottoman Empire.

Fiscal centralization is seen as a key pillar of state building. Is fiscal centralization imperative for state building? This paper also contributes to the discussion on the relationship between fiscal centralization and state building by arguing that fiscal centralization is not the only avenue to increasing central revenues and therefore, state capacity. I analyze the strategic interactions between the local elites and central rulers in order to answer the following question: When do central rulers switch to investing in fiscal centralization rather than trying to expand tax capacity by relying on existing decentralized tools such as tax farming with life term rents? Building a modern state, i.e., fiscal centralization, is not the only path to fiscal capacity building. Employing existing local elite networks of the traditional fiscal state to increase central revenues, i.e. fiscal decentralization, is a viable strategy for weak states. Incorporating fiscal decentralization as an alternative strategy can help researchers address the failure of existing theories.

This paper directly speaks to the literature on formal models of war and state capacity. In the canonical study of this literature, Besley and Persson (2011) present a model of state capacity building to explain strategic decisions to invest in fiscal capacity with a focus on the competition between the incumbent and the opposition with a system of exogenous re-election. Besley and Persson (2011) model the future fiscal capacity as a rational forward-looking decision where rulers weigh the present cost of investing in fiscal capacity against the uncertain expected future benefits. In other words, the high chance of war tomorrow increases the possibility of investment today. Their model reveals that investment in fiscal capacity is more likely when political institutions are cohesive or when political stability is high. Besley and Persson (2011) analyze the given economic and political factors that affect the decision to invest. The authors implicitly assume that fiscal centralization is the only

response to a war threat.

The question is whether fiscal centralization, i.e., building a modern state, is the only outcome of war pressure? In Besley and Persson's (2011) model, rulers can invest in fiscal capacity by paying its cost in period 1, and this capacity becomes available in period 2. Yet, investing in the anticipation of war may not be a rational decision when the war threat is imminent. Queralt (2019) introduces loans as an alternative form of war investment in the face of an imminent war threat using a decision-theoretic model. Queralt (2019) analyzes when global financing, rather than investing in fiscal centralization, is a better response to a war threat from the perspective of the ruler. In this paper, I introduce an alternative method of financing wars: fiscal decentralization.

Constant warfare did not lead to fiscal building in sub-Saharan Africa and Latin America (Herbst, 2000; Centeno, 2002). Additionally, wars happened long before the pre-modern age of Europe, yet fiscal centralization did not take place. Therefore, another question about the relationship between war and state capacity is related to the type of war. Is there a specific type of war that is more likely to kindle investments in fiscal capacity? Gennaioli and Voth (2015) analyze the relationship between war and state capacity. They find that fiscal revenue becomes a predictor of military success after 1650. Using a formal model, Gennaioli and Voth (2015) show that wars increase fiscal capacity only when the relevance of expenditures at shifting the war outcome is larger relative to the cost of increasing fiscal capacity. This finding emphasizes the role of military revolution that increases the decisiveness of money in shifting the war outcome. For the model, they focus on the strategic decisions of two rival states in raising revenues and entering a war with one another. The model does not take the internal dynamics of revenue-raising into account. In this paper, I focus on the interactions between the central and local elite under the pressure of war.

To summarize, this study focuses on an alternative method of raising revenues in the face of an imminent war threat. I introduce modifications in the traditional state through decentralized tax collection as an alternative strategy to the fiscal centralization strategy (Besley

and Persson, 2011) and loans (Queralt, 2019) in increasing central revenues. Modifications in traditional tax collection methods are among faster responses to an imminent war threat and they do not require dramatic changes in political institutions as they do not alter the role of existing players of the political game. In the model, I analyze the strategic interactions between the central ruler and the local elite. By doing so, I attempt to understand the internal dynamics of tax financing under the threat of war.

In the next section, I illustrate the historical case of the Ottoman Empire's fiscal expansion that took place in the nineteenth century. At the time, Ottoman Empire was a non-democracy with an ethnically heterogeneous society and agriculture-based economy. The Empire experimented with different methods of fiscal expansion and state capacity building throughout the century and collapsed eventually. Assessing the methods used by the Ottomans to expand fiscal capacity will enhance our understanding of the state capacity and governance challenges of the developing world. Western European history offers a rare experiment with institution-building and economic development. The Ottoman Empire, with its heterogeneous society and low levels of industrialization and economic development, represents a strong historical case to learn from as its structural conditions are much more similar to today's developing countries.

2.3 A Model of Fiscal Bargaining

In this section, I construct a simple model that investigates the strategic interactions that lead to decisions about tax collection methods when the markets are not fully developed. In an infinite-period, perfect information setup, I establish that short time horizons of a decision-maker established by a survival threat in the first period increase the likelihood for fiscal decentralization decision that will bind all future periods because players discount the future in the face of this imminent survival threat. A collapse of the state makes any investment in fiscal centralization void. Below, I introduce the model, solve for the equilibrium and the comparative statistics, and interpret the results.

2.3.1 Baseline Setup

There are two players in the model: the central ruler, or King, K and the local elite, or Lord, L. In the baseline model, tax collection is decentralized. In other words, a central ruler K relies on yearly transfers from taxation by a local elite L. This model reflects the dynamics of a traditional fiscal state without fiscal expansion attempts. For the sake of simplicity, I assume there is only one local elite in the country. This assumption can also be interpreted as the local elite of population 1 acts homogeneous. The game is an infinitely repeated game with the same sequential game in each period. Both players infinitely live with respective stationary discount factors, δ_K, and δ_L. The model is stationary since all decisions are made at the beginning of the game on the basis of present value. In other words, players decide on strategies that will affect all future payoffs at the beginning of the game. Infinite periods are included in the model in order to account for the forward-looking decision-making behavior of the players. Although the model with stationary discount factors resembles a two-period game, the infinite period is included in the model to account for the short-sighted vs. far-sighted decision-making behavior of the ruler. Since expectations from future and time horizons are included as an important condition in strategic calculations of state builders, future utilities are captured in the form of an infinitely repeated game. This assumption can be interpreted as a ruler's expectation that their institutional choices will affect all future periods without considering future changes in structural conditions or successor preferences.

In the market, some of the goods are converted to monetary terms, while others remain in the forms of agricultural product or livestock. Preferences are linear in market goods that can be transferred into monetary form, G_m, and in subsistence goods that remain in non-monetary form (after consumption), G_a. The ruler can tax market production (G_m), yet subsistence goods (G_a) are harder to tax due to problems with storage and transfer. Therefore, I assume that subsistence goods are not taxable directly by the ruler. In this setting, the proportion n of all goods is market goods. The rest, proportion $1 - n$ remains in agricultural form.

In the infinite horizon game, the market economy will grow by α every year. For a growing economy, $\alpha \geq 1$. The growth rate of $\alpha - 1$ affects market goods G_m.

Local elite decides on n after observing tax rate τ and controls the total production remaining after tax. The central ruler K's payoff is equal to the total amount of collected taxes from market goods.

There are two key assumptions for the strategic interactions between the central ruler and the local elite. First, there are no financial markets, so loans are not available and the only source of income for the central ruler is taxation. This assumption reflects the conditions of a state that is unable to take loans due to its inability to pay debts or due to a global financial crisis (e.g. the Ottoman Empire during the final quarter of the nineteenth century[2]). Another assumption is that one unit of market goods yields more value compared to the one unit of subsistence goods ($G_m > G_a$).

The local elite's total payoff in one period is equal to total output remaining after tax:

$$u_L = (1 - \tau)\alpha G_m n G_m + (1 - n)G_a.$$

The central ruler's total payoff in one period is equal to the amount of taxes:

$$u_K = \tau \alpha n G_m.$$

Timing In the baseline model, the central elite K sets the tax rate τ. The local elite L observes the tax rate and decides the mode of production in the immature market economy with two types of goods. In other words, L determines n.

[2]Loans were difficult to obtain due to a world financial crisis in 1873 and Ottoman public debt was already more than half of its revenue.

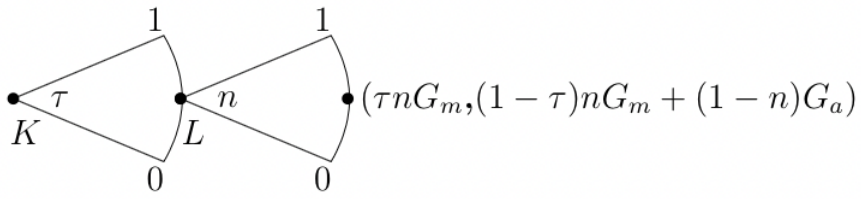

Figure 1: Determining the tax rate ($\alpha = 1$)

Determining the Tax Rate With the backwards induction, L observes the tax rate set by the K and sets n, the proportion of market goods. The key trade-off that prevents the central ruler from collecting all the output as tax is that the local elite can choose to produce only non-taxable goods G_a by setting $n = 0$ after observing the tax rate. As a result, the central ruler will pick the tax rate that will maximize the proportion n. The central ruler's choice of tax rate maximizes their total payoff. Therefore, the central ruler K sets the tax rate that will maximize the production of market goods.

Remember that the total goods G_T is the sum of market goods and subsistence goods where n proportion of the producers produce market goods:

$$G_T = \alpha n G_m + (1 - n)G_a, \;\; 0 \leq n \leq 1, \;\; G_a \leq G_m$$

where only G_m is taxable by the central ruler.[3]

Lemma 1: *There exists an equilibrium in which the tax rate is set as* $\tau = \frac{\alpha^t G_m - G_a}{\alpha^t G_m}$ *where* $0 \leq \tau \leq 1$ *with the assumption that L picks* $n = 1$ *when indifferent.*

Proof: I solve for the equilibrium using backwards induction. The value of the monetary good in period $t \geq 0$ is $\alpha^t G_m$ due to economic growth. The value of the agricultural good in

[3]The distinction between two types of goods is similar to the modeling technology used in Gennaioli and Voth (2015), Gailmard (2017), and Bonfatti et al. (2020)

period t is G_a since economic growth does not affect the consumption value of the subsistence goods. Lord's problem in period t is to

$$\max u_L \text{ w.r.t } n \text{ where}$$
$$u_L = (1-\tau)n\alpha^t G_m + (1-n)G_a.$$

This gives us the following first order condition:

$$\frac{du_L}{dn} = (1-\tau)\alpha^t G_m - G_a = 0.$$

Rearranging yields:

$$\tau = \frac{\alpha^t G_m - G_a}{\alpha^t G_m} \equiv \tau_0.$$

Observe that u_L is increasing in n if and and only if

$$(1-\tau)\alpha^t G_m - G_a \geq 0 \Leftrightarrow \tau \leq \frac{\alpha^t G_m - G_a}{\alpha^t G_m}.$$

At the tax rate $\tau = \tau_0$, Lord's utility u_L does not depend on n. $\tau = \tau_0$ for any $n \in [0,1]$. If $\tau > \tau_0$, then Lord's optimal choice is $n = 0$. On the other hand, if $\tau < \tau_0$, then Lord's optimal choice is $n = 1$.

Consider now King's choice of τ that maximizes

$$u_K = \tau n \alpha^t G_m \text{ where } 0 \leq \tau \leq 1.$$

If $\tau > \tau_0$, then Lord will set $n = 0$ and King's utility will not be able to tax, $u_K = 0$.

If $\tau < \tau_0$, Lord will set $n = 1$ and King will get $u_K = \tau\alpha^t G_m$.

Notice that u_K is increasing in τ. Therefore, setting $\tau = \tau_0$ will increase King's utility by keeping n constant since L is indifferent of n at τ_0.

At the equilibrium, K best responds by setting $\tau = \tau_0$. L's strategy is to pick $n = 1$ where $\tau \leq \tau_0$ with the assumption that L picks $n = 1$ when indifferent. At the equilibrium tax rate, local elite prefers to produce market goods as market goods are assumed to be more valuable.

The market goods are assumed to be more valuable for the local elite because they are easier to collect and transport. Subsistence goods are for the consumption of the producers. Local elite cannot consume subsistence goods and therefore, prefers market goods as they are easy to store, transfer and convert into consumption and investment.

Subgame perfect Nash equilibrium outcome of the stage game entails K setting the tax rate at $\tau_0 = \frac{\alpha^t G_m - G_a}{\alpha^t G_m}$ and L allocating all the output to market goods ($n = 1$, $G_T = G_m$). In other words, K will set a tax rate that will not incentive L to switch any production from market goods G_m to subsistence goods G_a ■

Baseline Utilities In the baseline model, I calculate the single period payoffs of the central ruler (u_K) and the local elite (u_L) by plugging in the equilibrium tax rate (τ) and production allocation (n) into their respective utility functions. By doing so, I calculate the central ruler's utility in the baseline model's equilibrium as $(G_m - G_a)$ while the local elite's utility as G_a. In this calculation, I assume that the economic growth α is 1. In other words, growth rate is 0. In the baseline setting, there is no economic growth because tax collection is decentralized. When tax collection is centralized, economic development occurs and central revenues increase. The fiscal expansion in section 2.3.3 stems from economic growth. In the baseline model, there is no growth and therefore, there is no fiscal expansion.

The calculation for the central ruler's stage game utility is shown below:

$$\begin{aligned} u_K^* &= \frac{G_m - G_a}{G_m} n^* G_m \\ &= n^*(G_m - G_a) \\ &= (G_m - G_a). \end{aligned}$$

The local elite's stage game utility is calculated as following:

$$\begin{aligned} u_L^* &= (1 - \frac{G_m - G_a}{G_m})n^* G_m + (1 - n^*)G_a \\ &= n^* G_a + (1 - n^*)G_a \\ &= G_a. \end{aligned}$$

The infinite period payoffs are subject to discount rates δ_K, for the central ruler and δ_L, for the local elite. The discount rate, δ_K, represents time horizons of the central ruler. If there is a significant threat to survival, such as a war with a rival which has significant military and economic advantage and seeks dissolution of the attacked state, δ_K decreases. The central ruler discounts the future in the face of a present threat of dissolution and collapse. In the case of a war, δ_L also decreases since local elite's existence is also threatened. A key assumption is that δ_L remains higher than δ_K as the central elite has a probability of staying in power even if the central ruler is defeated. If the game is repeated for infinite number of periods, lifetime utility for the central ruler is

$$\begin{aligned} U_K^* &= \sum_{t=0}^{\infty} \delta_K^t u_K^* \\ &= \frac{G_m - G_a}{1 - \delta_K}. \end{aligned}$$

Similarly, lifetime utility for the local elite is

$$U_L^* = \sum_{t=0}^{\infty} \delta_L^t u_L^*$$

$$= \frac{G_a}{1 - \delta_L}.$$

In the next two sections, I will model fiscal expansion with fiscal decentralization and fiscal centralization, respectively. The goal is to understand the central ruler's decision-theoretic calculations in choosing the optimal method of fiscal expansion. In order to do so, I will use lifetime utilities that I calculated in this section as baseline utilities.

2.3.2 Fiscal Expansion with Fiscal Decentralization: Lifetime Rents

Fiscal expansion with fiscal centralization that reflects the Western European state building is captured in formal models in the literature (Besley and Persson, 2011; Gennaioli and Voth, 2015) and also in the upcoming section 2.3.3 of this study. In this section, I analyze fiscal expansion in traditional fiscal states, i.e. fiscal expansion with fiscal decentralization. Fiscal expansion with fiscal decentralization requires innovations and modifications in the existing decentralized tax collection methods in order to increase central revenues without centralizing tax collection methods. Although both the baseline model in section 2.3.1 and the model presented in this section capture fiscally decentralized tax collection practices, there are significant differences between the two models.

In the baseline model, the local elite taxes the local population and makes a yearly payment to the central ruler at the equilibrium tax rate. In the fiscal expansion model presented in this section, the central ruler still delegates tax collection rights to the local elite, but in return for a lifetime rent. Although the tax collection is still decentralized, i.e. operated by the local elite, the payment is made in one big installment instead of smaller yearly payments. This one-time lump sum payment is referred to as a lifetime rent.

This method is referred to as fiscal expansion with fiscal decentralization and lifetime rents. Collecting future taxes in the form of a lifetime rent allows the central ruler to increase the central budget in a short period of time. Fiscal expansion occurs at time t, yet at the expense of future tax revenues. Please note that fiscal expansion refers only to an increase in central revenues in a given period. Fiscal expansion is not necessarily an increase in state capacity. An increase in state capacity requires investment. Fiscal expansion with lifetime rents increases central revenues at a given time for a short-term relief without any investment in tax collection capacity. In that sense, lifetime rents are more similar to international loan finance than an investment in fiscal centralization. This method was used in the Ottoman Empire in the nineteenth century.

In the baseline model in section 2.3.1, there is no possibility for the ruler to choose between different methods of taxation. Decentralized fiscal collection with yearly payments is set as the given tax method. On the other hand, the ruler can choose tax collection methods in the analysis presented in this section.

The model presented in this section is similar to the baseline in section 2.3.1 in terms of taxable goods. In the lifetime rents model, the local elite is able to collect taxes from the population for both market goods and subsistence goods. Yet, the central ruler can only collect revenues from market goods in monetary form and transfer them to the capital. The tax from subsistence goods cannot be collected by the central ruler due to issues with transport and storage.

In fiscal decentralization model, there is no economic growth. The major premise of this paper is that fiscal centralization leads to economic growth which eventually expands the total tax revenues. This assumption is based on the theoretical link between the development of strong bureaucracy and an increase in economic growth in early modern Europe (Ertman, 1997) and empirical evidence that presents positive correlations between fiscal centralization and economic development (Evans and Rauch, 1999; Cornell, Knutsen and Teorell, 2002; Acemoglu, 2005; Besley and Persson, 2009, 2011; Dincecco and Katz, 2014). Additionally,

using a formal model, Gennaioli and Voth (2015) show that centralization facilitates growth of commerce due to efficiency in centralized tax collection. Fiscal centralization and strong bureaucracy lead to economic growth. Therefore, economic growth is positive in the centralization setting and α is assumed to be 1 under fiscal decentralization. On the other hand, the fiscal expansion in section 2.3.3 stems from economic growth.

The central ruler receives the tax revenue in the form of lifetime rents (R_{life}) from the local elite. The lifetime rent is a lump sum payment made to the central elite, K, by the local elite, L. The payment grants the local elite all the tax collection rights during L's lifetime. Lifetime rent is collected only once in a lifetime. Recall that in the baseline setting, tax collection is still decentralized, yet the tax payments are made to the central elite on a yearly basis.

Timing In the fiscal decentralization with lifetime rents model, the central ruler, K makes a lifetime rent offer to the local elite, L. Local elite either accepts or rejects. If the L accepts, K gets an immediate lump sum payment and L gains the lifetime right to collect revenues from the peasants. If L rejects, the tax collection remains as in the baseline model.

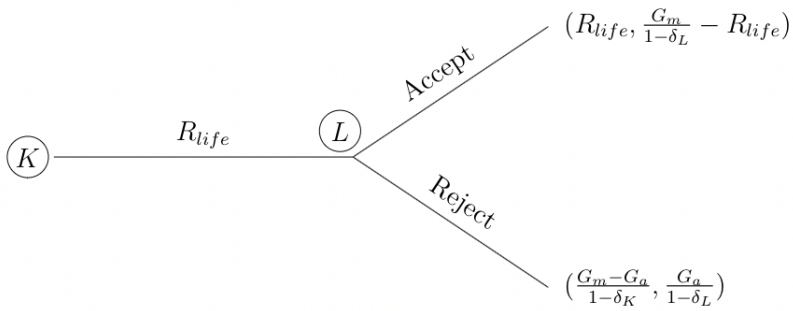

Figure 2: The game tree for the decentralization model with lifetime utilities

Fiscal Expansion with Fiscal Decentralization In the fiscal decentralization with life-time rents model, central ruler delegate the right to collect taxes to the local elite. Therefore, the tax rate is not part of the negotiation. On the other hand, the local elite pays a lifetime rent to buy the tax collection rights. The rent rate is an outcome of a bargaining between the central ruler and local elite.

With backwards induction, L observes the lifetime rent rate offered by the K and decides to accept or reject the offer. In doing so, L compares the expected utility from lifetime tax collection rights to baseline setting lifetime utilities (calculated in the previous section). K determines the lifetime rent rate, R_{life}.

Proposition 1: *There exists an equilibrium where the central ruler offers a life-time rent* $R_{life} = \frac{G_m - G_a}{1-\delta_L}$*, when* $\delta_L \geq \delta_K$*, and the local elite accepts when* $R_{life} \leq \frac{G_m - G_a}{1-\delta_L}$*.*

Proof: The local elite accepts the offer if L is better off in the lifetime rent case. In the lifetime rent scenario, all the production is in market goods form since yearly tax payments are not made to K and market goods are more valuable, recalling the assumption $G_m > G_a$. Therefore the lifetime utilities from the lifetime rents scenario will be equal to lifetime revenues from the market goods minus the one-time rent payment:

$$U_L^{life} = \sum_{t=0}^{\infty} \delta_L^t u_L - R_{\text{life}}$$

$$= \frac{G_m}{1-\delta_L} - R_{\text{life}}.$$

For L to choose lifetime rents scenario over baseline model taxation, the lifetime utilities from the former needs to be higher from the latter (recall the lifetime utilities in the baseline

setting from the previous section):

$$u_L^* \leq u_L^{\text{life}}$$

$$\Rightarrow \frac{G_a}{1-\delta_L} \leq \frac{G_m}{1-\delta_L} - R_{\text{life}}.$$

Rearranging yields:

$$\Rightarrow R_{\text{life}} \leq \frac{G_m - G_a}{1-\delta_L}.$$

Consider now King's offer of R_{life} that maximizes central revenues. The lifetime rent needs to be as high as discounted lifetime utilities in the baseline setting (recall K's lifetime utilities in the baseline setting from the previous section):

$$u_K^* \leq u_K^{\text{life}}$$

$$\Rightarrow \frac{G_m - G_a}{1-\delta_K} \leq R_{\text{life}}$$

At the subgame perfect equilibrium, King offers the maximum amount Lord will accept, $R_{\text{life}} = \frac{G_m - G_a}{1-\delta_L}$ as long as he is better off. The condition for the lifetime rent equilibrium is the following:

$$\frac{G_m - G_a}{1-\delta_K} \leq \frac{G_m - G_a}{1-\delta_L}.$$

This condition holds as long as $\delta_L \geq \delta_K$ ■

When is fiscal expansion under fiscal decentralization a viable strategy? This result shows that decentralized fiscal expansion by introducing lifetime rents is a viable strategy to finance wars, especially when the need for war finance is imminent due to short

time horizons stemming from a serious survival threat. When the condition on discount factors ($\delta_L \geq \delta_K$) holds, two players can agree on an equilibrium rent rate that facilitates fiscal expansion with lifetime rents. The condition compares how the threatened central ruler compared to the local elite is. When survival of the central ruler is threatened by the war while the local elite is in a relatively safer position, the central ruler will franchise tax collection rights. This observation can be interpreted as a positive effect of the survival or collapse threat in deciding to increase central revenues by improving decentralized tax collection methods. When the central ruler weighs the future really low compared to the local elite -i.e. there exists a collapse threat from the war, he makes an offer to the local elite that will be accepted by the elite.

2.3.3 Fiscal Expansion with Fiscal Centralization

In the fiscal expansion with fiscal decentralization model in section 2.3.2, lifetime rent is introduced. Lifetime rent is a decentralized tax collection technology used by the central ruler to increase central revenues in the short term when there exists an emergency need for war finance. In this section, I will introduce fiscal expansion with fiscal centralization as an alternative method for increasing central revenues. Fiscal expansion with fiscal centralization requires establishing a modern fiscal state in which central bureaucracy collects taxes directly. When the central ruler collects the tax directly with the central bureaucracy and the tax collection is centralized, the local elite no longer plays a role in the tax collection process. The major difference between these two methods of fiscal expansion is that fiscal centralization requires establishing a tax bureaucracy and therefore, an investment in capacity. On the other hand fiscal expansion with fiscal decentralization does not require any investment.

Fiscal centralization increases tax revenues as a result of increased level of overall income due to economic growth. A modern fiscal state with centralized tax collection and bureaucracy leads to positive economic growth. The relationship between a strong bureaucracy and economic development has been discussed since Max Weber first wrote about it. Empirical

evidence shows positive correlations between fiscal centralization and economic development (Evans and Rauch, 1999; Acemoglu, 2005; Besley and Persson, 2009, 2011; Dincecco and Katz, 2014). In other words, Fiscal centralization and strong bureaucracy lead to economic growth. A ruler who seeks economic development in the long run will choose to invest in fiscal centralization. As a result of this investment, economic growth rate becomes positive and the central revenues increase.

Accordingly, in the fiscal centralization model in this section, economic growth will be promoted since the local elite no longer controls the tax collection in the local economy and the bureaucracy collects taxes directly. The central revenues increase in the long run due to economic development that occurs under fiscal centralization. On the other hand, the central revenues increase in the short term in the previous fiscal decentralization model due to the selling of the rights to collect future taxes. Therefore, the market economy will grow by $\alpha \geq 1$ in the fiscal centralization model while the growth rate of $\alpha - 1 \geq 0$.

When the central ruler attempts fiscal centralization for higher revenues in the future, the local elite needs to give up on their control over the local economy. Therefore, benefits from public service are paid to the local elite in the fiscal centralization model to convince the local elite to give up their control over tax collection. If the local elite's loss is not compensated, they resist a fiscal centralization attempt. Empirical evidence supports the fact that local elites resisted the fiscal centralization on different occasions in history (Garfias, 2018; Suryanarayan and White, 2019).

In the model, central ruler provides benefits from public service (B) to the local elite in order to consolidate power over the local economy and centralize tax collection practices. This variable also captures the ruler's cost of investing in tax collection apparatus. As discussed earlier, fiscal centralization requires investment. For the sake of simplicity, I assume that the local elite is employed as central bureaucracy and therefore, B captures the investment in centralization. This assumption is in line with reality. For instance, the Ottoman Empire hired the local elite as bureaucrats to collect taxes during the early fiscal

centralization attempts.[4]

Timing In the fiscal centralization model, the central elite K sets the tax rate τ. The local elite L observes the tax rate and decides the mode of production in the immature market economy with two types of goods. In other words, L determines n. The tax rate is the same as the equilibrium tax rate in section 2.3.1 because the first part of the game follows the same order as the baseline setting where the central elite K sets the tax rate τ. The local elite L observes the tax rate and decides the mode of production in the immature market economy with two types of goods.

After setting the tax rate, K makes a benefit offer to the local elite L. Local elite either accepts or rejects. If the L accepts, K collects taxes and L gains the benefits from the public service. If L rejects, the tax collection method remains as in the baseline model.

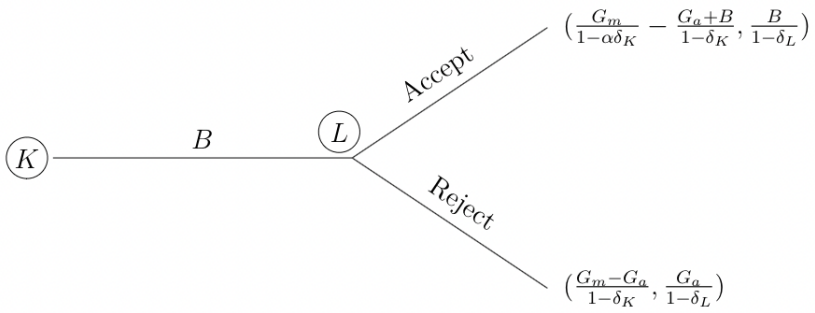

Figure 3: The game tree for the centralization model with lifetime utilities

[4] A war between the central ruler and the local elite is assumed not to be an option. Central ruler offers salaries to prevent instability in the region during the establishment of fiscal centralization. This assumption is in line with the case of the Ottoman Empire in the nineteenth century since Sultan Mahmud II worked on weakening of the local elite after coming to the throne in 1808. During the century, the local elite remained weak vis-a-vis the central government with the exception of the governor of Egypt. Even in the case of Egypt, British Empire supported the central government against the governor to provide stability in the region.

Centralization Utilities Similar to the previous sections, the central ruler has a δ_K discount factor that represents time horizons stemming from a threat of collapse. With centralized tax collection, market goods will grow by α in the stage game. King will directly tax the economy by tax rate τ. In each period, a payment B will be made to Lord in return for public service. Therefore, the central ruler's stage game utility function will be as follows under fiscal centralization:

$$\begin{aligned} u_K^{\text{cent}} &= \tau \alpha^t G_m - B \\ &= \frac{\alpha^t G_m - G_a}{\alpha^t G_m} \alpha^t G_m - B \\ &= \alpha^t G_m - G_a - B \end{aligned}$$

The lifetime utility with discount factor δ_K and growth rate α will be calculated as follows:

$$\begin{aligned} U_K^{\text{cent}} &= \sum_{t=0}^{\infty} \delta_K^t (\alpha^t G_m - G_a - B) \\ &= \frac{G_m}{1 - \alpha \delta_K} - \frac{G_a + B}{1 - \delta_K} \end{aligned}$$

Above calculation is based on the assumption that $\alpha \delta_K < 1$. This assumption is a minimal one within the context of the analysis since it requires a relatively low economic growth rate and short time horizons. For instance, a growth rate of 10%, even with a discount factor as high as 0.9, will not violate the assumption.

Local elite's stage game payoff will be equal to benefits from public service, B. The lifetime utility will be calculated as following:

$$U_L^{\text{cent}} = \sum_{t=0}^{\infty} \delta_L^t B$$

$$= \frac{B}{1-\delta_L}$$

Fiscal Expansion with Fiscal Centralization In the fiscal centralization model, central ruler pays benefits to the local elite in return for centralizing tax collection. The amount of benefit is an outcome of a bargaining between the central ruler and local elite.

With backwards induction, L observes the benefit B offered by K and decides to accept or reject the offer. In doing so, L compares the expected utility from fiscal centralization setting's lifetime benefits to baseline setting's lifetime utilities that are calculated in section 2.3.1. K determines the benefit B.

Proposition 2: *There exists an equilibrium where the central ruler offers a benefit,* $B = G_a$*, when* $\delta_K \geq \frac{G_a}{\alpha(G_m+G_a)-G_m}$*,* $\alpha \geq \frac{\delta_K G_m + G_a}{\delta_K(G_m+G_a)}$ *and the local elite accepts when* $G_a \leq B$ *.*

Proof: The local elite accepts the offer if L is better off in the fiscal centralization with benefits case. In other words, For L to accept benefits under fiscal centralization over baseline model tax collection rights, the lifetime utilities from the former needs to be higher from the latter (recall the lifetime utilities in the baseline setting from the previous section).

With backwards induction, Lord accepts the benefits if lifetime utility under centralization is greater than lifetime utility under baseline setting. The comparison is between baseline setting and fiscal centralization setting because this paper analyzes when investing in fiscal centralization is a viable option in increasing central revenues when they are in the traditional baseline setting:

$$U_L^* \leq U_L^{cent}$$
$$\frac{G_a}{1-\delta_L} \leq \frac{B}{1-\delta_L}$$

B needs to be at least G_a for L to accept:

$$G_a \leq B$$

Consider now King's decision problem. The lifetime utility under centralization needs to be as high as lifetime utility under the baseline setting:

$$u_K^* \leq u_K^{\text{cent}}$$
$$\frac{G_m - G_a}{1-\delta_K} \leq \frac{G_m}{1-\alpha\delta_K} - \frac{G_a + B}{1-\delta_K}$$

At the subgame perfect equilibrium, K offers the maximum amount L will accept, $B = G_a$ as long as he is better off. L will reject the offer for anything less than this amount. The condition for the centralization equilibrium is calculated by replacing B with G_a:

$$\frac{G_m - G_a}{1-\delta_K} \leq \frac{G_m}{1-\alpha\delta_K} - \frac{G_a + G_a}{1-\delta_K}$$
$$\frac{G_m - G_a}{1-\delta_K} + \frac{2G_a}{1-\delta_K} \leq \frac{G_m}{1-\alpha\delta_K}$$
$$(1-\delta_K\alpha)(G_m + G_a) \leq (G_m)(1-\delta_K)$$

Condition holds as long as

$$\alpha \geq \frac{\delta_K G_m + G_a}{\delta_K (G_m + G_a)}.$$

Rearranging will yield:

$$\begin{aligned}
(1 - \delta_K \alpha)(G_m + G_a) &\leq (G_m)(1 - \delta_K) \\
G_m + G_a - \delta_K \alpha (G_m + G_a) &\leq G_m - (G_m)\delta_K \\
G_a &\leq \delta_K \alpha G_m + \delta_K \alpha G_a - (G_m)\delta_K \\
G_a &\leq \delta_K (\alpha (G_m + G_a) - G_m)
\end{aligned}$$

and therefore, condition holds as long as

$$\delta_K \geq \tfrac{G_a}{\alpha(G_m+G_a)-G_m} \blacksquare$$

When is fiscal expansion under fiscal centralization a viable strategy? This result shows that centralized fiscal expansion is a viable strategy to finance wars when the time horizons of a ruler is longer than $\frac{G_a}{\alpha(G_m+G_a)-G_m}$ and economic growth is higher than $\frac{\delta_K G_m+G_a}{\delta_K(G_m+G_a)}$. When these conditions hold, two players can agree on an equilibrium benefit B rate that facilitates fiscal expansion with fiscal centralization. There exists a benefit $B = G_a$ that facilitates fiscal centralization. In other words, King should weigh future sufficiently high for fiscal expansion with fiscal centralization to occur and economic growth should be sufficiently high.

Since $(\alpha - 1)$ is equal to economic growth rate, a positive growth rate needs to be expected for fiscal centralization to take place. Remember that this calculation is based on the assumption that $\alpha\delta_K < 1$. Without the assumption, we would expect a high growth rate and long time horizons to bring an infinite utility from fiscal centralization. Hypothetically, a country would definitely centralize the fiscal system. As shown in the model, with more

reasonable levels of time horizons, growth rate is expected to be at least positive for a decision to invest in fiscal centralization.

The analysis of the proposed model shows that short time horizons of a ruler stemming from a threat of collapse as a result of a war may lead to a reluctance towards fiscal centralization for fiscal expansion necessary in financing wars. Longer time horizons of the ruler stemming from low survival threat posited by the war (represented with δ_K) are necessary for fiscal expansion with fiscal centralization.

The time horizons stemming from a survival threat is introduced in the model using a discount factor. The central elite facing a survival threat is assumed to have a shorter time horizons (lower discount factor) since they only care about survival at the present period. The infinite horizon bargaining model's main trade-off is presented in the central ruler's immediate need for survival and future expectations from economic growth that comes with the investment in fiscal centralization. Since discount factors typically used to capture the psychological differences, replacing the discount factor with the actual structural conditions that determine different psychological reactions is the eventual goal of this project.

One caveat is that the central ruler with shorter time horizons has no inherent psychological differences compared to the local elite. The purpose of the δ variable is not to state pure psychological differences among different elites. The variable is rather used to capture the differences in time horizons and expectations from future stemming from the meaning of a war to a leader. I argue that a ruler's reactions to a war threat depends on the degree to which their survival is threatened by the war threat. For instance, a leader of a country which is constantly weaker than all of its rivals will face a threat of certain defeat and therefore, react to each war from a survival point of view. Their priority will be to survive rather than to win a war. In other words, when war outcome is not uncertain and losing a war is a constant for one party, there will be no future expectations. This expectation is captured using a discount factor. One future direction of this research is to model how a constant and significant power differential affects the fiscal expansion method.

2.4 Historical Case of the Ottoman Empire

The case of the Ottoman Empire in the long nineteenth century shows how the Ottomans experimented with both fiscal centralization and decentralization as a response to rising war threat but resorted to fiscal decentralization to increase revenues in a very short period when the survival threat from a war was high. In addition, the case illustrates how the low economic growth due to agricultural mode of production inhibited fiscal centralization.

The war threat is a universal phenomenon, yet the meaning of this threat is subjective and varies with time and region. From the late eighteenth century onwards, war threat meant a real survival threat for the Ottoman Empire due to the rising economic and military discrepancies with rival states such as Russia and Austria. This threat of survival continuously increased later in the nineteenth century due to European-backed nationalist and secessionist sentiments among the non-Muslim subjects of the Empire and European colonization.

By the second half of the eighteenth century, Ottoman central revenues were only slightly higher compared to its 1560s levels (Karaman and Pamuk, 2010). The Ottoman Empire fell behind its European rivals in terms of central revenues because they experienced dramatic increases in their centralized fiscal revenues starting from the sixteenth century (Karaman and Pamuk, 2010, 2013). This fiscal stagnation led to a deterioration of military performance in wars against the fiscally stronger states of the region. Eventually, the Ottoman Empire attempted fiscal expansion as a response to the declining military performance. As a result, central revenues rose sharply, more than fifteen-fold, from the 1780s to the 1900s (Pamuk, 2014). During this period, the Ottoman Empire experimented with many different methods to increase central revenues, such as fiscal centralization, internal borrowing, external borrowing, and increasing the tax burden of the public, especially peasants.

From the mid-nineteenth century to the early twentieth century, the Ottoman central revenues increased by three-fold in *kurushes* (Özbek, 2015). This raise in central revenues were mostly from increasing the tax burden of the peasants and external borrowing (Özbek,

2015).

From the late eighteenth century to the middle of the nineteenth century, internal borrowing was a major method used by the Ottomans to increase revenues as a response to a survival threat. For example, in one form of internal borrowing, *esham*, lifetime tax collection rights were sold to the local elite. This study focuses on the first half of the nineteenth century where fiscal expansion relied less on increasing the tax burden of peasants and external borrowing.

The major survival threat for the Ottoman Empire began with the Russo-Ottoman War of 1768-1774 and continued with Napoleon's invasion of Egypt in 1798. The defeat in the Russo-Ottoman War of 1768-1774 exposed the military and financial weaknesses of the Ottoman system. This period also launched a series of crises to Europeans over how to dispose of lands under the Ottoman rule (Findley, 2008). In this period, Europeans referred to the empire as the "sick man of Europe" for they were concerned about the fragile balance of power in Europe.

The military catastrophes at the end of the eighteenth century fueled modernization attempts and opened the Ottoman reform era. These reforms started in the military and continued with fiscal and political modernization attempts. A military reform demanded higher revenues which require an efficient fiscal state (Tilly, 1992). Between 1789 and 1808, Sultan Selim III took a major step towards reforming the military and government. Selim's *Nizam-i Cedid* (New Order) was initially a military reform, yet it motivated statesmen to modernize the state based on rational planning and systematization with unprecedented plans and regulations (Findley, 2008). These systemizing state reforms were the first steps towards fiscal centralization, and therefore, the first steps towards establishing a modern state in the Ottoman Empire. A move towards a constitutional government by forming an advisory assembly called the *Meclis-i Meshveret* was also made as a part of this "New Order." Nevertheless, the attempted reforms did not follow a smooth trajectory of continuous state modernization. The war pressure that fueled the modernization attempts halted the

successful implementation of these reforms due to a high threat of survival.

The Ottoman state, in desperate need of revenue, introduced a new long-term domestic borrowing system, *esham*, similar to the earlier *malikane* system. In *esham*, the annual net revenues of a tax source were sold to the buyers for their lifetime. Revenues collected by the traditional tax farmers and *esham* owners collected annual net payments from tax revenues. The lifetime price was usually equal to six or seven times the annual net payments. The system had major pitfalls. For instance, the state could not prevent the heirs of deceased holders from keeping the ownership (Cezar, 1986; Pamuk, 2004*a*, 2014). Despite its pitfalls, *esham* was used as a major source of revenue during times of crisis until the mid-nineteenth century. In other words, *esham* was not a regular part of the Ottoman revenue collection practices, yet it was in the toolbox for wartime emergencies until it was abolished. *Esham* provided a shortcut to revenues in providing relief to the central budget in the absence of a strong centralized fiscal system.

People with vested interests in the old system were threatened by the reforms of Sultan Selim III and they caused the overthrow of the reformist Sultan in 1808 (Findley, 2008). This overthrow motivated Sultan Mahmud II to neutralize the provincial elite and abolish the Janissary corps (1826). Sultan Mahmud II envisioned a modern state and needed to eliminate the most dangerous vested interest groups opposing reforms (Findley, 2008). In the first year of the reign of Mahmud II, the *Sened-i Ittifak* (Charter of Alliance) was signed by the provincial elite, known as the *Ayan*, to restrict the Sultan's exercise of power. The charter was short-lived and declared ineffective in the same year by the Sultan. During his reign, Mahmud II continued modernization attempts in civil and military institutions. He attempted to liberalize trade and politics. The *Gulhane Hatt-i Humayun* (The Gulhane decree of 1839) that inaugurates equality among the subjects of the Empire was prepared during this period although it was issued after the death of Mahmud II (Findley, 2008).

The Gulhane decree marked the beginning of the new reform era, the *Tanzimat* (1839-1876). A new phase of the Ottoman fiscal history in the nineteenth century started with

the *Tanzimat*. During this era, more serious steps towards fiscal centralization were taken, *esham* was abolished, and external borrowing started to replace internal borrowing. Under the Gulhane decree, salaried bureaucrats were appointed to collect taxes directly in ten provinces from Central Anatolia to the Balkans. The bureaucrats started to register taxpayers, set up councils to discuss tax apportionment with the local populace, collect taxes, and forward collected revenues to Istanbul to finance military and bureaucratic reforms. Inspection missions were also sent to these local administrative tax authorities. During this era, tax farmers were not fully dismissed from the system. They were rather employed by the state to work as state tax collection authorities (Özbek, 2015). This new system of direct tax collection lasted only for three years. Fiscal decentralization, tax-farming, was restored in 1842.

Despite all the attempts in modernizing the state and military, the economic structure remained the same. Agriculture was the major mode of production during the nineteenth century and an industrial value added was absent in the Ottoman case. During the second half of the nineteenth century, the central government put pressure on the public by increasing the tax demands. Ottoman peasants were coerced to respond to these demands and expected to carry the tax burden (Özbek, 2015). From 1848 to 1876, tax on agricultural production increased at a greater rate among all central revenues (Özbek, 2015). Coercive attempts to tax collection were often met with resistance from the public (Kansu, 1995; Emiroglu, 1999; Özbek, 2009; Karaman and Pamuk, 2010). This coercion provoked direct negative results for the empire. For instance, non-legitimate violence in the process led to the direct rejection of the Ottoman rule by the Eastern European subjects of the empire (Inalcik, 1943; Adanir, 2001; Özbek, 2009) by creating additional revenue needs for the central budget to fight in secessionist wars. Sectarian conflicts in Egypt, Lebanon, Crete, and Syria started. Independence movements spread to Bulgaria, Romania, Poland, and Hungary. The Crimean War was fought in the Balkans from 1853 to 1856. The huge number of casualties caused by the new military technologies accelerated the Ottoman attempts to modernize the

military and the state. Although the Ottomans did not lose territory as a result of the war, they lost autonomy to the Europeans in the Black Sea and the Balkans.

By the end of the *Tanzimat* period, the Ottoman Empire was in a foreign debt crisis and faced revolts in Bosnia, Montenegro, and Bulgaria without external financial support. The empire lost large territories and engaged in massacres. Another very short-lived attempt towards parliamentarism happened during this time of crisis. *Kanun-i Esasiye*, or the Constitution, recognized a parliamentary system for the first time in the History of the Ottoman Empire. This first constitution started the period known as the First *Mesrutiyet* or the First Constitutional Period. The Constitutional Period lasted only for two years until Sultan Abdulhamid II restored his absolutist monarchy by using conditions created by the Russo-Turkish War in the Balkans and Eastern Anatolia (1876-1878). Parliamentarism did not return to the empire until the second constitutional period that starts in 1908.

This era was a time of crises with threats from neighboring states, secessionist movements in the Balkans, and European colonialism in Asia and Africa, yet it was also a time of renewal with the hope of overcoming Ottoman backwardness by emulating the European reforms of the earlier ages (Findley, 2008). By the end of the eighteenth century, there were only 2,000 bureaucrats in service, and this number is estimated to be 35,000 to 70,000 by the end of the nineteenth century (Findley, 1980). Bureaucrats were sent to Europe for training. An Ottoman school even briefly existed in Paris between 1857 and 1864. New schools opened in Istanbul for the systemic training of civil servants of the modern state apparatus (Findley, 2008). Public services also expanded in the periphery during the era. Gas streetlights, centralized construction regulations, firefighting organizations, and public transportation were introduced to major cities. Monumental provincial government headquarters, and court, school and police station buildings were raised (Ortayli, 2016). Despite all these efforts, a strong fiscal centralization based on economic growth was not achieved. Under the agriculture-based economic structure of the empire, economic growth was not high enough to build a sustainable fiscal system based on long-term growth. This failure even-

tually led to a coercive approach to taxation which involved non-legitimate state violence. Weaker institutions and agriculture-based economic structures cause the pervasiveness of coercive taxation in the developing world (Brautigam, 2008). The Ottoman Empire was no exception to this trend.

As illustrated in this study, the Ottoman Empire did not invest in fiscal centralization due to a high survival threat and short time horizons of rulers, and a lack of economic growth under an economic system dominated by agricultural practices during the industrial age. Internal borrowing tools under fiscal decentralization provided short-term relief during the first half of the nineteenth century. In the second half, coercion became pervasive in tax collection. Therefore, the relationship between the central government and the taxpayer peasants became a critical component of modern state building in the Ottoman Empire. In this study, I focused on the first half of the nineteenth century where intra-elite relations were key in explaining fiscal reforms.

2.5 Conclusion

In this study, I analyzed the elite calculations for fiscal expansion either by investing in fiscal centralization and strong bureaucracies or by choosing to rely on existing decentralized fiscal systems and internal borrowing. The results show that building a fiscally centralized state with strong bureaucracies is not always the equilibrium outcome under war pressure. Depending on the type of threat the war posits, the rulers prefer alternative, more affordable, ways to raise revenues instead of investing in a modern state.

When the ruler faces short time horizons due to a high survival threat posed by wars that are fought against stronger rivals, fiscal decentralization is a viable option. The effect of war on ruler's survival expectations shape the ruler's decision making in fiscal expansion. The study also shows that economic growth is key for building a modern state. In the absence of economic growth, building a sustainable fiscal system is less likely.

War pressure puts states in a continuous need for revenue, even when those states fail to

build healthy centralized fiscal systems in the absence of economic growth and when facing a high threat to survival. This failure forces states to look for alternative ways for fiscal expansion either in the form of internal or external borrowing, or by coercing the public despite significant negative consequences.

This study demonstrates how adjusting the existing fiscal system to turn it into an internal borrowing tool becomes a viable option when the survival threat from the war is high. For this purpose, it analyzes alternative methods of fiscal expansion and the elite calculations in investing in fiscal centralization and strong bureaucracies. The Ottoman Empire in the first half of the nineteenth century illustrates the findings in the model. One future direction of this research is to incorporate a model to show how a constant and significant military weakness that leads to an expectation for certain defeat affects the choice of fiscal expansion method.

3 The Diffusion of the Modern State

3.1 Introduction

The modern state is a state that can raise revenues with a strong centralized system of taxation and expert bureaucracies. Strong modern state institutions promote high state capacity. Today, one of the major problems of developing countries is that their states are often too weak (Migdal, 1988). Weak states have difficulty in raising tax revenues and governing effectively in the absence of expert bureaucrats who design and implement policy. Moreover, state capacity facilitates the functioning of public goods provision and redistribution. This paper attempts to explain the variation in state capacity by focusing on the colonial and pre-colonial roots of its development.

The modern state first emerged in early modern Europe, yet it is no longer a Western European phenomenon. High capacity states are dispersed around the world. In this study, I take a global perspective to explain how the European modern state has become prevalent in the world. I contend that the modern state institutions diffused to the rest of the world either through competition or colonization after they had emerged in Western Europe. Eventually, the type of diffusion determines the state capacity outcome. I test this argument with an analysis of patterns of state capacity across countries. Although the final state capacity outcome still varies among countries that experienced similar diffusion mechanisms,[5] the type of diffusion gives us a general framework to understand the global variation.

This study analyzes the determinants of modern state building by focusing on the effect of early statehood in the pre-colonial period, colonization, and their interaction. I attempt to answer the following questions using a cross-country dataset of colonized and non-colonized countries: Does colonization have an effect on the diffusion of the modern state? Does early

[5]The variation among countries that fall under the same category of diffusion is caused by their varying levels of success in building modern state institutions depending on the domestic structural conditions. There is a significant cross-country and within-country variation in the modern state building processes.

statehood have an effect on the diffusion of the modern state? Is a country more likely to build a modern state if it had strong early statehood experience before the year 1500?

In this paper, I argue that the modern state, i.e., fiscal centralization and strong bureaucracies, emerged in early modern Europe and diffused to the rest of the world via two channels: competition and colonization. To build this theory, I first classify states into four distinct categories depending on their colonization experience and early (pre-colonial) statehood: colonized countries with early statehood, colonized countries with no early statehood, non-colonized countries with early statehood, and non-colonized countries with no early statehood. Second, I assign channels of competition and colonization to the categories depending on the role they played in the formation of the modern state. Competition is the channel of diffusion for the non-colonized countries with early statehood, whereas colonization is the channel of diffusion for the colonized countries with no early statehood. States that fall under these two categories have higher levels of state capacity since the modern state diffused into those regions from Western Europe. On the other hand, countries that fall under the other two categories, non-colonized countries with no early statehood and colonized countries with early statehood, have low state capacity outcomes since the modern state did not diffuse into those regions in the absence of competition or colonization.

I test this theory using ordinary least squares and instrumental variables regressions on a cross-country dataset of colonized and non-colonized countries. I find that the impact of early (pre-1500) statehood on current state capacity is conditional on colonization. Early statehood is positively associated with state capacity for non-colonized countries while it is negatively associated with state capacity for colonized countries. The findings is consistent with the theory that the categories of non-colonized countries with no early statehood and colonized countries with early statehood are associated with lower state capacities, whereas the categories of non-colonized country with early statehood and colonized countries with no early statehood are associated with higher state capacities.

This study contributes to the important body of literature on the determinants of state

capacity and the emergence of the modern state. The causes of the modern state are also among the determinants of state capacity as a modern state is, by definition, high capacity with fiscal centralization and strong bureaucracies. Therefore, most studies focus on the emergence of the modern state in Western Europe between the fifteenth and eighteenth centuries in understanding state building and state capacity. Studies emphasize the role of interstate warfare following the advancements in military technologies in the development of fiscal centralization and modern bureaucracies in Europe (Hintze, 1975; Brewer, 1988; Tilly, 1992; Ertman, 1997; Karaman and Pamuk, 2013; Gennaioli and Voth, 2015). Despite the positive effects of interstate warfare, civil war onset reduces state capacity (Thies, 2010). Regional studies of the developing world focus on explaining why the modern state did not emerge following the same trajectory in the developing world due to geography, development of global financial markets, and dynamics that create constant losers and winners in wars (Herbst, 2000; Centeno, 2002; Queralt, 2019; Schenoni, 2021). So, how did the modern state emerge in the developing world without following the European trajectory? According to Badie (2000), the modern state emerged in the developing world as a result of colonial imposition and voluntary adoption. This study contributes to the literature with an empirical analysis of the theory that the modern state emerged as a result of diffusion from Europe. Whether diffusion occurs or not is determined by the colonial experience and early statehood levels. Therefore, the variation in state capacity is an outcome of the diffusion of the modern state and the type of this diffusion.

Past research provided country or region-specific explanations for the origins of the modern state. For instance, various studies posit interstate war as a determinant of the development of the modern state in Europe (Tilly, 1992; Besley and Persson, 2009; Dincecco and Katz, 2014; Gennaioli and Voth, 2015). Others argue that interstate wars did not play a role in modern state building in Latin America (Centeno, 2002) and sub-Saharan Africa (Herbst, 2000). Some examples of research focus on domestic intra-elite conflict in explaining sub-national variations in state capacity (Garfias, 2018; Suryanarayan and White, 2019). In

contrast to earlier accounts that rely on region- or country-specific explanations, this study proposes a path-dependent theory of state building that puts states into a world-historical context.

This study also contributes to the literature that explains why colonization caused a reversal of fortune as previously poor colonies became rich and previously rich colonies became poor. Existing findings show that this reversal is caused by the transplantation of private property institutions (Acemoglu, Johnson and Robinson, 2002) and democratic regimes (Hariri, 2012) into the previously poor areas by European settlers. This study adds the diffusion of the modern state as another driver of that reversal of fortune.

3.2 Theoretical Framework

Between the fifteenth and eighteenth centuries, modern warfare following the advancements in military technologies led to the development of fiscal centralization and modern bureaucracies in Western Europe (Ertman, 1997; Tilly, 1992; Gennaioli and Voth, 2015). The literature shows that the existing structural conditions, such as land scarcity, population density, well-defined borders (Herbst, 2000), representative political institutions (Tilly, 1992; Ertman, 1997; Boix, 2001; Dincecco, 2011; Karaman and Pamuk, 2013), relative weakness of rulers vis-à-vis the landed elite (Tilly, 1992; Blaydes and Chaney, 2013; Garfias, 2018; Suryanarayan and White, 2019), economic structure (Tilly, 1992; Karaman and Pamuk, 2013), rapid economic growth (Burgess and Stern, 1993), and culture (Levi, 1988), created an environment conducive to the development of the modern state with centralized tax collection practices and strong bureaucracies. Thus, the modern state is a historical artifact in Western Europe. On the other hand, the development of the modern state is an outcome of deliberate decision-making in other parts of the world in later periods. This approach helps us explain how the modern state emerged in other parts of the world in the absence of the conditions necessary for the emergence of the modern state.

According to Centeno, Kohli and Yashar (2017), state formation includes both intended

and unintended processes. Intended state formation refers to the intentional processes led by political actors associated with state-building projects. I argue that the modern state's formation in early modern Europe can be explained mostly by unintended processes, whereas outside Western Europe and in later periods, the formation of the modern state is more of an outcome of intended processes.

Colonial or domestic decision-makers outside Europe chose to put a conscious effort into building centralized tax collection capacities and strong bureaucracies after observing, or experiencing, modern state institutions in Europe. Non-colonized countries observed the emergence of the modern state in Europe and its positive impact on good governance. Non-colonized countries built modern fiscal states if they had existing state structures necessary for this state modernization. In other words, the emergence of the modern European state triggered modern state building outside Western Europe.

International competition is one explanation for the behavior of sovereign states outside Western Europe. States with strong early statehood levels started to fall behind European powers due to dramatic economic and institutional changes that had taken place in the precedent century in Europe. Old institutions were inadequate to compete with and protect from European states while European colonialism was a direct threat for countries in Africa and Asia. Military, economic, and status-related crises paved the way to institutional reforms. Therefore, a new era of state building started in non-colonized countries, such as Russia, Japan, China, and the Ottoman Empire, as well as former colonies such as the United States of America.

For instance, the Ottoman Empire was a non-colonized country with strong early statehood. The Ottomans attempted to modernize their state during the nineteenth century due to military competition from neighboring countries and European colonizers. Growing fiscal and military disparities against the European states placed enormous pressures on the Ottoman state during the eighteenth century, and the Ottomans responded with military reform and fiscal centralization attempts (Pamuk, 2014). By the end of the eighteenth

century, the Ottoman state had 2,000 bureaucrats in service, and this number is estimated to be 35,000 to 70,000 by the end of the nineteenth century (Findley, 1980). Additionally, bureaucrats were sent to Europe for training and new schools opened in Istanbul for a more systemic training of bureaucrats during the nineteenth century (Findley, 2008).

While the Ottoman Empire was in direct military competition with Western Europe due to the rising colonization threat in Asia and Africa, regional military competition also played a role. Regional military rivals, specifically Russia and Austria, had already modernized their armies and fiscal systems starting from the 1700s. Therefore, they had a significant military advantage over the Ottoman Empire by the late 1700s. This regional competition became a driver for the Ottoman modernization attempts. In other words, the European modern state diffused not only with direct military competition with Western European states but also as a result of a regional domino effect. A state which gains competitive military advantage after adopting a modern fiscal state can pressure regional rivals to adopt similar institutions.

Economic performance and status-related concerns are also under the umbrella of competition. For instance, China was geographically further away from a military competition with Europe in the nineteenth century, yet they were part of global trade. They had growing fiscal disparities against the European states pressuring them to look for available fiscal technologies. Both China and Japan modernized tax collection practices due to public finance crises (He, 2013). Finally, status-related sensitivities affect the behavior of actors in international politics. According to Zarakol (2011), foreign policy behavior of the non-Western states can be explained by the stigmatization in international relations that can lead to a sense of national shame and extra-sensitivity about status. The same international relations dynamics can play a role in having a sense of pressure to modernize state institutions assuming that having strong bureaucracies and tax systems increases a state's international status.

Non-colonized countries with strong early statehood were more likely to attempt state modernization, yet they achieved it at varying degrees. For instance, the Meiji restoration in Japan was the most successful, whereas the attempts to build a modern state were not

as successful in China and failed in the Ottoman Empire. The determinants of successful modern state building are beyond the scope of this paper.

To summarize, strong states of the pre-colonial period attempted institutional modernization following the emergence of the Western European example. These states were not European colonies and wanted to keep up with the international competition, military or not. As a result, modern statehood diffused from Western Europe to the other parts of the world. Weak states of the pre-colonial period did not enter into a competition of institution building since they were not part of the international competition. They ended up with weak states since they did not experience a diffusion.

> ***H1:*** Early statehood is positively associated with current state capacity for non-colonized countries.

Previously, I argued that the diffusion of the modern state institutions to non-colonized countries from Western Europe was caused by international competition. Nevertheless, the effect of competition was absent in colonized countries because the colonies were ruled by colonizers. For instance, Berlin Conference provided European colonizers in Africa the protection from encroachment by other European powers. Therefore, colonial administrators did not face any competition that incentivizes state and infrastructure building in colonies. Herbst (2000) argues that if European powers had fought significant wars in Africa, they would have established stronger state institutions and better infrastructure. In the absence of global competition, the only priority of the colonial administration was to protect their economic interests. For instance, British administrators in Africa made the decision to produce cash crops and minerals that provided comparative advantage to Britain in global markets (Gardner, 2012). The main goal of colonization was extraction.

The size of the state that colonizers had to build from scratch according to the European model of the modern bureaucracy varied depending on the existence of pre-colonial states. Colonizers used two administrative models: direct and indirect rule. Gerring et al. (2011) define direct rule as featuring highly centralized decision making and indirect rule as featuring

a more decentralized style in which important decision making is delegated to the locals. Indirect rule is typically associated with British colonies, while France and Portugal are known for their reliance on direct rule and treated their colonies as parts of their mother country. However, this distinction is challenged in the literature. For instance Herbst (2000) points out to the similarities between the "direct" British rule and "indirect" French rule. A major difference was that the British employed traditional authorities to rule over their own tribal communities, yet the French recruited native administrators who did not have power traditionally (Wucherpfennig, Hunziker and Cederman, 2016). Ultimately, the major colonial powers used elements of both direct and indirect rule in different colonies and periods.

When colonial powers took control of places with no pre-existing state institutions, they needed to build some elements of modern states from scratch in order to extract resources from their colonies. Areas with no pre-colonial states were particularly attractive to European settlers. Colonial practices of different colonizers varied in terms of settlements. Spanish settlers preferred areas with higher levels of precolonial development, yet British settlers preferred areas with lower levels of precolonial development (Lange, Mahoney and vom Hau, 2006). These areas with British settlers were more conducive to the transplantation of Europe's institutions, more specifically private property institutions (Acemoglu, Johnson and Robinson, 2002; Acemoglu, García-Jimeno and Robinson, 2015) and democracy (Hariri, 2012). As a result, the regions with no early statehood end up with relatively higher levels of modern state capacity after colonization.

Britain mostly colonized areas with lower levels of precolonial development (Lange, Mahoney and vom Hau, 2006). British colonialism was different from other types of colonization in terms of its preference for indirect rule. Although colonial rule that only serves colonial purposes was harmful to local structures (Herbst, 2000), British colonialism's effect was more limited compared to other types of colonization since the British kept the traditional mode of rule in place (Wucherpfennig, Hunziker and Cederman, 2016). Spain mostly colonized areas with higher levels of precolonial development and followed more destructive practices in these

colonies compared to its colonies with low precolonial development (Lange, Mahoney and vom Hau, 2006). This practice gave Spanish colonies with low precolonial state development a chance to experience development in the postcolonial period (Lange, Mahoney and vom Hau, 2006).

> ***H2:*** Colonization is positively associated with current state capacity for countries with no early statehood.

Modern state institutions were not transplanted to colonized countries with relatively strong early statehood experience since colonizers relied on existing institutions to extract resources (Herbst, 2000; Acemoglu, Johnson and Robinson, 2002; Hariri, 2012). Moreover, the use of existing institutions for the purposes of extraction had a negative effect on postcolonial state legitimacy. Colonizers depended heavily on violence when they wanted to get something done (Herbst, 2000). According to Englebert (2000), states with strong precolonial state tradition became less legitimate, less acceptable, and more arbitrary in the eyes of their people because these precolonial state institutions became tools for colonial extraction. An institutional blank page follows this loss of legitimacy after decolonization because people no longer supported the state. In this framework, colonized countries end up with lower state capacities due to a loss of state legitimacy.

> ***H3:*** Early statehood is negatively associated with current state capacity for colonized countries.

Colonized countries with strong pre-colonial states are expected to have relatively low modern-day capacities since they did not enter into a competition with Europe as European colonies. An alternative method for the transplantation of the modern state would be the channel of colonization, yet colonizers did not transplant Western European institutions into those regions. They relied on existing institutions for extraction. In the absence of political and economic incentives to develop a stronger state apparatus, colonial administrators

failed in extending the state power and making administrative reforms. They did not allow the existing institutions to continually adapt to new political challenges and opportunities (Herbst, 2000).

Countries with strong early statehood generally received Spanish settlers (Lange, Mahoney and vom Hau, 2006). Spanish colonialism in these regions produced predatory states (Lange, Mahoney and vom Hau, 2006). According to Engerman and Sokoloff (2002), conditions conducive to early state development led colonists to establish extractive institutions in those regions. Britain pursued comparatively limited settlement and institutional transformation in regions with strong early statehood and this limited form of British colonialism distorted existing institutions (Lange, Mahoney and vom Hau, 2006).

In a similar vein, Hariri (2012) shows that authoritarianism is the persistent mode of rule in all countries except for Europe whether they are colonized or not. He finds that authoritarianism persists in previously strong states when they are colonized because colonizers rely on existing institutions to extract resources. These states that failed to establish modern state structures early on are crippled giants as Kohli and Shue (1994) call them. Despite a strong state tradition inherited from the pre-colonial period, they failed to build upon their existing structure mainly due to the lack of state development during the colonial period.

> ***H4:*** Colonization is negatively associated with current state capacity for countries with strong early statehood.

This study argues that the modern state with fiscal centralization and strong and modern bureaucracies diffused to the world from Europe through two channels: competition and colonization. The presence of statehood before the colonial era (early statehood) and colonization interact to determine which of these two channels is in effect in the making of the modern state. For instance, non-colonized countries with strong early statehood experience modernized their state structures via the channel of competition. They were motivated to do that because they were already part of the global competition thanks to their strong traditional states. These strong traditional states also provided a baseline capacity to build

a modern state capacity. For instance, they already had trained bureaucrats who attempt modernization; although the number of these bureaucrats grew dramatically as a result of modern state building.

Second, colonized countries with no early statehood adopted the modern state via the channel of colonization. Modern state institutions are transplanted to colonized countries with no early statehood mainly by the European settlers. The modern states that reflected modern states of Europe were built in areas with large settler populations since these states were needed for reasons beyond extraction.

Finally, colonized countries with strong early statehood experience and non-colonized countries with no early statehood experience did not build modern states because neither channel was at play in these cases. Modern state institutions were not transplanted to colonized countries with relatively strong early statehood experience since colonizers relied on existing institutions to extract resources. They kept traditional state institutions in place for extractive purposes. Countries with no colonization and no early statehood experience were left behind in this institution building period as they were not part of the global competition, and they did not have the basis of traditional state upon which to build. Neither competition, nor colonization was at play in those regions. Table 1 summarizes the theory.

	early statehood	**no early statehood**
not colonized	diffusion with competition	no diffusion
colonized	no diffusion	diffusion with colonization

Table 1: Illustration of Theory: Diffusion of Modern State from Europe

3.3 Research Methods

In order to test the hypotheses discussed in the theoretical framework section, I will run ordinary least squares analyses with an interaction model (as shown below) on a cross-

sectional dataset of colonized and non-colonized countries.

$$\begin{aligned}\text{Current State Capacity} = \alpha &+ \beta_1 * \text{Early Statehood} \\ &+ \beta_2 * (\text{Early Statehood*Colonization}) \\ &+ \beta_3 * \text{Colonization} + \beta_4 * \text{Controls}\end{aligned}$$

In this model, the main dependent variable will be current state capacity while the main independent variables are early statehood, colonization, and an interaction of these two main independent variables.

For robustness checks, I will use instrumental variables approach. I will use biogeography and agricultural years variables as instruments for colonization. These variables reflect the region's conduciveness to early agricultural practices. This choice of instruments is based on the finding that countries with longer histories of agriculture were less likely to be colonized (Ertan, Fizsbein and Putterman, 2015). A region that starts agricultural practices early is less likely to be colonized by a European power. For instance, Latin American and African regions that are late to agricultural practices were the ones that were colonized early on.

In this study, measures of bureaucratic quality are used to operationalize the modern state. Exclusion restriction assumption for the instrumental variable identification requires that a region's conduciveness to early agricultural practices affects measures of bureaucratic quality only through a channel of colonization. Olsson and Hibbs Jr. (2005) show that biogeographic initial conditions are exogenous to current income levels although they are related in a very long-run historical causal sequence. Therefore, biogeography is chosen as sources of exogenous variation in colonization. Since agricultural years are more directly related to the current income levels, I will conduct an additional robustness check by using biogeography as the only instrument. Below, I present the two staged regression equations for the instrumental variable analysis.

$$\text{Colonization} = \alpha + \beta_1 * (\text{Agricultural Years} + \text{Biogeography}) + \beta_2 * \text{Controls}$$

$$\text{Current State Capacity} = \alpha + \beta_1 * (\text{Early Statehood*Colonization}) + \beta_2 * \text{Controls}$$

3.4 Data

I use a cross-country dataset which consists of 146 countries with historical and current state capacity as independent and dependent variables, respectively. The cross-country dataset is merged using different data sources for the purposes of this study. The dataset consists of 57 colonized and 89 non-colonized countries.

Dependent Variable The modern state is the linchpin of state capacity. Accordingly, current operationalizations of state capacity measures the strength of bureaucracy by evaluating the merit-based selection and autonomy of public servants (Fukuyama, 2013). My definition of state capacity is in line with this tradition: a state's ability to collect taxes and provide services without major disruptions to policymaking with insulated and expert bureaucracies. This definition reflects the procedural state strength definition of Fukuyama (2013). One thing to note is that the type of services provided by the state is determined by state's scope rather than its strength. Therefore, the definition is about the provision of chosen services in a particular country. The scope of these services is not related to state capacity. I also do not refer to output-based definitions of state capacity that is usually measured using literacy and health outcomes in a given country (Fukuyama, 2013). This definition is also in line with the definition of state capacity by Centeno, Kohli and Yashar (2017) as a state's institutional, organizational and bureaucratic ability to implement governing projects.

The main dependent variable, current day state capacity is defined as "the effectiveness of national and sub-national bureaucracy to implement policies" and it is measured using ICRG's bureaucratic quality index. Bureaucratic quality is an appropriate measure of modern state since bureaucracy and centralized tax collection are key components of the definition of modern state. An effective bureaucracy is necessary for centralized tax collection, and therefore modern state.

ICRG bureaucratic quality index relies on expert opinion surveys. The data is taken from Hegre (2014). The geographic distribution of the dependent variable, using ICRG bureaucratic quality index, is shown in Figure 4.

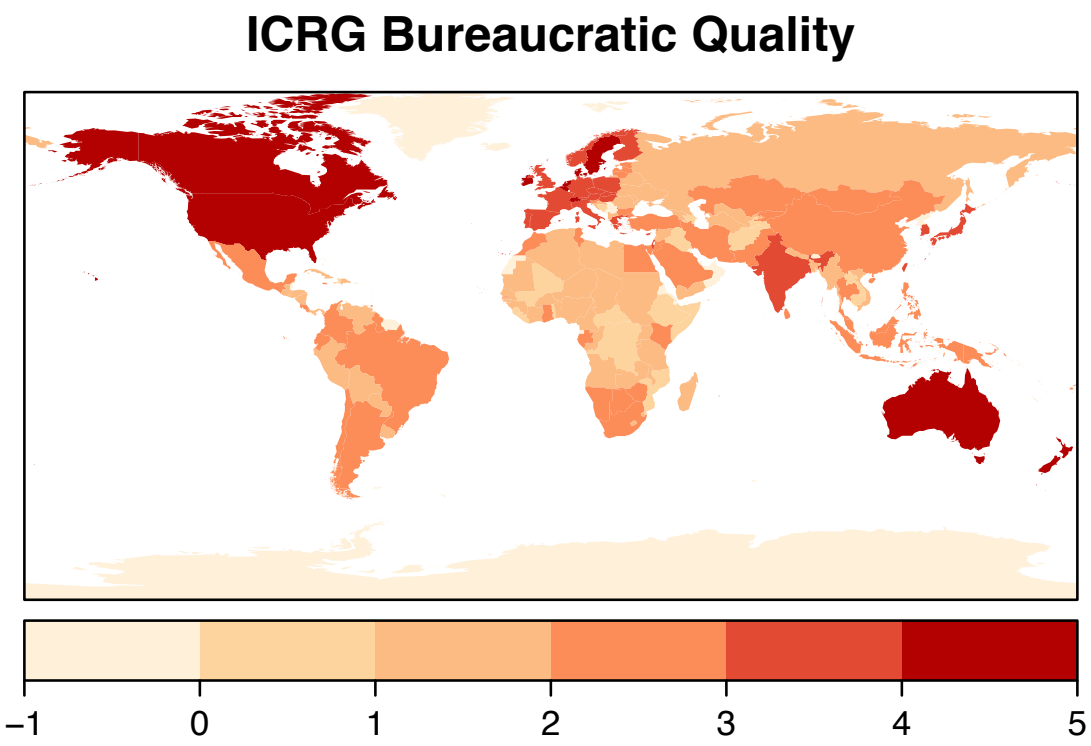

Figure 4: The main dependent variable, state capacity (lightest color represents missing data)

World Bank's World Governance Indicators (WGI) Government Effectiveness score and direct tax to GDP ratio measures are included in the dataset for robustness checks. Government effectiveness score captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of

policy formulation and implementation, and the credibility of the government's commitment to such policies. Since its measurement is very similar to the main dependent variable, I expect to find similar results using these data. Moreover, WGI Government Effectiveness score captures the key element of a modern state: effective bureaucracy.

On the other hand, direct tax to GDP ratio does not necessarily measures the modern state since some states still rely on traditional state structures such as decentralized tax collection. Moreover, tax policy is not only a capacity issue, it is a political decision. States with strong modern state structures choose to have lower tax rates. Therefore, I expect to find mixed results using tax to GDP ratio as dependent variable. Bureaucratic quality is a good measure of modern state since this study is specifically about the diffusion of modern state institutions rather than the fiscal capacity outcome. Fiscal capacity outcome is not completely determined by the type of tax collection methods and the quality of bureaucracy even though the concepts are closely related.

Independent Variables The main independent variables are early statehood and colonization. In order to operationalize early statehood, I use a measure called *State History* as coded by

Bockstette, Chanda and Putterman (2002). *State History* measures the existence of a supra-tribal central state in the current territories of countries by assigning each country a score between 0 and 1 according to their level of statehood experience from 0 to 1500 CE. The geographic distribution of the independent variable, using *State History* measure, is shown in Figure 5.

The other main independent variable, *Colonization*, is a dummy variable coded as 1 if most of the country's territory was colonized by a European power (Belgium, England, France, Germany, Italy, Netherlands, Portugal or Spain) during the period between 1462 and 1945, and 0 otherwise. Data are taken from Ertan, Fizsbein and Putterman (2015). Judgment on whether foreign involvement meets the standard of colonization is made by the

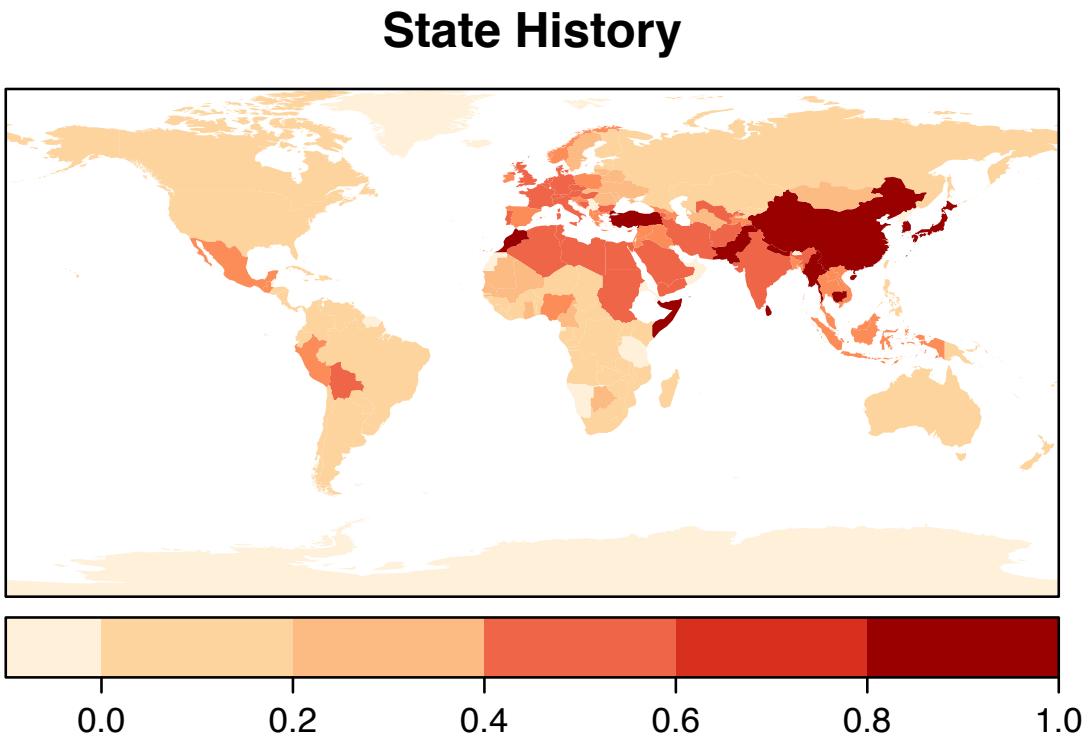

Figure 5: Independent Variable: Early Statehood (lightest color: missing data)

coders.

Ertan, Fizsbein and Putterman (2015) state that "colonies include cases of indirect rule as well as League of Nations protectorates but exclude cases where sources speak merely of a foreign sphere of influence." The geographic distribution of the independent variable is shown in Figure 6.

In this study, biogeography or agricultural years are used as instruments. The first instrument, Biogeography, is also taken from Ertan, Fizsbein and Putterman (2015). The coding is based on the numbers of large-seeded grasses and numbers of large animals suitable for domestication. The other instrument, Agricultural Years, comes from the same source, Ertan, Fizsbein and Putterman (2015), and is measured by the number of years passed up to 2000 since most of the population living in the borders of a country started to receive their calories from agriculture. Descriptive statistics for the main variables are presented in Table 2 in the appendix.

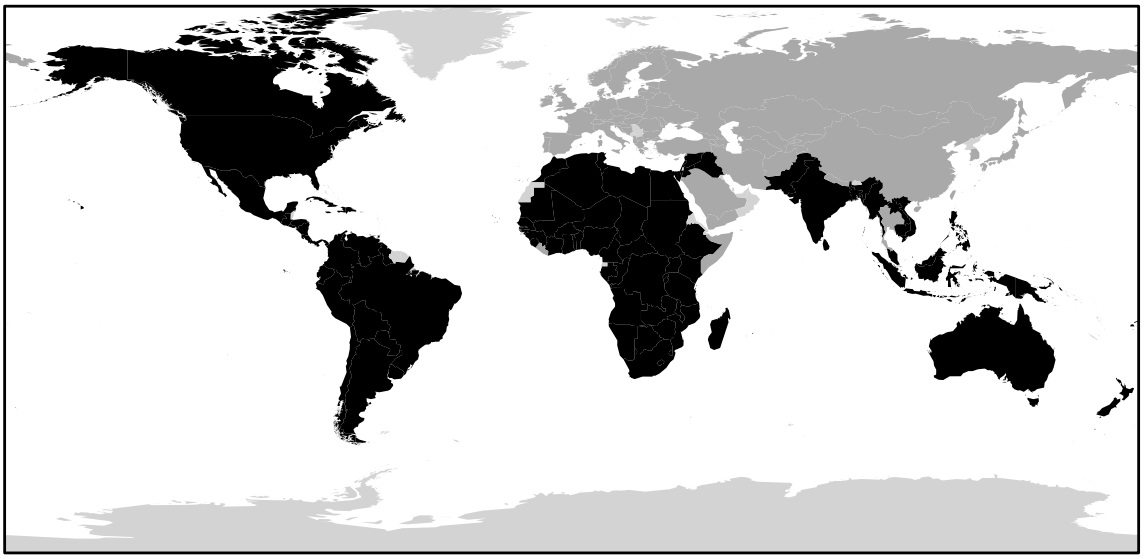

Figure 6: Independent Variable, Colonization. Colonized countries are showed in black, non-colonized countries are in dark gray, and missing data is in light gray.

3.5 Results

In this section, I first present the results for the Ordinary Least Square regressions. The robustness checks results for the regressions on alternative dependent variables (World Bank Indicators and Tax-to-GDP ratios) will follow. Finally, I will demonstrate results for the instrumental variables analysis.

First, I test for the interaction effect of the early statehood and colonization. The empirical evidence from the ordinary least squares regressions strongly supports the hypotheses that the impact of early statehood on ICRG bureaucratic quality is conditional on colonization (H1 and H3) and similarly, the impact of colonization on ICRG bureaucratic quality is conditional on early statehood (H2 and H4). In the different specifications of the interaction model (as shown in Table 3), coefficients for early statehood and colonization are positive, whereas the coefficient for the interaction term is statistically significant with a negative sign. Figure 7 visualizes standardized coefficients of the early statehood variable colonized and non-colonized countries. The figure clearly presents that the coefficient of

early statehood is significantly negative (below the 0 line) for colonized countries, whereas it is significantly positive (above the 0 line) for non-colonized countries when the dependent variable is bureaucratic quality. Regressions of standardized coefficients (Table 4 in the appendix and Figure 7) show that one standard deviation increase in the early statehood score increases the ICRG bureaucratic quality by 0.4 for a non-colonized country (if Colonization = 0). On the other hand, the effect is -0.4 for a colonized country (When Colonization = 1). Since ICRG bureaucratic quality measure is between 0 and 4, a change between -0.4 and 0.4 is substantial. Figure 9 in the Appendix represents the effects plot. In the plot, the sign of the slope for the early statehood variable is positive for non-colonized countries, whereas it is negative for colonized countries.

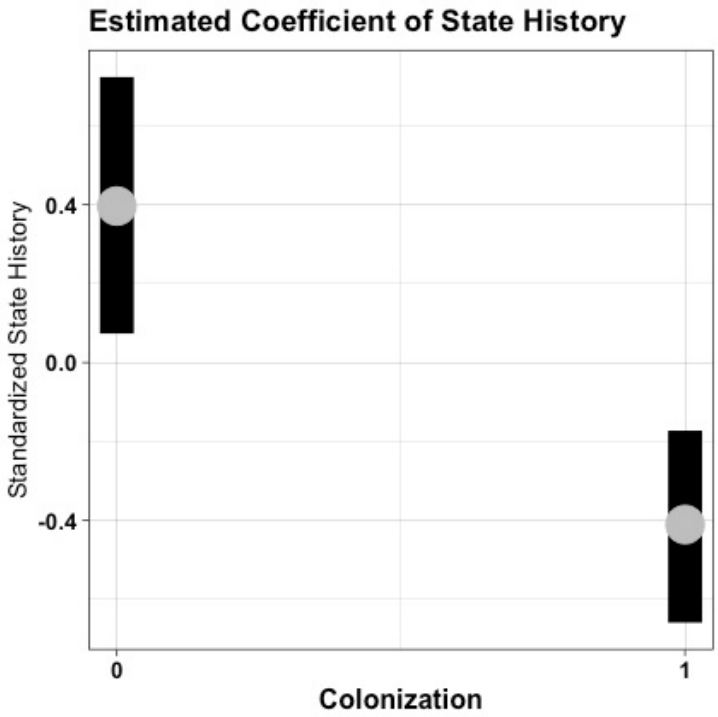

Figure 7: Coefficient Plot for State History
(0=Not Colonized, 1 = Colonized)

Figure 8 presents another visualization for the same analysis by focusing on the coefficient of colonization variable. In the interaction model, Figure 8 demonstrates how the effect of colonization on ICRG bureaucratic quality changes for differing levels of early statehood.

As the early statehood score for a country increases, the coefficient of colonization decreases and eventually turns to negative around 0.65 levels. This figure also presents evidence in support of the interaction effect of colonization and early statehood. Yet, the figure also shows that the effect of colonization is not significant for states with early statehood scores at the higher end of the spectrum. The confidence intervals coincide with the 0 line. On the other hand, effect is significant for states with early statehood scores at the lower end of the spectrum.

The empirical evidence from the ordinary least squares regressions strongly supports the first hypothesis that the impact of early statehood on the current state capacity is positive for non-colonized countries and the third hypothesis that the impact of early statehood on the current state capacity is negative for colonized countries (Figure 7). The empirical evidence from the ordinary least squares regressions strongly supports the second hypothesis that the impact of colonization on the current state capacity is positive for countries with low levels of early statehood (Figure 8). The impact of colonization on the current state capacity is negative for countries with high levels of early statehood providing evidence towards the fourth hypothesis yet this evidence is weaker compared to results that are in line with the first three hypotheses (Figure 8). Results indicate a reversal of state capacity after colonization.

One possible reason for the weakness of the evidence for the fourth hypothesis is the post-colonial state building in former colonies. As explained in the theory section, countries with medium to high early statehood levels did not experience modern state building during the colonial period because colonizers depended on existing institutions for extraction and these countries were not part of the international competition. Nevertheless, they started to build state capacities after they become independent members of the global state system following their decolonization. Therefore, post-independence state building mitigated the negative effects of colonization on current state capacity in historically medium to high capacity states leading to insignificant results.

The effects are robust to different measures of the dependent variable, government ef-

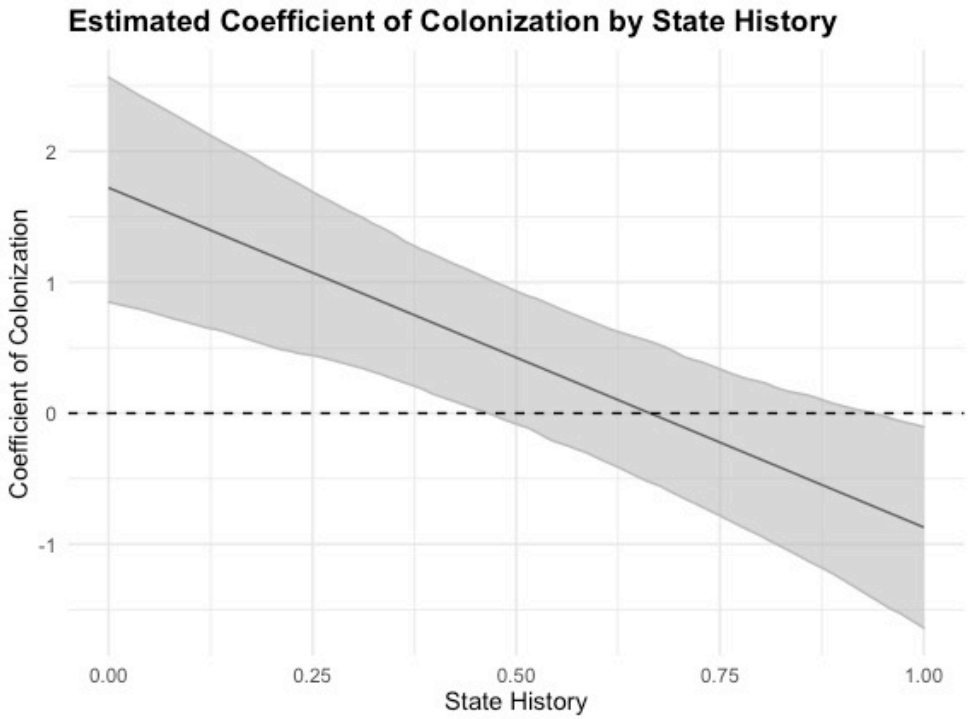

Figure 8: Coefficient Plot for Colonization

fectiveness and tax ratio. As seen in Table 5, results based on the WGI Government Effectiveness dependent variable reflect the results found using ICRG Bureaucratic Quality variable. On the other hand, the results are only somewhat robust to tax/GDP ratio. While the direction of the effects and the significance of the interaction term still provide evidence towards the hypotheses, the effect of the main independent variables is not significant (Table 6). I believe this weakness of results reflects the fact that tax/GDP variable does not fully capture the modern state. Table 7 represents compare results across all dependent variables for one model specification. All tables are in the appendix at the end of this section.

Table 8 presents results by checking robustness of the results to different types of colonizers. One striking finding is that the results seem to be driven by former British colonies. These disaggregated results must be treated with caution given that the interactions are estimated on small samples. This finding might be reflecting the driving effect of British colonies with no early statehood that received a high number of European immigrants during the colonization period. Therefore, I added an additional robustness check by using a subset

of data that excludes countries that received a high number of European immigrants.

Crosby (1986) calls Australia, New Zealand, Canada, the United States, Argentina, and Uruguay "Neo-Europes" because these countries received more than 50 million European immigrants between 1820 and 1930. European settlers in these countries and especially, in Australia, New Zealand, Canada, and the United States, built institutions that replicated European institutions with an emphasis on private property rights and checks on government (Acemoglu, Johnson and Robinson, 2001). Therefore, I created two subsets of the data to see whether results are driven by Neo-Europes. In the first subset, I dropped Australia, New Zealand, Canada, and the United States from the dataset (see Column 2 in Table 11 for results). In the second subset, I dropped Australia, New Zealand, Canada, the United States, Argentina, and Uruguay (see Column 3 in Table 11 for results). Results resemble full dataset coefficients in magnitude, direction, and significance and therefore, are robust. In other words, the findings in this paper are not driven by the institution building in Neo-Europes.

The findings are only partly robust to instrumental variables tests since the independent variable coefficients and interaction terms are similar in magnitude and direction but loses statistical significance as seen in Table 9 and Table 10 in the appendix. Another issue with the instrumental variable analyses is that the F-statistics are not above the rule of thumb threshold of 10 for all model specifications. When biogeography variable is used as the only instrument, F-statistics are above 10 for majority of the model specifications. On the other hand, the F-statistics remains below 10 when biogeography and agricultural years are combined as instruments (Table 10). This observation shows that biogeography and agricultural years are weak instruments for colonization when they are combined. Therefore, estimates in Table 10 do not provide a strong robustness check for the main OLS results. IV estimates in Table 9 presents a stronger robustness check. Although instrumental variables analyses provide results that are consistent with my theory, the weakness of the instruments and the loss of significance in some model specifications indicate insufficient evidence of a

causal relationship. Unpacking the complex causal relationship between the variables is an area for future study.

A colonized country is not a counterfactual for a non-colonized country. Colonization is not randomly distributed and is likely to be endogenous to early statehood. As partly captured in the IV analysis, conditions that attract extractive colonization, such as biogeography and climate, also create an environment conducive to the development of an early state and to its continuity. More broadly, unobserved factors affect a country's state history from early to modern statehood, and colonization history. Unobserved factors that create an environment conducive to life and resources are generally positively associated with the observed outcomes such as statehood and colonization. However, the picture gets more complicated when we look at the relationship between early statehood and colonization. The existence of a strong pre-colonial state can inhibit colonization as it did in the cases of Japan, China and Turkey. Therefore, unobserved factors that create an environment conducive to human livelihood have an indirect negative effect on colonization outcome. Distinguishing historical factors that create an environment conducive to the development and continuity of an early state and factors that create an environment attractive to extractive colonization is an important next step. Moreover, the effect of colonization on colonial and post-colonial state development varies depending on the type of colonization (e.g., colonizer and settlement) as the findings of this study suggest. Type of colonization is also endogenous to pre-colonial statehood.

In the literature, the reversal of fortune in postcolonial states is attributed to inclusive political institutions (Acemoglu, Johnson and Robinson, 2002; Hariri, 2012). Results of this study present an alternative explanation by providing evidence on the reversal of state capacities. Parsing out the exact causal mechanism that leads to the reversal of fortune requires further research with precise data from the colonial period. Understanding how the development of the state translates into the inclusive and exclusive political institutions and economic development requires further evidence. This study takes a step to demonstrate

the complexity of state development. Parsing out the complicated causal dynamics of how history of state development and colonization interplay to determine current economic and political outcomes is still an important area for future study.

3.6 Conclusion

This paper is an attempt to contribute to our understanding of the development of the modern state by taking a path-dependent perspective on institutional change and treating it as a product of world historical context (Skocpol, 1985; Berwick and Christia, 2018). Ordinary least squares findings are consistent with all four hypotheses presented in the Theoretical Framework section: the early statehood is positively associated with current bureaucratic quality in non-colonized countries, colonization is positively associated with bureaucratic quality in countries with no early statehood, early statehood is negatively associated with bureaucratic quality for colonized countries, and colonization is negatively associated with current state capacity in countries with no early statehood.

All of the findings are consistent with the theory that the modern state diffused to the world from Western Europe with channels of competition and colonization. First, non-colonized countries with strong early statehood legacies built modern states as a part of their continuous state building trajectories. International competition facilitated the building of a modern state in these countries after its emergence in Europe. Early statehood is positively associated with modern state capacity in non-colonized countries. Second, colonized countries with no early statehood legacies also built modern state institutions, but through a different channel. Colonization led to modern state building in these countries. Colonization is positively associated with current state capacity in states with no early statehood. Finally, findings corroborate that colonized countries with strong early statehood legacies and non-colonized countries with no early statehood are left behind in modern state building.

This study emphasizes the role of agency in state building. Modern state building in the post-colonial period might occur due to deliberative actions of actors who have incentives

to build capacity either by building state institutions from scratch (in colonies with low capacity historical states) or by building modern fiscal states by investing in bureaucracy to be able to compete with Western European states (in non-colonized countries with high capacity historical states).

The findings presented here also inform existing theories of reversal of fortune in colonized countries. Reversal of fortune theories observe that the previously prosperous colonized countries are poor, whereas the previously poor colonized countries are rich today. Acemoglu, Johnson and Robinson (2002) argue that the reversal of fortune in colonies is caused by the transplantation of inclusive and extractive institutions by colonizers in previously poor and previously rich colonies, respectively. They show that colonization leads to extractive institutions in colonies with high levels of pre-colonial development. These extractive institutions cause a reversal of fortune and previously rich countries become poor following the colonial period. They define extractive institutions as institutions through which small groups of individuals exploit the rest of the population, in the absence of a strong emphasis on private property and checks against government power. They also find that previously poor colonies become rich following colonization as these colonies were more conducive to transplantation of European institutions. Nevertheless, Hariri (2012) shows that extractive institutions are not colonial outcomes as they are prevalent in much of the world including non-colonized countries. He finds that authoritarianism (can simply be defined as a regime that relies on extractive institutions) is the persistent mode of rule in all countries except for Europe whether they are colonized or not. He finds that authoritarianism (extractive institutions) persists in previously prosperous states when they are colonized because colonizers rely on existing institutions to extract resources. This study attempts to resolve this puzzle by offering an alternative explanation for the reversal of fortune by arguing that this reversal is caused by the effect of the colonial age on modern state building, as the state capacity outcome is a determinant of economic growth and development.

Appendix

	Mean	SD	Min	Max	N	1s
State History	0.35	0.31	0	1	147	cont
Colonization	0.62	0.49	0	1	149	92
Biogeography	50.76	40.56	6.47	100	144	cont
Agricultural Years	42.33	24.58	0	100	148	cont
Latitude	26.64	16.95	0.22	60	147	cont
English Colony				0	1	39
FrenchColony				0	1	22
Spain/Portugal Colony				0	1	23
Sub-Saharan Africa				0	1	41
America				0	1	25
Asia				0	1	49

Table 2: Descriptive Statistics

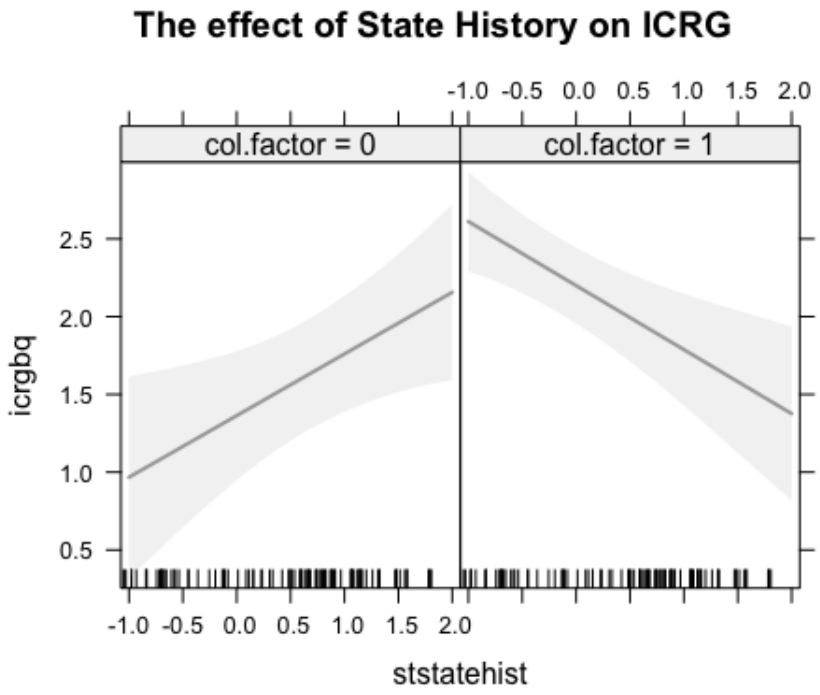

Figure 9: Effects Plot for Early Statehood

Table 3: Interaction Model OLS Results

	Dependent variable:					
	Current State Capacity					
	(1)	(2)	**(3)**	(4)	(5)	(6)
State History	1.367**	1.344**	1.274**	1.277**	1.275**	1.281**
	(0.557)	(0.562)	(0.550)	(0.532)	(0.525)	(0.527)
Colonized	1.210***	1.222***	1.198***	1.747***	0.778*	1.141**
	(0.413)	(0.416)	(0.407)	(0.430)	(0.404)	(0.544)
sub-Saharan Africa			−0.624***	−1.712***	−0.731***	−0.786***
			(0.231)	(0.408)	(0.223)	(0.264)
Latin America				−1.279***		
				(0.402)		
Asia		0.075	−0.136	−0.735***	−0.350*	−0.366*
		(0.189)	(0.200)	(0.270)	(0.200)	(0.210)
Latitude	0.039***	0.039***	0.031***	0.019**	0.026***	0.026***
	(0.007)	(0.007)	(0.008)	(0.008)	(0.007)	(0.008)
British colony					0.732***	0.416
					(0.195)	(0.370)
French colony						−0.355
						(0.379)
Spain Portugal colony						−0.384
						(0.416)
State History*Colonized	−2.087***	−2.138***	−2.140***	−2.604***	−2.059***	−2.137***
	(0.655)	(0.670)	(0.655)	(0.651)	(0.626)	(0.636)
Constant	0.091	0.070	0.584	1.329**	0.874*	0.869*
	(0.465)	(0.470)	(0.497)	(0.535)	(0.481)	(0.493)
Observations	144	144	144	144	144	144
R^2	0.284	0.285	0.321	0.368	0.385	0.390
Adjusted R^2	0.264	0.259	0.292	0.336	0.353	0.349

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

Table 4: Standardized State History Interaction Model

	Dependent variable:					
	Current State Capacity					
	(1)	(2)	(3)	(4)	(5)	(6)
State History	0.424**	0.417**	0.395**	0.397**	0.396**	0.398**
	(0.173)	(0.174)	(0.171)	(0.165)	(0.163)	(0.164)
Colonization	0.479*	0.474*	0.450*	0.836***	0.057	0.394
	(0.266)	(0.267)	(0.261)	(0.281)	(0.271)	(0.431)
sub-Saharan A.			−0.624***	−1.712***	−0.731***	−0.786***
			(0.231)	(0.408)	(0.223)	(0.264)
Latin America				−1.279***		
				(0.402)		
Asia		0.075	−0.136	−0.735***	−0.350*	−0.366*
		(0.189)	(0.200)	(0.270)	(0.200)	(0.210)
Latitude	0.039***	0.039***	0.031***	0.019**	0.026***	0.026***
	(0.007)	(0.007)	(0.008)	(0.008)	(0.007)	(0.008)
British colony					0.732***	0.416
					(0.195)	(0.370)
French colony						−0.355
						(0.379)
Spain Portugal col						−0.384
						(0.416)
State History:Col	−0.648***	−0.664***	−0.664***	−0.808***	−0.639***	−0.663***
	(0.203)	(0.208)	(0.203)	(0.202)	(0.194)	(0.197)
Constant	0.569	0.541	1.030***	1.776***	1.320***	1.317***
	(0.349)	(0.357)	(0.394)	(0.447)	(0.384)	(0.398)
Observations	144	144	144	144	144	144
R^2	0.284	0.285	0.321	0.368	0.385	0.390

Note: *p<0.1; **p<0.05; ***p<0.01

Table 5: Interaction Model with Government Effectiveness as DV

	Dependent variable:					
	Government Effectiveness (WGI)					
	(1)	(2)	(3)	(4)	(5)	(6)
State History	1.236**	1.139**	1.102**	1.095**	1.102**	1.098**
	(0.506)	(0.494)	(0.494)	(0.496)	(0.493)	(0.494)
Colonization	1.270***	1.335***	1.329***	1.355***	1.109***	0.988*
	(0.375)	(0.366)	(0.365)	(0.382)	(0.407)	(0.510)
Latitude	0.043***	0.046***	0.042***	0.041***	0.041***	0.040***
	(0.006)	(0.006)	(0.007)	(0.008)	(0.008)	(0.007)
Asia		0.576***	0.484**	0.446*	0.415	0.398*
		(0.196)	(0.210)	(0.259)	(0.258)	(0.224)
sub-Saharan Afr			−0.248	−0.312	−0.211	−0.221
			(0.206)	(0.328)	(0.332)	(0.238)
Latin America				−0.081	0.108	
				(0.327)	(0.344)	
British colony					0.326*	0.442
					(0.195)	(0.348)
Spain Portugal col						0.233
						(0.386)
French col						0.095
						(0.355)
State History:Colonization	−1.958***	−2.129***	−2.159***	−2.193***	−2.108***	−2.083***
	(0.595)	(0.582)	(0.582)	(0.599)	(0.598)	(0.591)
Constant	−2.161***	−2.323***	−2.115***	−2.061***	−2.052***	−2.021***
	(0.423)	(0.415)	(0.449)	(0.500)	(0.497)	(0.462)
Observations	144	144	144	144	144	144
R^2	0.334	0.373	0.380	0.380	0.393	0.394
Adjusted R^2	0.315	0.351	0.353	0.348	0.357	0.354
Note:						*p<0.1; **p<0.05; ***p<0.01

Table 6: OLS with Tax/GDP as DV

	Dependent variable:					
	Tax/GDP					
	(1)	(2)	(3)	(4)	(5)	(6)
State History	0.081	0.086	0.093*	0.091*	0.093*	0.096*
	(0.053)	(0.053)	(0.053)	(0.053)	(0.052)	(0.052)
Colonization	0.094**	0.095**	0.096**	0.104**	0.075*	0.089
	(0.040)	(0.040)	(0.040)	(0.041)	(0.043)	(0.054)
Latitude	0.005***	0.005***	0.005***	0.005***	0.005***	0.005***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Asia		−0.012	0.002	−0.009	−0.014	−0.008
		(0.020)	(0.021)	(0.026)	(0.026)	(0.022)
sub-Saharan Africa			0.039*	0.019	0.031	0.045*
			(0.021)	(0.032)	(0.033)	(0.023)
Latin America				−0.026	−0.004	
				(0.033)	(0.034)	
British colony					0.040**	0.025
					(0.019)	(0.036)
Spain Portugal colony						0.002
						(0.040)
French colony						−0.034
						(0.037)
State History:Colonization	−0.171***	−0.170***	−0.166***	−0.176***	−0.168***	−0.162***
	(0.061)	(0.061)	(0.061)	(0.062)	(0.061)	(0.061)
Constant	0.005	0.007	−0.027	−0.009	−0.009	−0.022
	(0.045)	(0.045)	(0.048)	(0.053)	(0.052)	(0.048)
Observations	141	141	141	141	141	141
R^2	0.452	0.453	0.468	0.470	0.487	0.495
Adjusted R^2	0.436	0.433	0.444	0.442	0.456	0.460
Note:						*p<0.1; **p<0.05; ***p<0.01

Table 7: OLS Results for State Capacity Measures

	Dependent variable:			
	Bureuc. Qual.	Gov't Effectiveness	Tax/GDP	Tax/GDP (1960)
	(1)	(2)	(3)	(4)
State History	1.249**	1.202***	0.118**	0.001
	(0.498)	(0.451)	(0.046)	(0.068)
Colonization	1.213***	1.323***	0.111***	0.012
	(0.413)	(0.374)	(0.038)	(0.051)
Latitude	0.022**	0.027***	0.004***	0.001
	(0.009)	(0.008)	(0.001)	(0.001)
Asia	−0.295	−0.485*	−0.119***	−0.114***
	(0.321)	(0.291)	(0.028)	(0.032)
sub-Saharan Africa	−1.315***	−1.242***	−0.086**	−0.096***
	(0.398)	(0.361)	(0.034)	(0.036)
Middle East	−1.001***	−1.198***	−0.137***	−0.088***
	(0.251)	(0.227)	(0.022)	(0.028)
Latin America	−0.890**	−0.867**	−0.116***	−0.110***
	(0.403)	(0.365)	(0.035)	(0.036)
British colony	0.479**	0.306*	0.037**	0.022
	(0.197)	(0.178)	(0.017)	(0.016)
State History:Colonization	−2.275***	−1.978***	−0.168***	−0.011
	(0.604)	(0.546)	(0.054)	(0.072)
Constant	1.199**	−1.089**	0.088*	0.193***
	(0.541)	(0.489)	(0.048)	(0.056)
Observations	144	144	141	115
R^2	0.456	0.497	0.604	0.378
Adjusted R^2	0.419	0.463	0.577	0.325
Note:				*p<0.1; **p<0.05; ***p<0.01

Table 8: OLS with Different Colonizers

	Dependent variable:				
	Bureaucratic Quality (ICRG)				
	(1)	(2)	(3)	(4)	(5)
State History	0.277	−0.407	−0.287	−0.351	0.044
	(0.348)	(0.312)	(0.314)	(0.307)	(0.331)
British col	0.999***	0.382	0.430*	0.393	0.501*
	(0.311)	(0.251)	(0.259)	(0.255)	(0.301)
French col	−0.163	−0.341	−0.175	−0.335	−0.583**
	(0.284)	(0.288)	(0.400)	(0.292)	(0.267)
Spain-Portugal col	0.439	0.108	0.231	0.178	−0.133
	(0.297)	(0.325)	(0.309)	(0.302)	(0.283)
Other European col	0.093	0.019	0.045	0.028	−0.323
	(0.313)	(0.322)	(0.326)	(0.528)	(0.291)
Russian col					−1.505***
					(0.282)
Ottoman col					−0.976***
					(0.231)
China col					−1.191
					(0.810)
Latitude	0.036***	0.036***	0.037***	0.036***	0.040***
	(0.006)	(0.006)	(0.007)	(0.006)	(0.006)
Asia	0.661***	0.589**	0.583**	0.573**	
	(0.220)	(0.227)	(0.226)	(0.225)	
State History:British	−1.755***				−0.849
	(0.563)				(0.522)
State History:Spain		0.478			
		(0.948)			
State History:French			−0.456		
			(0.789)		
State History:OtherEuropean				−0.022	
				(0.946)	
Constant	0.708**	1.060***	0.969***	1.046***	1.264***
	(0.326)	(0.318)	(0.345)	(0.330)	(0.304)
Observations	144	144	144	144	144
R^2	0.375	0.332	0.332	0.330	0.488
Adjusted R^2	0.338	0.292	0.293	0.291	0.450
Note:					*p<0.1; **p<0.05; ***p<0.01

Table 9: Insrumental Variables (IV: Biogeography)

	Dependent variable:					
	Bureaucratic Quality (ICRG)					
	(1)	(2)	(3)	(4)	(5)	(6)
State History	0.827	1.132	1.022	0.617	0.917	1.069
	(0.924)	(0.830)	(0.815)	(0.924)	(0.755)	(0.732)
Colonization	1.569*	1.194	1.401*	2.207**	1.380*	2.576
	(0.854)	(0.764)	(0.708)	(0.897)	(0.727)	(2.586)
Latitude	0.055**	0.043*	0.044**	0.058**	0.047**	0.047**
	(0.024)	(0.022)	(0.021)	(0.023)	(0.019)	(0.024)
Asia		0.773***	0.668***	0.417	0.564**	0.551**
		(0.212)	(0.226)	(0.323)	(0.262)	(0.259)
sub-Saharan Africa			−0.274	−0.641	−0.295	−0.366
			(0.233)	(0.408)	(0.243)	(0.289)
Latin America				−0.560		
				(0.439)		
British colony					0.282	−0.753
					(0.353)	(1.914)
Spain Portugal colony						−1.126
						(1.853)
French colony						−1.361
						(1.800)
State History:Colonization	−1.015	−2.195	−2.025	−1.360	−1.777	−2.196**
	(1.503)	(1.366)	(1.325)	(1.470)	(1.125)	(0.919)
Constant	−0.514	−0.009	−0.080	−0.680	−0.187	−0.256
	(1.176)	(1.051)	(1.029)	(1.134)	(0.930)	(1.198)
Observations	140	140	140	140	140	140
R^2	0.195	0.355	0.353	0.186	0.357	0.342
Adjusted R^2	0.171	0.331	0.324	0.143	0.323	0.296
F-stat	11.4	13.8	11.8	8.3	10.8	8.5
Note:						*p<0.1; **p<0.05; ***p<0.01

Table 10: Insrumental Variables (IV: Biogeography and Agricultural Years)

	Dependent variable:					
	Bureaucratic Quality (ICRG)					
	(1)	(2)	(3)	(4)	(5)	(6)
State History	0.472	0.562	0.447	0.110	0.399	0.612
	(0.916)	(0.810)	(0.824)	(0.992)	(0.773)	(0.896)
Colonization	1.726*	1.496*	1.711**	2.599**	1.764**	5.193*
	(0.900)	(0.794)	(0.759)	(1.022)	(0.770)	(2.832)
Latitude	0.063***	0.057***	0.060***	0.072***	0.062***	0.071***
	(0.024)	(0.021)	(0.021)	(0.025)	(0.018)	(0.026)
Asia		0.762***	0.681***	0.387	0.676**	0.659*
		(0.230)	(0.254)	(0.376)	(0.288)	(0.341)
sub-Saharan Africa			−0.214	−0.686	−0.208	−0.497
			(0.254)	(0.481)	(0.265)	(0.372)
Latin America				−0.685		
				(0.515)		
British colony					0.016	−2.772
					(0.352)	(2.030)
Spain Portugal colony						−3.074
						(1.982)
French colony						−3.263*
						(1.912)
State History:Colonization	−0.350	−1.136	−0.935	−0.457	−0.824	−1.638
	(1.449)	(1.296)	(1.296)	(1.527)	(1.087)	(1.119)
Constant	−0.820	−0.545	−0.676	−1.218	−0.771	−1.308
	(1.216)	(1.073)	(1.078)	(1.260)	(0.963)	(1.385)
Observations	139	139	139	139	139	139
R^2	0.073	0.279	0.225	−0.101	0.199	−0.138
Adjusted R^2	0.045	0.252	0.190	−0.160	0.156	−0.217
F-stat	9.86	12.06	9.67	6.1	8.6	4.96
Note:						*p<0.1; **p<0.05; ***p<0.01

Table 11: OLS Results for Different Data Subsets

	Dependent variable:		
	Bureaucratic Quality (ICRG)		
	full	non neoeu	non neoeu2
State History	1.185**	1.138**	1.154**
	(0.533)	(0.531)	(0.534)
Colonization	1.291***	1.021**	1.100**
	(0.394)	(0.414)	(0.426)
Latitude	0.039***	0.033***	0.034***
	(0.008)	(0.008)	(0.008)
Asia	0.672***	0.571**	0.574**
	(0.227)	(0.242)	(0.243)
sub-Saharan	−0.323	−0.299	−0.318
	(0.222)	(0.222)	(0.224)
State History:Colonization	−2.362***	−2.091***	−2.168***
	(0.628)	(0.639)	(0.648)
Constant	0.138	0.411	0.347
	(0.484)	(0.503)	(0.511)
Observations	144	140	138
R^2	0.360	0.319	0.323
Adjusted R^2	0.332	0.288	0.292
Note:			*p<0.1; **p<0.05; ***p<0.01

4 Bureaucratic Quality, Democracy, and Trade Policy

4.1 Introduction

During the 1980s and 1990s, the majority of the developing countries opened their markets through a series of trade liberalization reforms. In Turkey, Prime Minister Turgut Ozal was the front runner of the trade liberalization process. Similar to his contemporaries, specifically Ronald Reagan in the USA and Margaret Thatcher in Britain, Turgut Ozal was a proponent of free markets. His vision was to transform the Turkish economy (and society) into a genuinely capitalistic one. Yet, the strong bureaucratic apparatus of the Turkish state resisted his aspirations. Ozal was the chief policy maker as the prime minister from December 1983 to November 1989. Despite all his eagerness for trade liberalization, Ozal could not achieve this goal until the very end of his term as a prime minister. Turkey opened up the capital account fully in August 1989. Ozal chose to reduce bureaucratic quality to pass the policy rather than working with bureaucrats to prepare for this change.

Unwilling to give up on his free markets ideal, Ozal became critical of the classical bureaucracy and wanted to reduce the autonomy enjoyed by the bureaucrats (Onis, 2004). He achieved speedy implementation of liberal reforms by adopting an authoritarian stance. For instance, he created new layers of bureaucracy such as the Privatization Administration and the Under-Secretariat of Treasury and Foreign Trade to bypass the existing ones such as the State Planning Organization, and Ministry of Finance. He hired a high number of internationally trained new bureaucrats who supported a rapid and uninterrupted transition into free markets. Ozal's intervention in bureaucratic policymaking processes, by creating new layers of bureaucracy, was a major disruption to state capacity. The creation of new bureaucracies often resulted in serious intra-bureaucratic conflicts and these new institutions lacked a proper bureaucratic tradition or culture (Onis, 2004). The weakening of the bureaucracy became evident in the recurring episodes of corruption and economic crises in the

1990s. The successive economic crises in 1994, 2000, and 2001 had their origins in the rapid changes of the Ozal era (Onis, 2004). In retrospect, experts argue that the decision was a premature one in the absence of macroeconomic stability and a fully regulated financial system by validating the preferences of the bureaucracy (Onis, 2004).

The literature on trade policymaking in the developing world emphasizes the role of the regime type while overlooking the role of bureaucrats who design and implement policy with or without insulation from the political actors. This study attempts to fill this gap by introducing the bureaucratic quality as a key variable in trade policy outcomes. I define bureaucratic quality as the existence of bureaucrats with expertise who are insulated from political pressures. A high quality bureaucracy carries out the policy preferences of the executive, but does so with some discretion. This discretion is critical for effective policymaking in complex policy areas such as trade policy because reducing uncertainties in complex policymaking requires expertise. I argue that bureaucratic quality shapes the effect of democracy on trade liberalization because bureaucrats play an active role in the trade policymaking process when bureaucratic quality is high.

I test this theory by analyzing the relationship between bureaucratic quality, democracy and trade liberalization using a dataset of developing countries during the biggest wave of trade liberalization in the developing world from 1970 to 1999. The analysis focuses on this period because trade reforms were further expanded and consolidated in the 1980s and 1990s in South Asia, East Asia, Latin America, Eastern Europe, and to a lesser extent, in Africa and the Middle East following the reversal in protectionism that started after the World War II among the industrialized countries (World Bank, 2005).

A number of existing studies have found that democracies are more likely to have liberal trade policies (Milner and Kubota, 2005; Kono, 2006; Milner and Mukherjee, 2009) and form trade alliances (Gowa and Mansfield, 1993; Bliss and Russett, 1998; Mansfield, Milner and Rosendorff, 2000, 2002; Milner and Mansfield, 2012). Rodrik (1994) presents time series evidence in line with this expectation: trade policy change often follows regime change.

Using data from the late nineteenth century, O'Rourke and Taylor (2006) find that democratization leads to trade liberalization in countries where workers are likely to gain from an open market. Dutt and Mitra (2002) find that an increase in inequality increases trade openness in labor-abundant economies using cross-country data with the 1980s averages. However, some studies also argued that autocracies should be more capable of initiating and sustaining economic reform (Geddes, 1999), and others have found that democracies only appear to foster free trade by reducing transparent trade barriers while replacing them with less transparent barriers (Kono, 2006). Although the conventional wisdom in the literature suggests that democracy fosters free trade, some studies show that the relationship between democracy and free trade is contingent on other factors.

However, the literature on regime type and trade liberalization has often ignored the variation within regime type categories. The differences within regime types are likely to have more effect than the regime type itself (Haggard and Kauffman, 1995). Tavares (2008) provides evidence towards the significance of this variation by showing how the negative association between tariff rates and political rights tend to disappear as a country gets richer. Hankla and Kuthy (2013) argue that variations across authoritarian regimes determine the trade liberalization outcome in these regimes. This study contributes to the literature by taking the variation in bureaucratic quality in democracies into account while analyzing the relationship between democracy and trade liberalization in developing countries.

Existing studies focus on the role of three key players in trade policymaking both in developing and developed democracies: the government (Krueger, 1997), the public (Haggard and Kaufman, 1992; Milner and Kubota, 2005; Kono, 2006), and private interest groups such as large firms (Kim and Osgood, 2019). In authoritarian regimes, the government and the selectorate are regarded as the two important players (Hankla and Kuthy, 2013). None of these studies discuss the key role bureaucracy plays in trade policymaking in developing countries. This study contributes to the literature by introducing the role of high quality bureaucracy in trade liberalization. This paper argues that bureaucracy is another influential

actor since bureaucrats design and implement policy using bureaucratic expertise.

In this article, I show that the effect of democracy on trade liberalization is contingent on bureaucratic quality operationalized using an expert survey-based measure. I find evidence in line with existing arguments that democracy is correlated with trade liberalization. However, I show that this effect only exists in countries with low levels of bureaucratic quality. When bureaucratic quality is high, the relationship between the level of democracy and trade liberalization weakens. By showing that high bureaucratic quality influences the effect of democracy on trade policy, the findings contribute to a body of research that finds an influence of independent bureaucracy on the variation in foreign policy (Arel-Bundock, Atkinson and Potter, 2015) and monetary policy (Keefer and Stasavage, 2003).

4.2 Theoretical Framework

During the 1960s and 1970s, developed economies started to open their markets while developing countries remained as closed economies. This preference was an outcome of the specific interest group configurations. In the developing world, the urban owners of industry and urban high-skilled workers were the most influential interest groups and they benefited from closed economies (Haggard and Kauffman, 1995). Nevertheless, this preference changed, and the majority of the developing countries opened their markets through a series of trade liberalization reforms during the 1980s and 1990s. The literature points out to four main reasons for this major shift in trade policy in the developing world.

First, foreign influence created incentives for developing countries to liberalize (Haggard and Kaufman, 1992). For instance, United States hegemony at the end of the Cold War put pressure on countries to liberalize. Similarly, previously closed economies started to liberalize to attract foreign investment and capital from the U.S. and Europe, and to respond to pressures and conditions coming from international institutions such as the IMF, World Bank, and WTO. Second, changing ideas of influential political leaders who promote trade liberalization led to dramatic changes in trade policy in the developing world (Krueger, 1997).

Third, economic crises caused by the failure of old economic policies created an environment that is suitable for the trial of new and radical economic policies (Haggard and Kauffman, 1995). Finally, democratization opened a new avenue for changes in trade policy by shaking the existing interest group configurations. As a result of democratization, previous losers of closed economies became influential in policymaking (Milner and Kubota, 2005).

Almost by definition, developing countries possess more low-skilled workers than capital owners and high-skilled workers. As a result of democratization, large populations of low-skilled workers became more influential in policymaking compared to previous dominant groups of urban owners of industry and high-skilled workers in developing democracies. In return, leaders became more likely to liberalize trade to appeal to the large group of low-skilled workers to ensure political survival.

In general, liberalization should result in a gain in income for labor owners since labor is the abundant factor in the developing world (Milner and Kubota, 2005). Similarly, prices of the imported goods that are bought by labor owners decrease as a result of liberalization. Rogowski and Kayser (2002) find that consumer prices for goods and services are systematically lower when the preferences of labor owners are reflected in policymaking. Therefore, the owners of labor are expected to prefer trade liberalization in labor-abundant countries.

In democracies, elected officials are chosen and peacefully removed in frequent, fair, and free elections. In a democracy all adults have the right to vote and participate in these elections, right to freedom of expression, right to freedom of association, and access to alternative sources of information (Dahl, 1989). Therefore, democratization should create incentives for elected representatives to support free trade in countries where labor is the abundant factor. Mayer (1984) demonstrates that democratic elections incentivize competing politicians to converge to the median voter's tariff rate preferences.[6]

Despite the pro-trade preferences of labor-owners and elected officials in democracies, the effects of trade liberalization on citizen welfare are complex. This complexity creates the

[6]See Rickard (2015) for an extensive literature review on elections and trade.

potential for experts and non-experts to have divergent assessments of how liberalization will affect general welfare. Although trade liberalization benefits large segments of a society, an immature liberalization can hurt the same population by causing deterioration in the overall economic performance in the long run. Wacziarg and Welch (2008) show high variation in economic responses of developing countries to trade liberalization: Some countries including Indonesia, Korea, Taiwan, Poland, and Chile experienced higher growth following trade liberalization while others such as Colombia, Hungary, and Mexico experience negative or zero growth. Low economic growth is likely to hurt owners of the abundant labor factor with a decrease in real wages and an increase in consumer prices. Giavazzi and Tabellini (2005) find that economic liberalization is good for growth and investment but only when it is accompanied by other policy improvements such as better private property rights, lower corruption, and a lower budget surplus. They also argue that the sequence of reforms matters by showing countries that liberalize trade before becoming democracies do much better in economic performance than countries that pursue the opposite sequence. Onis (2004) argues that Turkey and Argentina experienced economic crises in 2001 because they were "suddenly and prematurely" exposed to economic liberalization in the 1980s. A successful trade liberalization process is accompanied by other policy improvements such as better private property rights, lower corruption, and a lower budget surplus (Giavazzi and Tabellini, 2005). An unsuccessful trade liberalization prioritizes opening markets without making any other necessary policy improvements.

The complexity of the effects of trade liberalization on welfare can create a situation in which experts and non-experts with the same goal of promoting the general welfare may have different preferences over which policies will achieve that goal. An expert bureaucracy has a higher probability of having superior information about necessary reforms and the most likely consequences of trade liberalization i.e., whether the reforms will be successful by enhancing economic performance over the long run. Bureaucratic expertise is defined as the higher probability of having superior information about the consequences of various

policymaking decisions (Stephenson, 2007).

In designing and implementing policy, policymakers delegate discretion to the bureaucracy because bureaucrats have more expertise than the elected politicians. In other words, delegation to bureaucrats reduces policy uncertainty by allowing for the collection of more complete information about consequences of available policy options (McCubbins, 1985; Gilligan and Krehbiel, 1987; Kiewiet and McCubbins, 1991; Bawn, 1995). As long as gains from bureaucratic expertise are high, elected politicians have incentives to delegate more to the bureaucracy (Bawn, 1995). On the other hand, bureaucrats have incentives to minimize policy uncertainty (McCubbins, Noll and Weingast, 1987) and maximize policy benefits because they gain a reputation for expertise as a result of their performance. This good reputation increases their likelihood of being more effective in policymaking with more delegation (Carpenter, 2001).

Successful policymaking, especially in complex policy areas such as trade, requires delegation to a high quality bureaucracy. Bureaucratic quality is the degree of a bureaucracy's expertise, merit-based recruitment, and insulation from political pressures. When bureaucratic quality is high, bureaucrats do not lose their jobs with political changes. A high quality bureaucracy collects more complete information and gives advice to elected officials for better policymaking. As a result, they maximize policy benefits and develop a professional reputation. This reputation motivates elected officials to delegate more discretion to the bureaucracy when they face uncertainty about possible consequences of available policy options. In other words, expertise gives power to bureaucrats. Policymakers are more likely to delegate discretion to a bureaucracy with a good reputation in successful policymaking. Therefore, a high quality bureaucracy is a better agent of liberalizing political leaders since they are more likely to ensure a successful transition with their expertise. Bureaucracy can bolster trade liberalization process by implementing other necessary policy improvements such as better private property rights, lower corruption, and a lower budget surplus when they are delegated the power. Findings in the literature show that bureaucratic quality pre-

dicts economic performance (Evans and Rauch, 1999), and its absence hinders development (Evans, 1989).

A high quality bureaucracy has a capacity to influence and mobilize the government. They are capable of not carrying out the precise policy instructions of political principals. Although classical principal-agent accounts capture an interaction where a principal, a political leader, delegates a task and the agent, a bureaucrat, decides how much effort to exert (Dixit, 2002), principal-agent relationship does not always require bureaucrats who only implements what they are told by the political leaders. For instance, the U.S. has a high bureaucratic quality score and the U.S. Congress does not establish all the details on how the policy will be implemented. Congress grants power to bureaucracy to work on the details. In a seminal book of American politics, Neustadt (1960) argues that presidential power comes from a president's ability to persuade not only the Congress but also bureaucracy. Delegation of critical policymaking tasks such as monetary policy to independent agencies has played an important role in our understanding of the role of bureaucratic independence in policymaking. As independent regulatory agencies become more independent, they produce higher quality policy outcomes (Koop and Hanretty, 2019). In a similar vein, Miller and Whitford (2016) argue that bureaucracies enhance economic development if they are insulated from daily politics.

High quality of bureaucracy implies that bureaucrats have expertise. As a result of this expertise, their assessments of policies may differ from those of non-experts. The development of expertise requires some adversity between the principal and agents. Gailmard and Patty (2013) argue that a principal would prefer a non-ally agent when the agent needs to invest in information acquiring as non-allies are better at investing in information. In a similar vein, Gailmard and Patty (2007) show that the development of an expert bureaucracy needs policy-motivated bureaucrats with their own policy preferences and those bureaucrats are more likely to specialize and stay in bureaucracy. Trade policy as a complex policy area is a policy area that requires expertise and investment in information. Therefore, expert

trade bureaucrats are likely to have diverging preferences from those of their principals.

To summarize, owners of the abundant factor i.e., labor, in a developing country prefer an open trade policy because they benefit from higher wages and lower prices. As the level of democracy increases, elected politicians converge to the trade policy preferences of labor owners to guarantee re-election. On the other hand, a high quality bureaucracy prioritizes maximizing benefits from policy change. Therefore, they collect more complete information on the long-term consequences of trade policy. They give advice towards building structural conditions under which free trade fosters economic growth. Elected officials choose to delegate discretion to a high quality bureaucracy because they prefer to minimize policy uncertainty. As a result, they prioritize structural reforms based on the expert bureaucracy's advice and inform the public about the negative long-term effects of an unprepared liberalization on income and prices. In other words, bureaucracy can influence a democratic government against a potentially unsuccessful trade policy which might deteriorate the economy over the long run, and the government chooses to delegate the trade policymaking process to the bureaucracy when the bureaucratic quality is high.

> ***H1:*** The effect of democracy on trade openness is lower for developing countries with high quality bureaucrats.

In the absence of a high quality bureaucracy, sudden and premature shifts in trade policy are more likely. In a developing country, labor is more likely to be the abundant factor and owners of labor prefer an open trade policy. As a result, they benefit from higher wages and lower prices. As the level of democracy increases, elected politicians get more responsive to the trade policy preferences of labor owners to guarantee re-election. Since bureaucratic quality is low, bureaucrats are less likely to collect more complete information on possible negative consequences of an unprepared trade policy change. Moreover, elected politicians are less likely to delegate discretion to the bureaucrats on trade policy because bureaucrats do not have good reputation as experts. The preferences of elected officials and voters become the major determinants of the trade policy as the level of democracy increases.

H2: The effect of democracy on trade openness is higher for developing countries with low quality bureaucrats.

An alternative explanation is that rent-seeking bureaucrats can also have incentives to prevent trade liberalization when they have vested interests in the large firms who benefit from the lucrative internal market without international competition. Therefore, they oppose trade liberalization as their established partners in domestic sectors will lose competitive advantage. Additionally, trade liberalization can directly hurt a bureaucrat because they are employed in protection related sectors of the state. In this case, they support the status quo since a policy change may mean job loss or a decrease in power and status. As a result, a rent-seeking bureaucrat's advice is also against liberalization because they may lose positions due to a lack of expertise in open trade or they have vested interests in capital owners that benefit from protectionism under the status quo. I rule out this alternative explanation by assuming that a high quality bureaucrat who is an expert on policy, recruited on the basis of merit, and insulated from political pressures is less likely to be a rent-seeking bureaucrat.

Another alternative explanation works through the channel of economic development. High quality bureaucracies are correlated with higher levels of economic development. Failure of existing economic structures and economic crises, and vulnerability to international pressure of Western democracies and international organizations are among the causes that motivate trade liberalization in the developing world. Developing countries with relatively higher levels of economic development are less likely to undergo dramatic policy changes even when they democratize since public and interest groups are content with the existing economic conditions under relatively higher levels of economic development.

4.3 Research Methods

In order to test the hypotheses, I will employ an ordinary least square analysis using a cross-country time-series dataset. For robustness checks, I will employ a logistic regression using a binary dependent variable.

The model includes an interaction effect of democracy and bureaucratic quality since the main hypothesis is that the effect of democracy on trade liberalization is conditional on bureaucratic quality.

$$TradeLiberalization_t = \alpha + \beta_1 * (BureaucraticQuality)_{t-1}$$
$$+\beta_2 * (Democracy)_{t-1} + \beta_3 * (BureaucraticQuality * Democracy)_{t-1} + \beta_4 * (Controls)_{t-1}$$

4.4 Data

I use a dataset of developing countries from 1970-1999 to test my hypotheses. The time period covers the wave of trade liberalization in the developing world. A wave of reversal in protectionism had started after the World War II among the industrialized countries. This wave spread to the developing countries in the 1970s. Trade liberalization was consolidated in South Asia, East Asia, Latin America, Eastern Europe, and, to a lesser extent, in Africa and the Middle East during the 1980s and 1990s (World Bank, 2005). More recent changes in tariff rates are the outcomes of more complex policymaking processes rather than the decision to liberalize trade.

The main dependent variable *trade liberalization* is operationalized using a continuous measure of average tariff rates. The theory predicts a decline in tariff rates as the level of democracy increases yet the degree of decline is lower for high bureaucratic quality states. A second measure of trade liberalization uses the binary Sachs-Warner openness variable (updated by Wacziarg and Horn). Sachs and Warner (1995) is a dichotomous classification of trade regimes. The trade openness variable takes a value of 0 if non-tariff barriers cover 40 percent or more of trade; the average tariff rates are 40 percent or more, or the black market exchange rate depreciated by 20 percent or more relative to the official exchange rate during the 1970s or 1980s; a socialist economy existed; or there was a state monopoly on

exports. Otherwise, the variable is coded as 1. The binary measure is also appropriate for the purposes of the study since the major hypotheses are about the rapid liberalization in trade policy.

The main independent variables are *level of democracy* and *bureaucratic quality*. The level of democracy is operationalized using V-Dem electoral democracy index (Coppedge et al., 2021). Unlike other democracy indices such as the Polity that divides countries as democracies and autocracies, the V-Dem dataset provides a continuous scale of the level of democracy on an interval of 0 to 1. The dataset contains some 350 indicators that allows for more nuanced, well-defined, and broader insights into democracy (Coppedge et al., 2021). The theory predicts that the electoral democracy increases the likelihood of trade liberalization due to the re-election incentives it creates and therefore, electoral democracy index is a good measure for the level of democracy. The V-Dem electoral democracy index measures the extent to which rulers are responsive to citizens, as this responsiveness is achieved through electoral competition when suffrage is extensive; political and civil society organizations can operate freely; elections are clean and effective in determining the chief executive of the country. The index also captures the degree of freedom of expression and independent media capable of presenting alternative views in between elections.

In order to increase robustness, Polity IV index is used as an alternative measure of democracy. Polity score grades countries from -10 to 10 according to the regime type in the country in a given year. Since the sample is restricted to democracies only and Polity is arguably better at distinguishing between different levels of democracy rather than different types of dictatorship, using Polity score as a measure of level of democracy is a suitable strategy for the purposes of this research. Polity index combines five factors: the competitiveness of elections, the openness of elections, institutional constraints that limit a chief executive, the competitiveness of political participation, and the degree to which binding rules govern political participation.

Using both measures of democracy, I will test the hypotheses using subsets of the dataset

depending on the level of democracy. First, I will use the entire dataset of developing countries which includes both autocracies and democracies. Second, I will restrict the sample only to democracies in order to analyze the variations across democracies based on V-Dem scores. While using the Polity IV measure, the restricted sample is created using Przeworski et al. (2000) dichotomous measure of democracy. Przeworski et al. (2000) measure is also based on a more minimal electoral conceptualization of democracy based on competitive elections.

The other main independent variable, *bureaucratic quality* is conceptualized as the degree of a bureaucracy's expertise, merit-based recruitment, and insulation from political pressures. The *bureaucratic quality* variable is operationalized using the International Country Risk Guide's bureaucratic quality data that measure cross-national variation in bureaucracy (PRS-Group, 2011). In this dataset, high points are given to countries where bureaucracy has the strength and expertise to govern without drastic changes in policy or interruptions in government services. In high bureaucratic quality countries, bureaucracy tends to be somewhat insulated from political pressure and to have an established mechanism for recruitment and training. One major weakness of ICRG Dataset is that it is coded using expert opinion surveys, so it can potentially be biased. These data are collected from Hegre and Nygard (2015).[7]

For additional robustness checks, I use alternative measures of bureaucratic quality. First, V-Dem measure of rigorous and impartial public administration is used to operationalize bureaucratic quality. This measure focuses on the extent to which public officials generally abide by the law, or conversely, the extent to which public administration is characterized by arbitrariness and biases. Second, I use the latent state capacity variable by Hanson and Sigman (2021) which captures not only the bureaucratic quality but also other aspects of state capacity, such as coercive capacity. Both measures are highly correlated with ICRG bureaucratic quality index.

[7]Since the original data start from the 1980s, Hegre and Nygard (2015) uses extrapolated data points for the 1970-1980 time period.

For the visualization purposes, I will create a categorical variable using this continuous measure of bureaucratic quality. By creating four levels of bureaucratic quality, I will be able to compare the effects of democracy on trade openness for low and high levels of bureaucratic quality. Countries in each quantile of the continuous bureaucratic quality measure fall into the corresponding category (Countries in the first quantile are coded as 1, countries in the second quantile are coded as 2, and so on.)

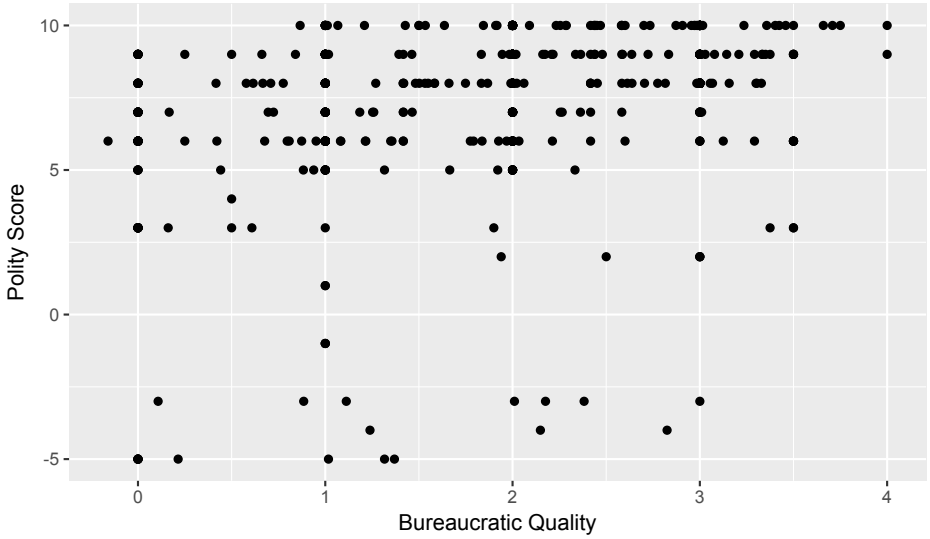

Figure 10: Variations across democracies in bureaucratic quality

With this study, I attempt to contribute to the literature in free trade and regime type by looking at the variations across developing democracies. I argue that the variations in bureaucratic quality is a main determinant of the trajectories different democracies followed in trade liberalization. I expect low-capacity democratic states to have earlier and easier trade liberalization reforms since they were not subject to the scrutiny in policymaking by an expert and insulated bureaucracy. Figure 10 represents the variation in bureaucratic qualities of democracies in the dataset across different levels of Polity IV. Although bureaucratic quality and regime type are positively correlated, there is still variation across democracies in terms of bureaucratic quality.

The analysis includes controls for several economic and political variables that may have

an influence on trade policy. First, Log of GDP per capita will be included to control for the level of economic development. GDP might have an effect on bureaucratic quality as well as trade openness. More developed countries tend to have higher bureaucratic quality and more open trade. Second, the size of the country is argued to have an effect on trade openness and it is argued that small countries tend to be more open (Milner and Kubota, 2005). Size of the country is operationalized using population. Both GDP and population variables are taken from World Development Indicators.

One other control variable is economic crisis. It is hypothesized that economic crises may cause trade openness because crises underscore the failure of old policies and may create an environment in which new policies can be made (Haggard and Kauffman, 1995). Economic crisis is coded as 1 if the country's inflation rate is 40 percent or more and it increases by 25 percent or more from the year before, or GDP per capita falls by 15 percent or more from the previous year.

Government's years in office will be another control variable. It is argued that trade openness is caused by a change in the ideas of leaders. A new government might indicate a change in leadership and a possible change in ideas. Therefore, the ideational change hypothesis can be tested with a variable operationalized as number of years in office variable.

The model includes US Hegemony control variable because it can be argued that the trade openness in developing countries is induced by US hegemony. This variable is operationalized as total exports and imports of the US as a percentage of total volume of world trade. Another variable that controls for the external influence is another dichotomous variable that takes a value of 1 if country has a GATT/WTO membership. Finally, percentage of total FDI flows of a country within its GNP is included as a control. All control variables are taken from Milner and Kubota (2005) dataset and they are all lagged since my model examines the effect of independent variables at time t-1 on the response variable at time t.

4.5 Results

Using a cross-section time-series dataset, this study shows that state capacity, democracy, and their interaction are among the determinants of trade liberalization in the developing world. The analysis includes an interaction effect of democracy and bureaucratic quality since the theory predicts that the effect of democracy on trade liberalization is conditional on bureaucratic quality. Results show that the effect of democracy on trade liberalization is significantly higher for low bureaucratic capacity states than high bureaucratic capacity states. In other words, developing democracies are more likely to liberalize trade as a result of democratization when they have lower quality bureaucracies. The findings support the theory that countries with high quality bureaucracies were less likely to open their markets during the trade liberalization wave in the developing world.

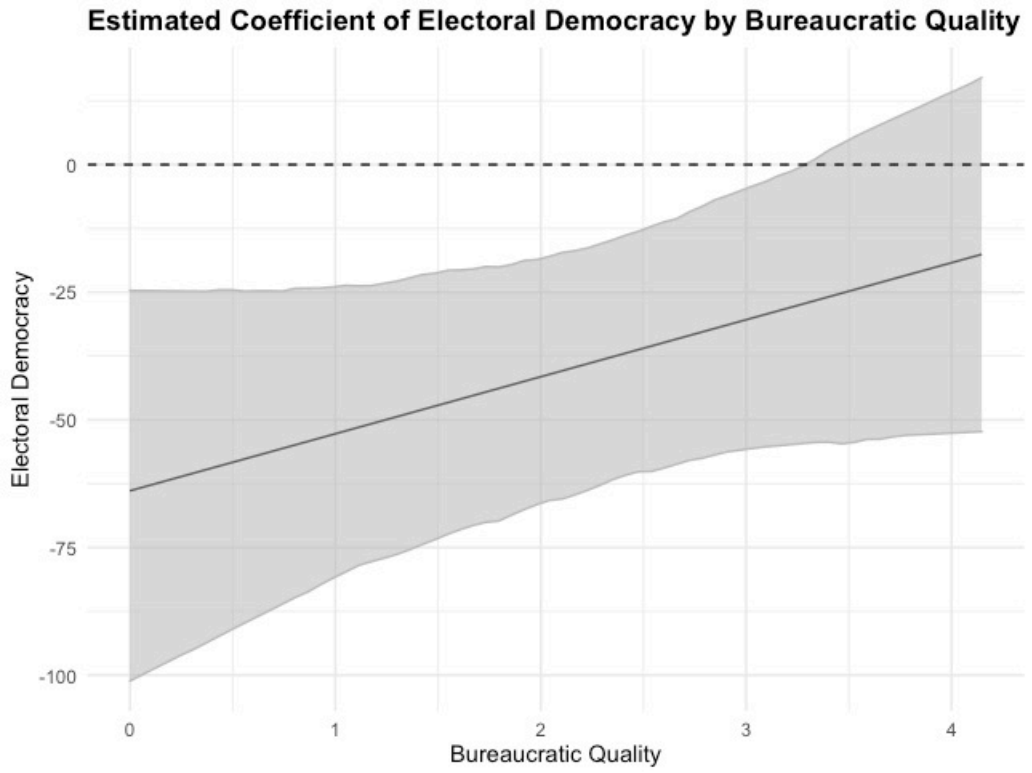

Figure 11: The estimated coefficient of electoral democracy (V-Dem) in predicting tariff rates

As shown in Figure 11, electoral democracy is negatively associated with tariff rates for a sample of countries with a V-Dem democracy score above 0.5. As the level of democracy increases tariff rates decrease. Yet, the effect size decreases when the bureaucratic quality increases. For countries with high levels of bureaucratic quality, the effect of electoral democracy on tariff rates is not significant. This finding is consistent with the hypothesis that the effect of democracy on trade liberalization is lower for developing countries with high quality bureaucrats. Table 12 shows that both electoral democracy and bureaucratic quality are negatively associated with tariff rates. Yet, the coefficient for the interaction term is positive and statistically significant at the 90% level. Only in one model specification (4), the interaction term loses significance when a leader's ideational influence and an inflow of FDI are controlled for. Table 13 shows that the results are robust when V-Dem rigorous and impartial public administration variable is used as an alternative measure of bureaucratic quality. Yet, the results are not robust to the latent state capacity variable which captures all aspects of state capacity. This finding is in line with expectation that the bureaucratic quality is a key determinant of trade liberalization.

In order to check for robustness to the binary measure of trade openness, I run a logistics regression. In this regression, I use a restricted sample of democracies created using a binary measure of democracy (Przeworski et al., 2000).

Figure 12 shows the effect of democracy on the predicted probabilities of trade liberalization for low and high levels of bureaucratic quality using a sample of democracies. The predicted probability of trade openness increases with the level of democracy for low bureaucratic quality countries. The effect does not hold for high bureaucratic quality countries. Table 15 shows that interaction effect of democracy and bureaucracy for high quality bureaucracies is significant in logistic regressions. Results provide empirical evidence towards the hypotheses that countries with high quality bureaucracies were less likely to open their markets as a result of democratization during the trade liberalization period in the developing world while the countries with low quality bureaucracies were more likely.

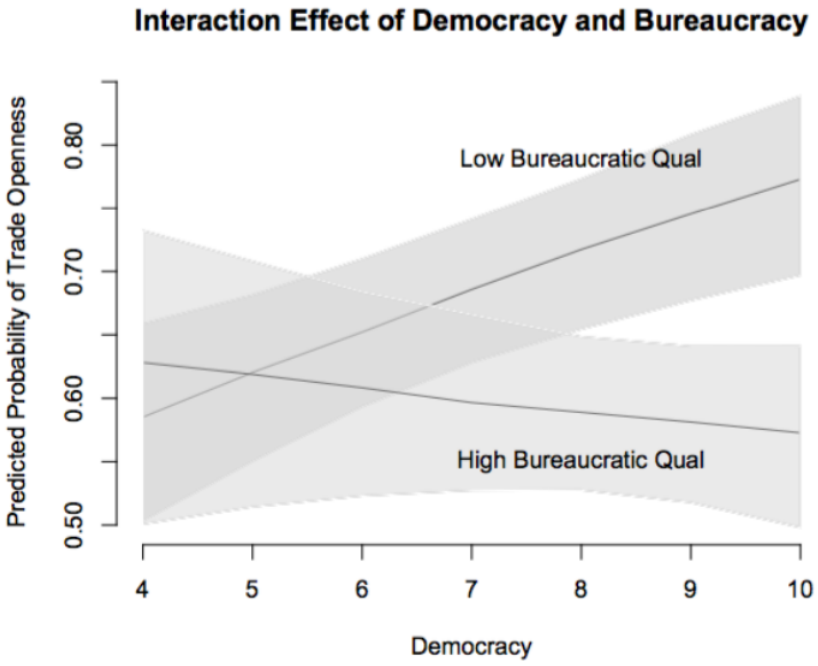

Figure 12: Predicted probabilities of trade openness with 90% confidence intervals.

4.6 Conclusion

There is a consensus in the literature that democracy fosters free trade in developing countries. This study contributes to this debate by showing that this positive relationship is conditional on bureaucratic quality. When bureaucratic quality is high the relationship between democracy and free trade weakens. Using a cross-section time-series dataset, this study presents empirical evidence on the hypothesis that bureaucratic quality, democracy, and their interaction are among the determinants of the likelihood of trade openness during the period when many developing countries opened their markets. The results show that an increase in the level of democracy has a significant positive effect on trade openness only for low bureaucratic quality states. When bureaucratic quality is high, trade policymaking becomes more complex as bureaucrats are included in the process.

Appendix: Tables

Table 12: The OLS analysis with the interaction effect

	Dependent variable:			
	Tariff Rates			
	(1)	(2)	(3)	(4)
Bureaucratic Quality	−8.227*	−8.216*	−8.224*	−4.750
	(4.771)	(4.748)	(4.739)	(5.654)
Electoral Democracy	−70.324***	−67.859***	−64.746***	−42.132*
	(20.039)	(19.980)	(20.012)	(23.373)
Population	−52.383***	−50.136***	−58.628***	−80.444***
	(7.501)	(7.528)	(8.619)	(10.511)
Log income	−7.500	−9.057*	−8.662*	−6.695
	(4.716)	(4.753)	(4.779)	(5.195)
Economic Crisis		−3.249**	−2.693*	−2.893*
		(1.461)	(1.472)	(1.513)
FDI				0.313
				(0.284)
Tenure				−0.088
				(0.163)
US Hegemony			86.224**	128.316***
			(33.981)	(41.169)
GATT/WTO			3.495	5.849**
			(2.268)	(2.452)
Bureaucratic:Democracy	11.398*	11.357*	11.324*	5.014
	(6.872)	(6.845)	(6.839)	(7.972)
Constant	1,046.779***	1,019.901***	1,133.413***	1,464.421***
	(113.954)	(114.008)	(130.065)	(163.602)
Observations	333	332	331	279
R^2	0.775	0.779	0.785	0.812
Adjusted R^2	0.725	0.728	0.733	0.761
Fixed Effects	country	country	country	country
Note:				*p<0.1; **p<0.05; ***p<0.01

Table 13: The OLS Results for Different Measures of Bureaucratic Quality

	Dependent variable:		
	Tariff Rates		
	(1)	(2)	(3)
ICRG	−8.224*		
	(4.739)		
V-Dem Admin		−22.717***	
		(7.284)	
Capacity			−13.913
			(9.566)
Electoral Democracy	−64.746***	−40.859***	−41.427***
	(20.012)	(14.036)	(15.329)
Population	−58.628***	−61.272***	−54.273***
	(8.619)	(8.784)	(8.761)
Log Income	−8.662*	−9.294*	−5.152
	(4.779)	(4.895)	(5.157)
Economic Crisis	−2.693*	−2.683*	−2.527*
	(1.472)	(1.455)	(1.481)
US Hegemony	86.224**	78.612**	79.005**
	(33.981)	(33.728)	(34.150)
GATT/WTO	3.495	3.246	2.480
	(2.268)	(2.312)	(2.271)
ICRG:Democracy	11.324*		
	(6.839)		
V-Dem Admin:Democracy		26.025***	
		(9.376)	
Capacity:Democracy			10.238
			(13.513)
Constant	1,133.413***	1,170.264***	1,016.543***
	(130.065)	(128.676)	(134.799)
Observations	331	331	327
R^2	0.785	0.790	0.789
Adjusted R^2	0.733	0.740	0.738
Fixed Effects	country	country	country
Note:			*p<0.1; **p<0.05; ***p<0.01

The Logistic Regression Results Figure 13 demonstrates the interaction effect. The upper left graph shows the effect of democracy on probability of trade liberalization for low and high levels of bureaucratic quality for the full sample of autocracies and democracies without interaction effects. The upper right graph shows the effect of democracy on probability of trade liberalization for low and high levels of bureaucratic quality for the full sample with interaction effects. The lower left graph shows the effect of democracy on probability of trade liberalization for low and high levels of bureaucratic quality for the restricted sample with interaction effects.

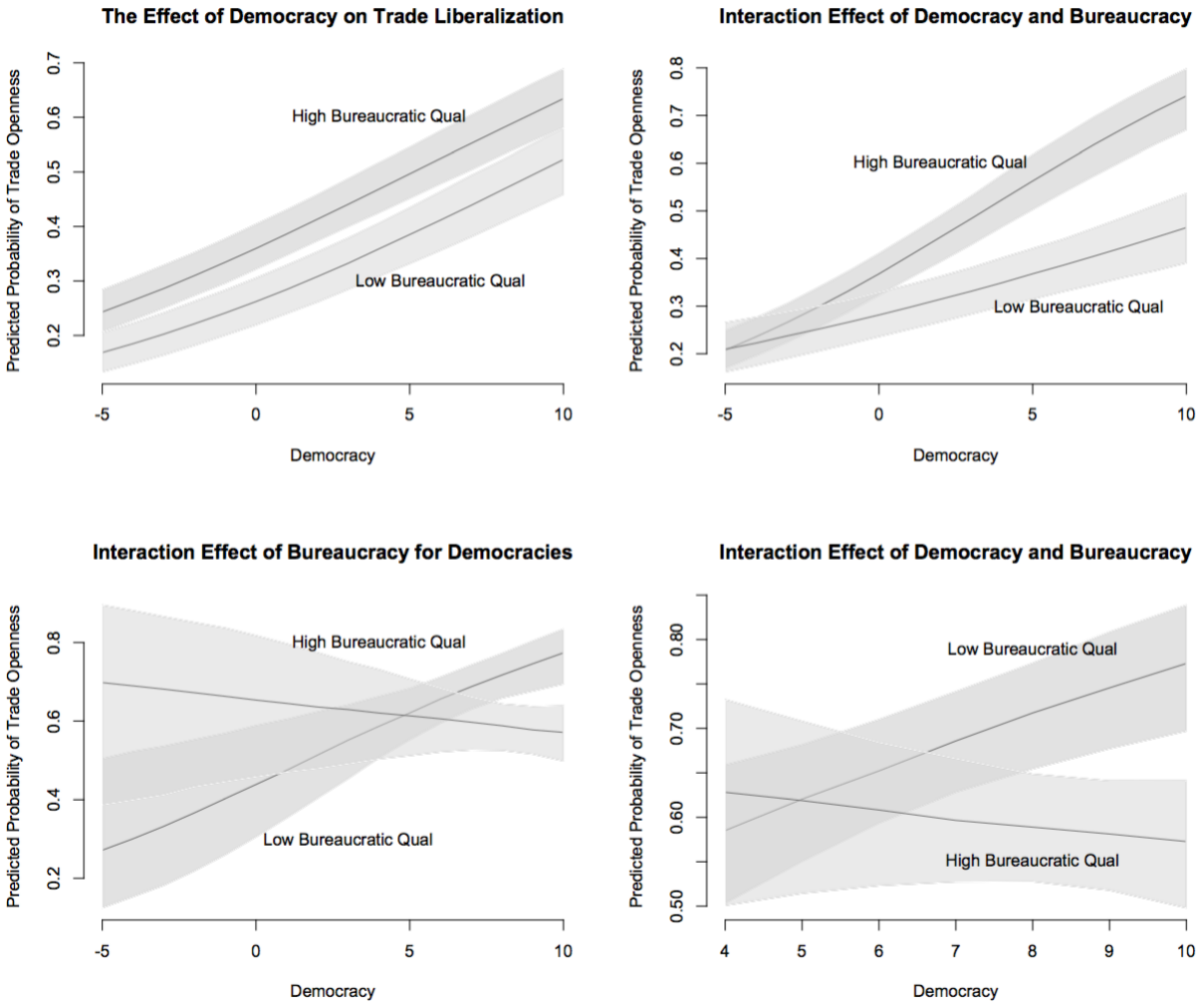

Figure 13: Predicted probabilities of trade openness with 90 percent confidence intervals. First and second graphs: full sample with and without interaction effect. Third and fourth graphs: Restricted Sample with interaction effect

As an additional significance test, I check the first differences between high and low levels of bureaucratic quality (King, Tomz and Wittenberg (2000) for a detailed explanation). For this purpose, I first simulate a first differences for democracy by setting the polity IV score as 6. Then I simulate first differences for the democracy by setting polity IV score as 9. While doing so, I set the values for all explanatory variables except the bureaucratic quality at their means. Bureaucratic quality is set as low (1). The first difference of predicted probabilities of trade liberalization between high and low levels of democracy is 0.09 with the (0.02, 0.17) confidence interval at 95% level for states with low levels of bureaucratic quality. In other words, an increase in the level of democracy (from 6 to 9) has a significant positive effect on trade openness. As democracy score increases, probability of open trade also increases.

I repeat the same first differences test for states with high levels of bureaucratic quality by following the steps explained in the previous paragraph. I only change bureaucratic quality score to high (4). In this case, the first difference of predicted probabilities of trade liberalization between high and low levels of democracy is 0.03 with the (-0.12, 0.07) confidence interval at 95% level. In other words, the effect of democracy on trade openness is not significant for high bureaucratic quality states.

First difference results are consistent with the findings in the literature that democracy fosters free trade. In order to check for the interaction effect with an additional significance test, I look at the second differences. This test reveals whether is there a difference in the first differences for low and high bureaucratic quality probabilities. In other words, whether bureaucratic quality affects the relationship between democracy and trade openness.

For this purpose, I look at the effect of main explanatory and control variables at time t-1 on the dependent variable at time t. I use Zelig to generate 1,000 second differences for first differences in democracy for countries with low bureaucratic quality. Then, I repeat the same simulation for high bureaucratic quality countries. I examine the significance of these effects using confidence intervals and then take the difference between them (fd(low quality) - fd(high quality)) to see whether the difference between the effects of democracy in low and

high quality states is significant.

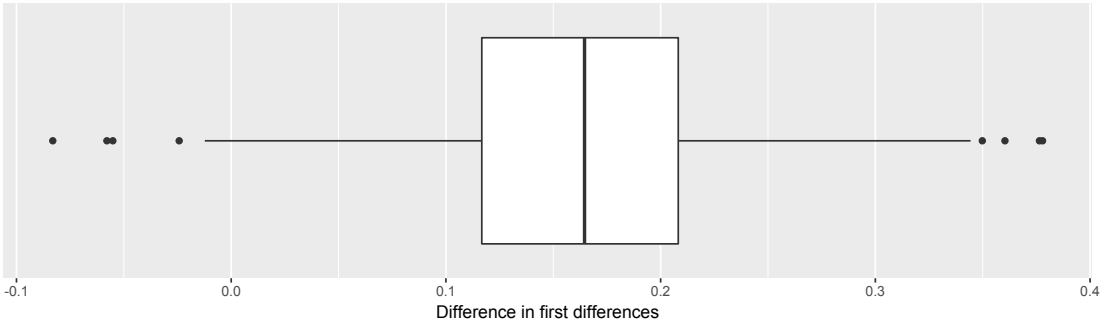

Figure 14: Boxplot for Simulated Interaction Effect

Figure 14 shows the boxplot of second differences. 90% of the second differences between low and high bureaucratic quality states are greater than 0, which means that the effect of democracy on trade openness is significantly higher for low bureaucratic capacity states than high bureaucratic capacity states. This finding is consistent with the hypothesis 1 at the 90% level.

Table 14: Odds Ratio Table

	.1	2.5 %	97.5 %
(Intercept)	0.00004	0.00000	0.001
democracy	1.165	1.126	1.206
bureaucracy2	0.446	0.274	0.715
bureaucracy3	0.631	0.452	0.878
bureaucracy4	0.643	0.453	0.910
population	1.217	1.120	1.323
income	1.593	1.393	1.825
crisis	3.000	1.934	4.701
FDI	1.112	1.054	1.178
tenure	1.049	1.031	1.067
US heg	13.220	2.776	72.564
GATT/WTO	1.721	1.289	2.311
democracy:ICRG2	0.961	0.900	1.028
democracy:ICRG3	0.929	0.888	0.971
democracy:ICRG4	0.935	0.893	0.978

Odds Ratio Table Table 14 shows the odds ratios for each variable. We see that all ratios are significant since none of the confidence intervals include 0. As we go higher in the categories of bureaucratic quality odds of trade liberalization decrease. As we move from category 1 to category 2, the odds of trade liberalization change by 0.446. As we move from category 1 to category 3, the odds of trade liberalization change by 0.631. As we move from category 1 to category 2, the odds of trade liberalization change by 0.643. Bureaucratic quality is the only variable with a negative effect on the odds of trade liberalization. All other variables increase the odds of trade liberalization. For instance, as level of democracy increase by one, the odds of trade liberalization increase by 1.165. The effects of control variables (population, economic development, economic crisis, FDI, government's years in office, US hegemony, signed GATT and WTO) on trade openness are positive and significant.

Table 15: Logistic Regression Results

	Dependent variable			
	Trade Openness			
	(1)	(2)	(3)	(4)
democracy	0.158^{***}	0.155^{***}	0.155^{***}	0.152^{***}
	(0.017)	(0.017)	(0.017)	(0.017)
bureaucracy2	-0.904^{***}	-0.796^{***}	-0.724^{***}	-0.807^{***}
	(0.238)	(0.240)	(0.242)	(0.245)
bureaucracy3	-0.475^{***}	-0.420^{**}	-0.411^{**}	-0.460^{***}
	(0.166)	(0.168)	(0.168)	(0.169)
bureaucracy4	-0.413^{**}	-0.377^{**}	-0.360^{**}	-0.441^{**}
	(0.174)	(0.175)	(0.175)	(0.178)
population	0.216^{***}	0.215^{***}	0.209^{***}	0.196^{***}
	(0.041)	(0.042)	(0.042)	(0.042)
signed		-0.012		
		(0.150)		
income	0.412^{***}	0.440^{***}	0.442^{***}	0.466^{***}
	(0.067)	(0.068)	(0.068)	(0.069)
crisis		1.144^{***}	1.155^{***}	1.099^{***}
		(0.225)	(0.225)	(0.226)

Table 2: Continued

	Dependent variable:			
	Trade Openness			
	(1)	(2)	(3)	(4)
FDI	0.113***	0.109***	0.109***	0.106***
	(0.028)	(0.028)	(0.028)	(0.028)
tenure	0.046***	0.048***	0.047***	0.048***
	(0.009)	(0.009)	(0.009)	(0.009)
US heg			9.889**	9.520**
			(4.345)	(4.371)
GATT/WTO				0.543***
				(0.149)
democracy:bureaucracy2	−0.038	−0.034	−0.037	−0.039
	(0.033)	(0.033)	(0.033)	(0.034)
democracy:bureaucracy3	−0.068***	−0.069***	−0.072***	−0.074***
	(0.022)	(0.023)	(0.023)	(0.023)
democracy:bureaucracy4	−0.077***	−0.072***	−0.071***	−0.068***
	(0.023)	(0.023)	(0.023)	(0.023)
Constant	−7.072***	−7.397***	−10.009***	−10.220***
	(0.867)	(0.885)	(1.456)	(1.469)
Observations	1,489	1,489	1,489	1,489
Log Likelihood	−814.883	−801.405	−798.820	−791.961
Akaike Inf. Crit.	1,653.766	1,630.809	1,625.641	1,613.922

Note: *p<0.1; **p<0.05; ***p<0.01

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