

Predatory Rulers, Credible Commitment and Tax Compliance in the Ottoman Balkans*

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Published at the Journal of Historical Political Economy.

Abstract

This paper explores how the wealthy's tax evasion behavior is shaped by the level of rule of law, and its consequences for fiscal capacity building. In contexts with lower respect for the rule of law and weaker property rights, the possibility of rulers' predatory behavior inclines wealth holders to shelter their wealth, decreasing tax compliance. Such wealth sheltering is especially common during wartime, when rulers confiscate assets to fund the war. With wealth sheltering, it is unlikely that the rulers will invest in fiscal capacity building since there will be no sufficient assets to make such an investment optimal. Under stronger rule of law and property rights, the constraints on the rulers' predatory behavior provides higher security for wealth holders and makes them less likely to shelter wealth, bringing higher tax compliance. This compliance makes it more likely that rulers can increase fiscal revenues during war and therefore will be more likely to invest in fiscal capacity. Empirically, the paper uses an original dataset of Ottoman waqfs in modern-day Greece and Bulgaria between 1600 and 1912 in addition to annual Ottoman fiscal revenue data. Results indicate that wars increase wealth sheltering under weaker rule of law, while they do not under stronger rule of law. Furthermore, while wars do not increase fiscal revenues under weaker rule of law, they increase fiscal revenues under stronger rule of law. In other words, war does not make the state under weak rule of law, but does make the state under strong rule of law and security of property. The paper thus outlines a dilemma for the rulers: In order to be able to increase fiscal revenues and strengthen the state in the long term, they need to tie their own hands and forgo their predatory ability that can provide them revenues in the short term.

*I would like to thank Aslı Cansunar, Daniel Goldstein, Kimuli Kasara, Timur Kuran, Andrew Little, Isabela Mares, Didac Queralt, and Jack Snyder for their feedback, Bogdan Popescu for sharing his portion of the data with me, and Abdullah Deniz for excellent research assistance.

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1 Introduction

Being critical for redistribution and public services in modern states, taxing the wealthy has been the focus of several strand of works in the political economy literature (Boix 2003; Acemoglu and Robinson 2006; Ansell and Samuels 2014; Scheve and Stasavage 2016). Yet, taxing this group is not always an easy task. Even if the state has an intention of taxing the wealthy, the wealthy can often find ways to shelter their wealth and evade taxes (Alstadsæter, Johannesen, and Zucman 2019). If the wealthy shelter their wealth and do not comply with taxation, it will be more difficult for the rulers to increase fiscal revenues. In this sense, one problem that rulers face is how to make the wealthy comply with taxes that will help the state build fiscal capacity. In delving into this problem, I follow the literature that underline constraints on the ruler as a critical factor in fiscal capacity building (Dincecco 2011; Besley and Persson 2011), and ask two main questions. Firstly: How does the level of the rule of law matter for the wealth sheltering and tax compliance patterns of the wealthy? Following this, the next question I ask is: How do these patterns of wealth sheltering and tax compliance shape fiscal capacity building?

In this paper I provide a theory of tax evasion and fiscal capacity building in a strategic interaction framework between the wealthy and the ruler. The rule of law in the Western sense and its constituent factors such as protection of private property, and constraints on the predatory actions of the sovereign increase the predictability of the government's policies. My first argument in this paper is straightforward, that the rule of law regime matters for the wealth sheltering and tax evasion patterns of the wealthy. Under weak rule of law and the lack of constraints on the sovereign, his actions are less predictable and therefore make wealth holders more likely to hide or shelter their wealth.

Wars are periods when rulers are more likely to confiscate the assets of their subjects (Cezar 1986; Pamuk 2005, p.168). I focus on wars as a factor that can distort the wealth sheltering patterns to make my second argument. I argue that because under weak rule of law war wealth sheltering should increase during wartime when confiscation of private

property is more likely to happen. However, wars should not have any such effect under stronger rule of law because the rulers face constraints and they are less likely to confiscate assets.

Wars are also critical periods when rulers invest in fiscal capacity building (Hintze 1975 [1906]; Tilly 1992). My third argument in this paper is that strong rule of law is necessary for fiscal capacity building since without the rule of law, states are unlikely to increase their fiscal capacity during wartime. Once wealth that can be potentially taxed is not accessible to the central authority, it is less likely that, during wartime and the fiscal pressures it brings, rulers invest in institutions that can help build durable fiscal capacity such as investing in a well-functioning fiscal bureaucracy.¹ Under stronger rule of law, taxable assets can be more easily available to rulers and this can help build fiscal capacity thanks to higher “quasi-voluntary compliance” (Levi 1988).

The Ottoman Empire is an ideal case to empirically study this phenomenon for at least three reasons. Firstly, during the era when its European rivals were able to significantly increase their fiscal revenues (roughly after the 16th century), the Ottoman Empire had chronically low levels of fiscal revenues and was unsuccessful in raising its fiscal capacity (Karaman and Pamuk 2010, 2013). Despite having managed to increase its fiscal revenues by more than fifteenfold from the 1780s to World War I (Karaman and Pamuk 2010, p.594), the empire’s per capita fiscal revenues were still very low compared to those of its European rivals. Considering that the empire’s revenues were only slightly higher in the 1780s in comparison to the 1560s (Karaman and Pamuk 2010), it becomes even more curious regarding the war-state relationship since the Ottoman Empire fought many wars against various rivals throughout this period and according to the bellicist theory of state building these wars should have helped in developing the empire’s fiscal capacity.

The second reason why the Ottoman Empire is an ideal empirical case is the temporal variation in the levels of the rule of law, with a very clear demarcation date (1839) before

¹For instance, they can offer higher wages to hire more skilled bureaucrats or invest in educating them.

and after which there are substantial differences in the level of executive constraints and the adoption of Western-style private property rights. The turning point here is the Gülhane Edict of 1839 and the key institutional change is the abrogation of the Sultan's right to confiscate any Ottoman subject's property solely at his own will (Arslantaş, Pietri, and Vahabi 2020).

Finally, a unique institution of the Islamic law, the waqf, renders the Ottoman Empire as an ideal empirical case for this study. The waqf functioned as a wealth sheltering and tax evasion instrument (Kuran 2004; 2016; Blaydes 2017) and it was relatively well protected from the predation of the sovereign. By diverting their assets to the waqf, wealth holders could almost ensure that the sovereign could not confiscate their assets due to waqf's sacredness (Kuran 2011, p.112). Having survived until the end of the empire, the waqf institution and its function as a wealth sheltering tool helps us explore the temporal variation in newly established waqfs and therefore to investigate the extent to which the existence of the rule of law was critical in war's tendency to enable fiscal capacity building.

Empirically, I use an original dataset of Ottoman waqfs in modern-day Greece and Bulgaria, and rely on the distinction between two types of waqfs (Kuran 2011, p.129). These are family waqfs (aile vakfi), which primarily benefit the founder and/or his family; and charitable waqfs (hayır vakfi), where the benefit is often a public good and goes to a larger group such as a village or a neighborhood. I demonstrate that war increases the likelihood that wealth holders establish a family waqf compared to a charitable waqf before 1839 (weaker rule of law). However, no such pattern exists after 1839 (stronger rule of law). Furthermore, the overall likelihood that a given newly established waqf is a family waqf is lower after 1839. Taken together, these provide evidence that weak rule of law can undermine the 'war makes states' relationship since wealth holders, fearing expropriation or arbitrary taxation, can divert their wealth to alternative sources during wartime, which leaves fewer assets to be taxed. This can decrease the likelihood that the 'war makes states' relationship works under weak rule of law. With certain constraints on the executive such as better property

rights and abolition of confiscation, wealth holders are less likely to hide their assets during wartime, which is less likely to distort the war-state relationship. Using central revenues of the Ottoman state, I find support for this interpretation. Wars do not increase the fiscal revenues of the Ottoman state before the introduction of stronger rule of law in 1839, but they do so in the period after 1839.

In order to further substantiate my claims, I investigate the variation across the type of assets that are endowed to the waqfs. I demonstrate that while the advent of war makes less mobile non-cash assets more likely to be endowed as waqfs compared to more mobile cash assets prior to 1839, after this date no such difference across wartime and peacetime exists. I interpret this as support for the mechanism which expects higher asset mobility to make a wealth holder less likely to fear confiscation. Weak rule of law makes people more likely to shelter their wealth from the ruler. Since cash assets are more easily hidden from a tax collector compared to non-cash assets such as real estate or livestock, owners of cash assets can find other ways of sheltering their property during wartime while holders of non-cash assets have no choice but to endow their assets as waqfs.

This paper contributes to the literatures on the politics of taxation and fiscal capacity building on a number of points. Firstly, it provides a theory of fiscal capacity building by taking into account the role of the taxpayers and tax compliance. An important portion of the literature focuses on the motivations and the actions of the rulers and consider structural factors (Thies 2005; Karaman and Pamuk 2013) while paying less attention to the taxpayers and the possible actions they can take. This paper aims to give taxpayers more agency and allows them to respond to the state's policies in a strategic interaction framework and be critical actors in shaping the outcome.

The second contribution of this paper is providing an account of how states managed to tax the wealthy: by instituting stronger rule of law. Under stronger rule of law, there is better protection of private property and the state's actions regarding the wealthy's assets are

more predictable. This will alleviate the wealthy’s concerns of confiscation or overtaxation and will increase their tax compliance.²

Finally, this paper contributes to the literature on state building by examining the applicability of the ‘war makes states’ argument outside of the Western European context. There has been significant debate on the extent to which this argument is applicable to contexts other than Western Europe and the contextual factors that modify this relationship (Herbst 2000; Centeno 2002; Thies 2005; Karaman and Pamuk 2013; Queralt 2019).³ The findings here suggest that one underappreciated factor that came about in Western Europe, the rule of law, can be a necessary factor for this relationship to work. Hence, one reason why this relationship is demonstrated to be nonexistent in other contexts can be the relatively weaker rule of law and constraints on the rulers outside of Western Europe.

2 Literature Review

The rule of law and certain constraints on the actions of the sovereign have been established to be critical ingredients in facilitating economic development (North and Weingast 1989); yet, we know relatively little regarding how critical it is for fiscal capacity building. The literature on fiscal capacity building has been mostly silent on rule of law’s importance. Those works that consider the rule of law only treat it as one of the many other variables that can shape fiscal capacity and contain no comprehensive analysis about the rule of law.

The literature has uncovered a diverse set of factors that can explain the variations in the levels of state strength and the state’s fiscal capacity. These factors include inter-state war (Brewer 1989; Tilly 1992; Besley and Persson 2010; Blaydes and Paik 2016) or merely interstate rivalries (Thies 2005), domestic political conflict between different groups (Mares and Queralt 2015; Suryanarayan 2021; Beramendi, Dincecco, and Rogers 2019), population density (Herbst 2000), slavery (Einhorn 2006), and urban primacy (Soifer 2015).

²Overtaxation and confiscation are analytically equivalent.

³Tilly explicitly states that “. . . the tendency for war to build state structure... hold[s] through much of world history” (1992, p.15).

Among these factors, interstate war and how it helps shape stronger states has attracted significant attention from scholars. There is also evidence that warfare is instrumental in bringing about institutional improvements in the fiscal domain such as fiscal centralization and unified tax systems (Dincecco 2011) or devising innovations in tax systems in order to tax wealthier subjects such as inheritance taxes (Scheve and Stasavage 2012), or in general tax progressivity (Scheve and Stasavage 2010). However, there is no clear agreement in the literature on whether the finding that war creates stronger states is applicable to contexts other than Western Europe or to the contemporary era (Herbst 2000; Heydemann 2000; Centeno 2002; Thies 2005).

Wars create pressure on the rulers to invest in fiscal capacity and many studies find that states increase their fiscal capacities during wartime (Hintze 1975 [1906]; Brewer 1989; Tilly 1992). Tilly's theoretically rich account in *Coercion, Capital and European States* (1992) is probably the most famous of those studies examining the relationship between war-making and state-making and made the catchphrase 'war makes states' famous. Unfortunately, many fine details in Tilly's theories, where he explains how warfare contributed to the emergence of strong 'national states' in Western Europe, are often overlooked and Tilly's story is reduced to a very simple relationship where warfare is directly expected to contribute to emergence of strong states. In a nutshell, Tilly expects a the combination of the increasing intensity of war in Europe and the continent's interstate system to favor those states that had a certain balance between rural populations and capitalists and also some limited degree of commercialized economies (which he names 'national states'). It is these states that eventually managed to emerge stronger from wars. States lacking such domestic arrangements either adapted to this intermediate combination of coercion and capital and became 'national states', or disappeared.

This indicates that Tilly expects the 'war makes states' relationship to work under certain combinations of such factors (urbanization and commercialization). Many studies since Tilly have demonstrated that this relationship should be conditional on some other

factors. Centeno (2002), Herbst (2000) and Heydemann (2000) have argued that certain factors that were present in Europe during its period of state building were absent in other regions of the world during other times, which may be the reason wars in these places did not cause state building and hence we see relatively weaker states.

Herbst's (2000) central claim rests on low population density in Africa and the differences it creates in the costs of projecting power over wider territory, the less clear nature of political boundaries and a more cooperative state system, which resulted in a different war-state relationship in Africa. Focusing on Latin American state building in the nineteenth century, Centeno (2002) identifies easier alternatives to domestic tax extraction (such as borrowing from the global capital markets, printing money, and customs duties), inadequate levels of initial administrative capacity, limited nature of wars, and high levels of within-state violence as factors that explain why the 'war makes states' relationship does not hold in Latin America. Heydemann's (2000) analysis of the twentieth century Middle Eastern states contrasts the local and international contexts between Europe from the 16th to the nineteenth century, and Middle East in the twentieth century. He identifies the existence of global strategic networks and norms of sovereignty, guarantees put in place by powerful external actors in peace settlements, externally imposed state boundaries and the funding of the wars by foreign actors or by domestic rents as factors explaining why wars did not contribute to the building of stronger states in the twentieth century in the Middle East.

While these studies focus on how absence of some factors distorts the war-state relationship, others empirically demonstrate how the relationship is indeed conditional on certain factors. Queralt (2019) examines the effects of tax-financed and loan-financed wars on fiscal capacity and finds that the relationship was conditional on access to international capital; that easier access to international capital for war finance curtailed fiscal capacity building since governments tended to finance wars via borrowing from abroad, while tax-financed wars helped build durable institutions that increased central states' fiscal capacity. Utilizing a dataset of fiscal revenues between 1500-1800 of twelve countries which also includes

several Western European cases, Karaman and Pamuk (2013) find that war's effect on fiscal capacity is higher in representative regimes with higher percentages of urban populations and authoritarian regimes with higher percentages of rural populations. Finally, Besley and Persson (2011) find that higher executive constraints themselves have positive effect on fiscal capacity development. This touches upon an aspect that has been very well established in the economic development literature, that the rule of law in general, and certain aspects of it such as strong property rights or constraints on the rulers actions are good for development. This literature argues that rule of law and factors that depend on it such as property rights protection and executive constraints are necessary conditions for economic development (North 1981; North and Weingast 1989; North, Wallis, and Weingast 2009). What is missing is a consideration of how the rule of law is critical for the development of fiscal capacity through shaping the behavior of the wealthy and how warfare interacts with the rule of law in influencing the wealthy's tax evasion and the outcome of fiscal capacity building.

3 Theory and the Case

3.1 Warfare and Fiscal Pressures under Weak Rule of Law

Autocrats' short time horizons often make them prefer confiscation of private assets over reaping the long-term benefits such assets can yield (Olson 1993; Keefer and Knack 1997; Haber 2009). Lack of respect for the property rights of the broader population has been documented to be prevalent in different authoritarian contexts in different time periods (Haber, Maurer and Razo 2003; Kuran 2004; Blaydes 2017; Arslantaş, Pietri and Vahabi 2020). In general, what is termed 'the rule of law' encompasses constraints on the ruler's power and arrangements that enable protection of the life and property of the citizens from the ruler's arbitrary actions. In North and Weingast's (1989) analysis of the Glorious Revolution in England, the winners of the revolution managed to achieve institutional changes that

placed substantial constraints on the Crown's actions. Such constraints involved more secure property rights and the elimination of confiscation by the government. As a whole, these improvements made the Crown's future actions more predictable and less predatory, which created incentives for investments with longer time horizons and hence enhanced economic growth.

I argue that the rule of law in general, and specifically better property rights protection should also be critical for fiscal capacity development. Under low legal protection where the ruler's actions are not restrained, asset holders will be fearful of confiscation of their property by the ruler, or at least of arbitrary taxation where how much they will be taxed will be unpredictable. This will induce asset holders to divert their assets to tools which are more secure against government predation and also to more mobile and more easily hidden ones in order to minimize their losses in case of any predation. Thus, one strategy asset holders can adopt is to shelter their wealth. Without any doubt, wealth sheltering will result in a decrease of total available assets that can potentially be taxed. Furthermore, in the longer run, diverting of the assets to certain alternatives will lead to inefficient investments which also will result in fewer taxable assets in the longer run and lower fiscal revenues.

Durable increases in the state's fiscal capacity require initial investments by the state (Besley and Persson 2010). When fewer assets are within the state's reach the returns from a given amount of investment by the state will be lower since the expected tax revenue is lower. This implies that when more assets are within the state's reach, the state should be more likely to invest in fiscal capacity. Therefore, we can expect higher fiscal capacity improvements under more secure rule of law, better enforced property rights and better constraints on the executive (Dincecco 2011; Besley and Persson 2011). We can also interpret this as higher "quasi-voluntary compliance" to use Levi's (1988) term. When wealth holders' concerns of confiscation and arbitrary taxation become alleviated under stronger rule of law, better property rights protection and credibly enforced constraints on the ruler, they can

prefer being taxed to diverting their assets to alternative and less inefficient tools of wealth sheltering.

Rulers usually face more serious fiscal pressures during times of war. This is why the bellicist literature expects warfare to strengthen states. These wars, which create fiscal pressures, compel rulers to devise fiscal innovations and increase the state's fiscal capacity (Brewer 1989; Tilly 1992; Besley and Persson 2010; Scheve and Stasavage 2012). However, weak rule of law, and lack of private property rights and constraints on the ruler can also make the rulers engage in short-term oriented predatory behavior during wartime, rather than take the more difficult path and invest in the state's fiscal capacity building. This is probably analogous to the availability of global capital markets in the nineteenth century that may constitute an alternative and easier option for the rulers, as Centeno (2002) and Queralt (2019) argue. In Centeno and Queralt rulers do not invest in capacity when they can borrow because borrowing is easier than taxation, weak rule of law presents another alternative option for the rulers: confiscation. If the potential targets of such predatory actions have any means of sheltering their wealth from these actions, it is only natural that we expect them to use these means to avoid the confiscation of their assets, or overtaxation.

3.2 Waqf as a Channel of Circumventing the State's Predatory Behavior in Islamic Law and the Ottoman Empire

Like many other autocratic polities, the Ottoman Empire before the mid-nineteenth century and the Islamic states preceding it lacked any strong rule of law in the Western sense, solid private property rights and formal checks on the ruler (Kuran 2011; Blaydes 2017). In the Ottoman Empire confiscation of the private property of the subjects by the Sultan (*müsadere*) was common and could be implemented solely at the will of the Sultan (Arslantaş 2017). Sultans often used confiscation against the members of the military-administrative elites and tax farmers (Inalcık 1969), and also merchants who had amassed considerable wealth (Pamuk 2005). Sultans also commonly resorted to confiscation upon the death of

wealthy individuals and especially state elite, who would have otherwise preferred to leave their property to their descendants. Pamuk notes that during the late-eighteenth and early-nineteenth centuries when the Empire was very frequently involved in demanding wars, confiscation of the state elite's property had become a regular activity (2016, p.59). Without any rule of law and solid property rights, Ottoman Sultans resorted to confiscation very often during wartime (Cezar 1986, p.135; Pamuk 2005, p.168), when they needed resources to fund military activity.

In Islam's earlier ages, state elites in Muslim countries had developed the waqf institution in order to gain some protection against risk of confiscation and arbitrary taxation (Kuran 2004). It was designed in a way to be considered sacred and for this reason its assets were relatively well protected against confiscation (Kuran 2001, 2004). In its earlier periods its endowment could consist of only immovable assets such as real estate but waqfs with cash endowments started appearing in the Ottoman Empire from the 16th century on (Cansunar and Kuran 2019). In principle and usually in practice, the function of each waqf is unalterably fixed. The donor of the endowment who establishes the waqf clearly stipulates the function of the waqf. No one, including the donor, the trustee(s), or ruler of the country can change the purpose of the waqf or allocate its endowment or the income it generates to any other purpose.

Functions of waqfs can vary, from public goods provision (for instance repairing waterways or building new water fountains) to religious purposes (such as paying the salary of a preacher or repairing a mosque). But, some waqfs are established with the purpose of providing benefit to the donor or his/her family (Kuran 2004; 2011).⁴ Such waqfs were also useful for solving the problems created by the issue of inheritance; it was helpful in both keeping the state away from demanding any shares in inherited property (the state sometimes demanded all), and also bypassing the Islamic inheritance laws and leave one's property to a desired heir's control by appointing this heir as the administrator of the waqf (Kuran 2011).

⁴Many waqfs have multiple purposes that may include more than one of these.

It is these self-benefiting/family waqfs that are most obviously wealth sheltering tools rather than the other type, charitable waqfs.⁵ Some examples of family waqfs can be the donor endowing a house but stipulating that himself, his wife and all his offspring will continue living in this house until forever, or endowing some income source but stipulating that he and his descendants will routinely receive a payment from the income from this source.

Since the fiscal pressures on the state are higher during wartime, and since this can result in a higher likelihood of predatory actions by the ruler, a corollary of this can be that individuals will attempt to shelter their wealth from the state more frequently during wartime. A brief look at a typical case of a family waqf can help illuminate what sort of a self-benefit family waqfs could sustain to individuals and their families:

”The Yeniçeri Agha Deputy, Haseki Mustafa Agha in the Hanya City of Crete has donated many trees with or without fruits, various real estate and instruments; that he devoted ten akçes per day for the preacher who teaches hadith and tafseer to the people on Fridays and eid days in Sultan İbrahim Mosque and the trustee of the endowment; that the remaining income shall belong to him; and it must be divided among his children after his death (July 1731).” (Eren, Oğuz, and Mete 2017, 2: p.10).⁶

This is a very typical case of wealth sheltering. We have a waqf that is established during an ongoing war (with Persia, War of 1730-1736). A military official donates a huge fortune to a waqf and stipulates that he, and after his death his children will enjoy the income from this fortune. Even though some portion of the income generated by the donated capital is allocated for some form of religious public goods (10 akçes per day), the amount allocated to public goods is probably minuscule compared with the total income such a capital can generate and the security he can obtain by establishing this waqf. Examining the original

⁵In order to keep the terminology consistent with Kuran (2011), I will use the terms family waqfs and charitable waqfs while referring to these two types of waqfs.

⁶This is the exact wording of the English summary of the waqf deed provided in one of the volumes. The volumes also contain the summary of the deeds in modern Turkish and Arabic in addition to the original deed in Ottoman Turkish.

text of the deed reveals that the property in question includes 55 different plots of land, large or small. For purposes of comparison, the value allocated to public goods in this case, 10 akçes in the year 1731 is equivalent to only \$1.8 (in 1998 US Dollars).⁷

Indeed, historians have documented cases where rich individuals or families endow their properties in waqfs in order to avoid confiscation. For instance, Nagata (1997, p.45) mentions that during the strong centralization attempts of Sultan Mahmut II during the first half of the nineteenth century, one of the most powerful families in the whole empire, Karaosmanoğlus, when their patriarch Ömer Ağa died, had to convert many of their real estate into waqfs in order to prevent confiscation of these assets since the Sultan was after them.

To recapitulate the argument so far, I expect the fiscal pressures caused by war to make the ruler more likely to engage in predatory behavior, which will impel wealth holders to shelter their wealth. In Muslim societies and the Ottoman Empire, one wealth sheltering tool is the family waqf. This leads me to expect a higher frequency of new family waqfs during wartime compared to peacetime. I do not expect the advent of war to increase the frequency of new charitable waqfs, since they do not help wealth holders shelter their wealth.

3.3 The Gülhane Edict and Abolition of Confiscation in 1839

On November 3, 1839 while 16-year old Sultan Abdülmecit (r. 1839-1861) was still a newcomer to the Ottoman throne, the Gülhane Edict was proclaimed, initiating the famous Tanzimat (restructuring/reform) era in the Ottoman Empire. The Tanzimat era brought large scale modernizing and Westernizing reforms. These reforms included administrative, economic, fiscal, political, military, and legal domains. Even though some historians underline that the reforms after the Gülhane Edict were only a continuation of the aggressive reforms started during Abdülmecit II's father and predecessor Mahmut II (r. 1808-1839) (Zürcher 2004 [1997]) or even those started during the reign of Selim III (r. 1789-1807), two

⁷I use the conversion rates in Pamuk (n.d.).

things that are of utmost importance for the purposes of this article were different in the post-1839 period compared to pre-1839. Firstly, in the Gülhane Edict the Sultan officially renounced his right of confiscation and declared that he would respect the life and property of all Ottoman subjects. Secondly, the Sultans starting from Abdülmecit in this year lost control of the bureaucratic apparatus and the main hub of power in the empire shifted from the Sultan to the high officials of the empire (Findley 1980; Zürcher 2004). These resulted in a new era when the rule of law was better respected, private property was more secure and the Sultan's actions were constrained, limiting his arbitrary actions.

North and Weingast (1989) argue that a similar turning point in English history, the glorious revolution in 1688 had brought certain institutional improvements which placed constraints on the crown, bringing protection against arbitrary action, securing better property rights and also increasing the predictability of the crown's actions. All of these, they argue, helped England economically perform better. I will argue that we should see a similar enhancement in fiscal capacity under stronger rule of law and property rights protection. In fact, several works have pointed out that checks on the ruler can be beneficial also for fiscal capacity development (Levi 1988; Dincecco 2011; Besley and Persson 2011).

Perhaps the most critical change the Gülhane Edict brought in relation to Western style property rights was the abrogation of confiscation and better protection of property rights (Findley 1980, p.145; Pamuk 2016, p.90; Arslantaş 2017; Arslantaş et al. 2020). It is true that the waqfs also created some protection of private property by enabling credible commitment since its property is inviolable in Islamic law. However, such protection via waqfs is inferior to its Western alternative for two reasons. The first is that it is economically very inefficient to lock one's resources in a waqf's endowment. No one, even the founder could alter any of the waqf's functions, or use the waqf's endowment for purposes that were not explicitly specified in the waqf's founding deed. This was designed to prevent principal-agent problems by ensuring that the administrator and the trustee (mütevelli) of the waqf did not use the waqf for different purposes (Kuran 2001). However, this inflexibility made the waqf

perform abysmally in the longer run, unable to adapt to changing conditions (Kuran 2001; 2011). The second reason why the Western-type private property protection is better is that the protection it enabled can be termed selective property rights (Haber et al. 2004), which can achieve high economic growth rates in the short run. However, selective property rights cannot sustain economic growth over the long run (Haber 2009). It was very difficult for non-Muslims to establish a waqf. Practically, the protection of waqf applied only to Muslims.

Even though confiscation mostly targeted high officials and provincial elites, property holders of smaller scale were also common targets. Arslantaş (2017, p.101) demonstrates that the properties of merchants (tüccar), artisans (esnaf) and peasants (köylü) were also in danger. The abrogation of the practice of confiscation should have brought some sense of security to property owners of all sizes. In addition, the post-1839 constraints on the Sultan (such as shifting of the center of power to the bureaucracy) made his actions more predictable and less likely that he would engage in arbitrary taxation. I expect these to decrease the necessity of wealth sheltering via family waqfs. This leads to Hypothesis 1:

Hypothesis 1: *The likelihood that a new waqf is a family waqf (rather than a charitable waqf) is higher under weaker rule of law.*

The discussion in Sections 3.2 and 3.3 also implies conditional relationships between stronger rule of law, incidence of war and changes in type of waqfs. Under weak rule of law, when confiscation is common practice, the fiscal pressures that warfare brings should make the ruler more likely to confiscate the property of his subjects or engage in arbitrary taxation to collect all the revenue he can. In response to this, those who fear confiscation should seek ways to shelter their wealth and as I have argued, family waqfs is one tool of wealth sheltering. This brings us to Hypothesis 2.1:

Hypothesis 2.1: *Wars increase the likelihood that a new waqf is a family waqf (rather than a charitable waqf) among the waqfs that were established under weaker rule of law.*

Upon imposition of constraints on the executive and abolition of confiscation after 1839, rulers who face fiscal pressures during wartime should not see confiscation and arbitrary taxation as an easy alternative to investing in fiscal capacity anymore. Therefore, the advent of war should not cause any concern among the property owners in the post-1839 period and consequently they should not resort to wealth sheltering via waqfs. In case this argument is incorrect, we should expect a wartime increase in the donations to family waqfs also in the post-1839 period. Therefore, I formulate Hypothesis 2.2, which I expect to reject.

Hypothesis 2.2: *Wars increase the likelihood that a new waqf is a family waqf (rather than a charitable waqf) among the waqfs that were established under stronger rule of law.*

Combining my expectations for the relationship between war and new waqfs, that I expect an increase in the likelihood of new family waqfs before 1839, but not after, another expectation directly follows: The change that war causes in the likelihood that a new waqf is a family waqf should be higher in the pre-1839 period compared to the post-1839 period.

Hypothesis 2.3: *War's change of the likelihood that a new waqf is a family waqf (rather than a charitable waqf) among the waqfs that were established under weaker rule of law is higher compared to the change under stronger rule of law.*

3.4 Issues of Credible Commitment

Just because confiscation was legally abolished in 1839 and the Sultan promised to respect the life and the property of the subjects of the Empire may not bring adequate guarantees for those whose life and property were in danger. All in all, rulers can always renege if there are no sufficient mechanisms of credible commitment. Indeed, Cansunar and Kuran mention that even though both Selim III and Mahmut II, two predecessors of Sultan Abdülmecit had promised to respect property rights, they were unable to keep their promises (2019, pp.

37-8). I argue that two mechanisms that were absent before but present from mid-nineteenth century on were instrumental in ensuring that the Sultan was to respect property rights. The first is the shift of center of power from the Sultan to the bureaucracy, together with the professionalization of the bureaucracy. The second is higher asset mobility.

North and Weingast (1989) discuss the credible commitment mechanisms in post-1688 England and one factor they argue that was effective in sustaining the crown's commitment to respecting property rights was the threat of removal of the monarch from power. There was somehow a similar mechanism in play in mid-nineteenth century Ottoman Empire. After Mahmut II's modernization attempts, during the Tanzimat era (c. 1839-1877) the state apparatus came under the bureaucracy's control and the Sultan's power was weakened, ironically because Mahmut II had managed to create a strong and more professionalized bureaucracy (Findley 1980; Lewis 1968; Zürcher 2004, p.50). The professionalism of the bureaucracy and the shift in power in their favor against the Sultan, helped them restrict the arbitrary actions of the Sultan as well as the governors in this period Lewis 1968, p.99; Abu-Manneh 1990; Reinkowski 2017). Moreover, Şener (1988) notes that Meclis-i Vala-yı Ahkam-ı Adliye (*Supreme Council of Judicial Ordinances*), an assembly that was established in 1838, functioned as a legislative institution for 15 years, and more than 90% of its proposals were accepted by the Sultan without any changes. He goes on to add that with this institution, Pashas and the bureaucracy effectively limited the Sultan's legislative power.

With regard to how the bureaucracy ensured Sultan's commitment, I argue, similar to the North and Weingast's account of threat of removal of the monarch from power in England, that in the Ottoman Empire there was significant threat of removal of the Sultan from power.⁸

⁸It is true that this was not something new in the mid-nineteenth century. Barkey (2008) writes that seven out of fourteen sultans were deposed from the killing of Sultan Osman II until the end of the eighteenth century. Yet, what was new from the mid-nineteenth century on was that the threat of removal started coming from pro-modernization forces rather than conservatives and reactionaries to modernization, as most previous removals had been. Indeed, from mid-nineteenth century on, several Sultans (Abdülaziz in 1876, Abdülhamid II in 1909 and Mehmet VI in 1922) were dethroned by pro-modernization groups in influential positions of the state apparatus.

The theoretical literature on bureaucracies and the historical literature on the Ottoman bureaucratic development points out several factors as to why the bureaucracy may prefer to restrict the ruler and respect the rule of law. One such factor can be that the bureaucrats themselves may have had to gain from such a protection. It was state officials, especially high officials who were under high risk of confiscation in the pre-1839 period (Arslantaş 2017). This obviously makes them likely to enforce a regime where property rights were protected.

Another factor that have made the bureaucrats prefer credible commitments can be their relatively lower discounting of the future compared to the ruler and their focus on thanks to their professionalization. A more professional bureaucracy that is relatively independent from the political influences can adopt a more long-term outlook and pursue policies that will benefit the state in the longer run rather than policies that would benefit the state and the ruler in the short run but would undermine the state's power in the longer run.

The final factor motivating the bureaucracy in pursuing long-term oriented policies can be their ideology. From the mid-nineteenth century on, the professionalized bureaucracy in the empire started adopting a 'rationalist' approach which focused on developing the country and often regarded themselves as the drivers of the modernization of the country (Mardin 1962; Berkes 1964; Heper 2018).

The second credible commitment mechanism I argue that should have helped the Sultan keep his promise of respecting private property is higher capital mobility after the mid-nineteenth century. Wealth holders whose assets are more mobile have higher bargaining power against rulers (Lindblom 1977; Bates and Lien 1985; Levi 1988). Higher asset mobility makes it easier for the asset holder to move the assets abroad or hide the assets in case of any threat to the assets (Boix 2003). In the mid-nineteenth century capital markets were much more developed and capital mobility between countries was much higher than before. Furthermore, the Ottoman economy's progress towards integration into the international system gained unprecedented pace with the free-trade treaties in 1838-1841 (Zürcher 2004, p.63). Finally, because the economy was more monetized in this period compared to the

earlier periods, the overall share of cash wealth should have increased, making wealth more mobile overall. All of these should have given an additional source of security to the asset holders.

With the dataset in hand it is more difficult to systematically test the first point, that the bureaucracy's strength was effective in sustaining the Sultan's commitment to property rights. However, it is possible to test if capital mobility matters with respect to wealth sheltering via waqfs. If it really matters, we should expect the following pattern: When the risk of confiscation is higher, wealth holders of immobile capital should be more likely to shelter their wealth and donate to waqfs compared to holders of mobile capital. Hence, we should see a lower likelihood of a waqf that has immobile endowments being established compared to waqfs with more mobile endowments during wartime as well as under stronger rule of law. Again, I expect to reject Hypothesis 3.3 that is about the changes under stronger rule of law.

Hypothesis 3.1 *Stronger rule of law decreases the likelihood that the endowment of a new waqf contains immobile property.*

Hypothesis 3.2 *Wars increase the likelihood that the endowment of a new waqf contains immobile property under weaker rule of law.*

Hypothesis 3.3 *Wars increase the likelihood that the endowment of a new waqf contains immobile property under stronger rule of law.*

Hypothesis 3.4 *War's change of the likelihood that the endowment of a new waqf contains immobile property among the waqfs that were established under weaker rule of law is higher compared to the change under stronger rule of law.*

3.5 Did War Make the State under Stronger Rule of Law in the Ottoman Empire?

Following directly from the discussion above, I expect wars to increase fiscal revenues after 1839, but not before 1839. This additionally implies that a positive interaction effect between war and rule of law should exist. Again, since I do not expect wars to increase fiscal capacity before 1839, I expect to reject Hypothesis 4.1 and confirm Hypotheses 4.2 and 4.3:

Hypothesis 4.1: *Fiscal revenues during wartime are higher compared to peacetime before 1839.*

Hypothesis 4.2: *Fiscal revenues during wartime are higher compared to peacetime after 1839.*

Hypothesis 4.3: *The amount of change in fiscal revenues exerted by wars is higher after 1839 compared to before 1839.*

4 Data and Empirical Strategy

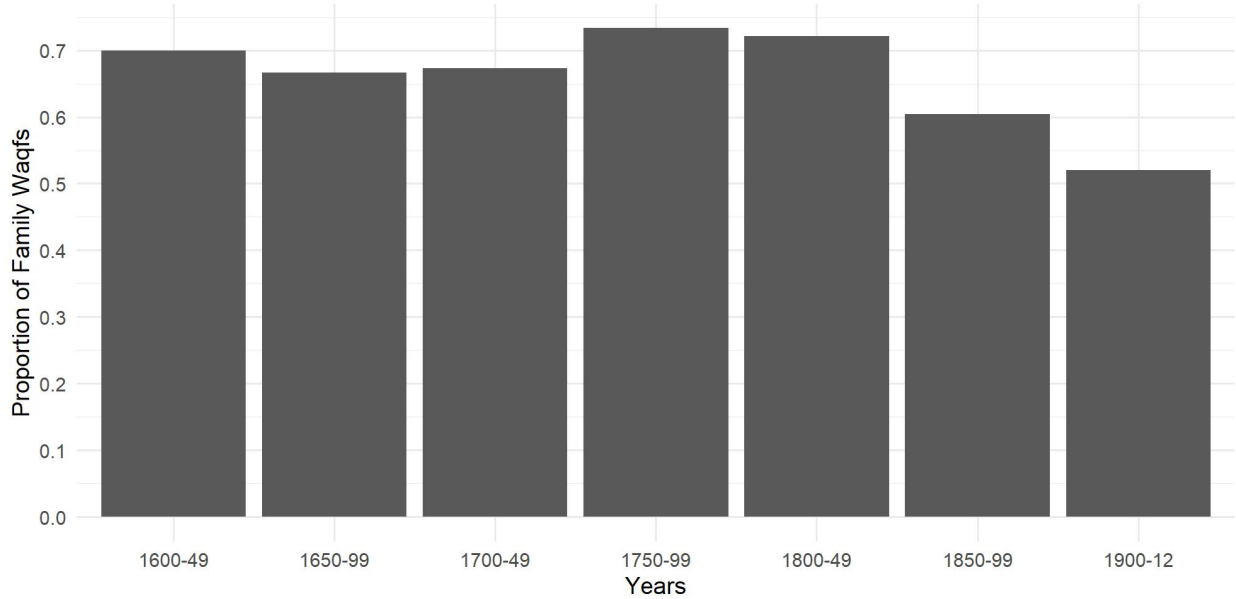
The data for this study come from three main sources. For the waqf deeds I used the volumes “Balkanlarda Osmanli Vakiflari. Vakfiyeler: Bulgaristan” (Ottoman Waqfs in the Balkans. Waqf Deeds: Bulgaria) (Eren, Bayır, et al. 2012), and “Balkanlarda Osmanli Vakiflari. Vakfiyeler: Yunanistan” (Ottoman Waqfs in the Balkans. Waqf Deeds: Greece) (Eren, Oğuz, and Mete 2017). In these volumes they provide a full text of the original waqf deeds and their transliterated version in the Latin alphabet. These deeds contain detailed information regarding the waqf. From these deeds we can learn information about the founder, purpose, initial endowment and the date of founding of the waqf among many others. Some of these

variables required coding. For the most relevant purposes of this article, I coded the purpose of the waqf: whether it benefited the donor and/or the donor's family members (family waqf) or not (charitable waqf). These benefits can be more direct, for example the donor or family members receiving benefits from an income source; or can be indirect, for example the donor appointing themselves or a family member to the position of the trustee of the waqf and paying a salary to the trustee from the income source. As I brought up in the previous sections, many waqfs have multiple purposes and many serve both aims. However, Kuran notes that "the prevailing norms [in the Muslim societies] typically required waqf founders to provide meaningful services" (2004, p.75) even though no legal restrictions existed on the portion of the benefit that the founder could allocate to himself and his family. For this reason, I code any waqf that provides any personal benefit as a family waqf. This binary variable called Family Waqf (1 = family waqf, 0 = charitable waqf) is the main dependent variable in the analysis.

Figure 1 below presents the proportion of family waqfs among all waqfs by 50-year periods. A brief figure at this table shows a decrease increase in the percentage of charitable waqfs towards the end of the time frame, when a higher degree of rule of law was instituted.

I also coded whether the year and month and (if available) day of the establishment of the waqf corresponded to an ongoing war or any type of armed conflict included. For the post-1816 cases, I used the Correlates of War (COW) dataset (Sarkees and Wayman 2010) and coded all waqfs established during any armed conflict (inter-state, intra-state or extra-state according to their classification) where the Ottoman state takes part. Since the COW dataset starts from 1816, for the pre-1816 armed conflicts I used Clodfelter (2008). I also complemented these two sources with a multitude of others. I provide the list of wars and the sources that mention these wars in the Online Appendix. Correspondence of the waqf's establishment to an ongoing war constitutes one of the main independent variables, During War, which equals 1 if the establishment of the waqf is during wartime and 0 if not during wartime. If the start date of a war was not certain and whether it was uncertain

Figure 1: Proportion of Family Waqfs by Years



whether a waqf was founded during a war because of this, I coded this variable as missing. The other main independent variable, Rule of Law, measures if the waqf is established after 1839 (stronger rule of law, coded as 1), or before 1839 (weaker rule of law, coded as 0).

I discard all observations before the year 1600. I believe that this is an appropriate date to start the analysis since it is during the middle of the “Military Revolution” (Roberts 1956) before which wars were usually less costly and shorter.

I also code three covariates other variables: the donor’s sex, whether they are state-affiliated and the distance of the waqf from the capital, Istanbul. State elite have traditionally been the main targets of confiscation by the Sultans (Arslantaş 2017). Therefore, they can be more likely to shelter their wealth when they feel under threat of confiscation. On the other hand, there are also judicial biases in favor of the state officials (Kuran and Lustig 2012) and state officials were exempt from taxation before 1839 (Cansunar and Kuran 2019). Accounting for the donor’s sex is also important because of the judicial biases against females in Ottoman courts (Kuran and Rubin 2018). In addition to this, females had major economic

disadvantages. They were less mobile and had fewer investment opportunities compared to men.⁹ This should lead us to expect more wealth sheltering via waqfs by females since they are less likely to shelter their wealth through other means or invest in a more lucrative economic activity.

The donor's sex is inferred from the name. Regarding the state affiliation variable, I coded those who belonged to the royal family, high officials (such as those who had the title Paşa and governors), military officials, lower-level bureaucrats, tax farmers (mültezim), local intermediaries (ayan), village heads (muhtar) and the relatives of these people as state affiliated. I coded preachers (vaiz), religious elders (şeyh), religious scholars (ulema) and teachers (müderris) as non-state-affiliated. Both are binary variables.

The distance between the place where the waqf is founded and Istanbul is another important covariate to control. Those assets that are closer to the capital can be easier to reach for the ruler during wartime to seize. In this sense, assets that are located closer to the capital can be more likely to be sheltered during wartime.

In order to test Hypotheses 3.1 and 3.2 regarding asset mobility, I construct a variable measuring whether the endowment of this new waqf involves any real estate property or not. Real estate such as houses, shops, or land are the most immobile type of assets among the types that are usually endowed to waqfs. This binary variable equals 1 if the endowment contains any real estate and 0 if it does not.

Table 1 below presents the descriptive statistics of the variables. Since some of the hypotheses are conditional hypotheses (conditional on pre-1839 or post-1839), I present the descriptive statistics within each period in table 2 (pre-1839) and table 3 (post-1839). It is worth reemphasizing that all of these variables are binary variables, with the exception of distance from Istanbul.

I use logistic regression analysis in all models testing the waqf data, the unit of analysis being each new waqf. The models estimate the likelihood that a given waqf that is established

⁹For instance, a male asset holder could more easily engage in business activities such as long-distance trade or establishing a local business, while a female asset holder could not do any of these on their own.

Table 1: Descriptive statistics for the Whole Sample

Statistic	N	Mean	St. Dev.	Min	Median	Max
Family Waqf	686	0.668	0.471	0	1	1
During War	687	0.437	0.496	0	0	1
Rule of Law	687	0.349	0.477	0	0	1
Female Donor	687	0.137	0.344	0	0	1
State-Affiliated Donor	687	0.247	0.432	0	0	1
Distance from Istanbul (km)	687	463.36	166.56	206.77	405.68	783.71
Endowment Contains Real Estate	685	0.654	0.476	0	1	1

Table 2: Descriptive Statistics for the Pre-1839 Sample

Statistic	N	Mean	St. Dev.	Min	Median	Max
Family Waqf	447	0.709	0.455	0	1	1
During War	447	0.503	0.501	0	1	1
Female Donor	447	0.157	0.364	0	0	1
State-Affiliated Donor	447	0.329	0.470	0	0	1
Distance from Istanbul (km)	447	486.86	172.36	206.77	455.80	783.71
Endowment Contains Real Estate	446	0.796	0.403	0	1	1

Table 3: Descriptive Statistics for the Post-1839 Sample

Statistic	N	Mean	St. Dev.	Min	Median	Max
Family Waqf	239	0.590	0.493	0	1	1
During War	240	0.312	0.464	0	0	1
Female Donor	240	0.100	0.301	0	0	1
State-Affiliated Donor	240	0.096	0.295	0	0	1
Distance from Istanbul (km)	240	419.59	145.74	208.19	367.16	775.50
Endowment Contains Real Estate	239	0.389	0.489	0	0	1

is a family waqf (rather than a charitable waqf) or the likelihood that a given waqf that is established is a cash waqf (rather than a classic waqf). The reason I prefer such an empirical strategy, rather than an alternative of constructing a time series dataset (which records the number of waqfs established in each year as the dependent variable) and comparing the establishment of family waqfs across years, is the nature of the data. The latter strategy will likely be biased since the deeds that are published in these volumes are not an exhaustive

or even a representative sample. They were all the deeds the publishers could find in the archives and they were the ones that survived. Many other deeds may not have survived. Especially considering that one of my explanatory variables (rule of law) is a variable that is perfectly correlated with time (rule of law is stronger after 1839), estimating the equations with the dependent variable being the number of self-benefiting waqfs established in a given year is unlikely to provide the correct estimates.

I could have also constructed a time-series dataset where the dependent variable is the percentage of family waqfs among all waqfs. This could have eliminated the temporal bias I discussed above. However, it is still inferior to the strategy I prefer since the association between war and waqf establishment will not be very well identified in this case. That war happened within a given year and that there were some new waqfs in this year does not imply that these waqfs were established during wartime. For instance, a waqf can be established in January of a given year and war can start in December, which means that war starts almost a year after this waqf's establishment, but in the dataset, they will be coded as happening during the same time.

By adopting this empirical strategy, I can treat the establishment of charitable waqfs as the baseline condition and compare the likelihood that an established waqf is a family waqf to this baseline. This should not be a problem as long as wars and the strength of the rule of law regime does not change the patterns of charitable waqf establishment. Based on the theory and the literature on waqfs that I discussed above, I do not expect either war or rule of law to change the patterns of charitable waqf establishment.

Finally, to test hypotheses 4.1 to 4.3, I compiled annual fiscal revenues of the Ottoman state from two sources: Berument and Oguz (2004) for the pre-1839 revenues and Güran (2003) for the post-1839 period. Berument and Oguz's data cover the years from 1680 to 1747 and Güran's data cover the year from 1841 to 1919. However, I restricted the endpoint of the analysis to 1910 in order to be able to focus on a similar time frame with the waqf

data. One note of caution is that Güran’s data contains some missing values for some critical war years.

The dependent variable in this analysis is annual percentage change in fiscal revenues. I adjusted the revenues using the annual price index of Pamuk (n.d.) in order to take price changes into account. One of the two independent variables is Rule of Law, that equals 1 in the post-1839 period. In order to capture the effect of war, I use a 1-year lagged war dummy, which equals 1 if there was a war in the prior year and 0 if there was no war in the prior year. For this analysis, I use Ordinary Least Squares (OLS) regression.

5 Results

5.1 War, Rule of Law and New Waqfs

The logistic regression results in Table 4 below present the analyses for the whole sample of waqfs and report the odds ratios with the t-values. Models 1 and 2 evaluate Hypothesis 1, and Models 3 and 4 evaluate Hypothesis 2.3. Model 1 only includes the During War and Rule of Law variables. Model 2 adds the Female Donor, State-Affiliated Donor and Distance to Istanbul as further covariates to control for their possible confounding effects. Model 3 adds the interaction effect between During War and Rule of Law to Model 1 and Model 4 adds the same interaction effect to Model 2.

In Models 1 and 2 the odds ratios for the Rule of Law variable are below one and statistically significant. These indicate that when the rule of law is stronger (post-1839), the likelihood that a given new waqf is a family waqf (rather than a charitable waqf) is lower. This confirms Hypothesis 1. There is a decrease in the likelihood of family waqfs being established after property rights are better protected in the post-1839 period. The substantive magnitudes of the odds ratio for this variable (0.619 and 0.614) indicate that pre-1839 waqfs are more than 1.6 times more likely to be family waqfs compared to post-1839 waqfs.

Table 4: Logistic Regression Analysis of the Determinants of Family Waqf for the Whole Sample

	Established Waqf is Family Waqf			
	(1)	(2)	(3)	(4)
During War	1.297 t = 1.541	1.291 t = 1.503	1.723 t = 2.578***	1.721 t = 2.556**
Rule of Law	0.619 t = -2.816***	0.614 t = -2.684***	0.830 t = -0.875	0.823 t = -0.882
Female Donor		1.193 t = 0.679		1.168 t = 0.594
State-Affiliated Donor		0.734 t = -1.523		0.721 t = -1.606
Distance to Istanbul (100km)		1.101 t = 1.852*		1.102 t = 1.857*
During War * Rule of Law			0.448 t = -2.281**	0.444 t = -2.294**
Observations	686	686	686	686
Log Likelihood	-430.072	-426.800	-427.474	-424.174
Akaike Inf. Crit.	866.144	865.601	862.949	862.349

Note:

*p<0.1; **p<0.05; ***p<0.01
Odds ratios with t-values reported

Hypothesis 2.3 expects a negative interaction effect between During War and Rule of Law variables. In Models 3 and 4 of Table 1 the direction of the interaction is in the expected direction (below one) and the significantly estimated odds ratios (0.448 in model 3 and 0.444 in model 4) indicate that the effect of war on the likelihood that a given waqf is a family waqf declines more than half in the post-1839 period. Hence, we can confirm Hypothesis 2.3.

Models 1 and 2 in Table 5 evaluate Hypothesis 2.1 and Models 3 and 4 evaluate Hypothesis 2.2. In Model 1, for the pre-1839 subset (weaker rule of law), the odds ratio for the During War variable is above 1.723, and is statistically significant. This indicates that before 1839, waqfs that were established during an ongoing armed conflict was 1.72 times more likely to be family waqfs compared to waqfs established when there was no ongoing war. This confirms Hypothesis 2.1. When the rule of law was weaker, wars increase the likelihood that a new waqf provided benefit to the founder. Adding the two covariates in model 2 only marginally increases the magnitude of the odds ratio.

Table 5: Logistic Regression Analysis of Determinants of Family Waqf for the Temporal Subsets of the Sample

	Established Waqf is Family Waqf			
	Subsets:			
	Pre-1839 (1)	Pre-1839 (2)	Post-1839 (3)	Post-1839 (4)
During War	1.723 t = 2.578***	1.711 t = 2.527**	0.772 t = -0.919	0.785 t = -0.842
Female Donor		1.199 t = 0.562		0.937 t = -0.141
State-Affiliated Donor		0.662 t = -1.803*		1.015 t = 0.031
Distance to Istanbul (100km)		1.031 t = 0.489		1.291 t = 2.503**
Observations	447	447	239	239
Log Likelihood	-266.123	-263.822	-161.351	-157.782
Akaike Inf. Crit.	536.246	537.643	326.703	325.565

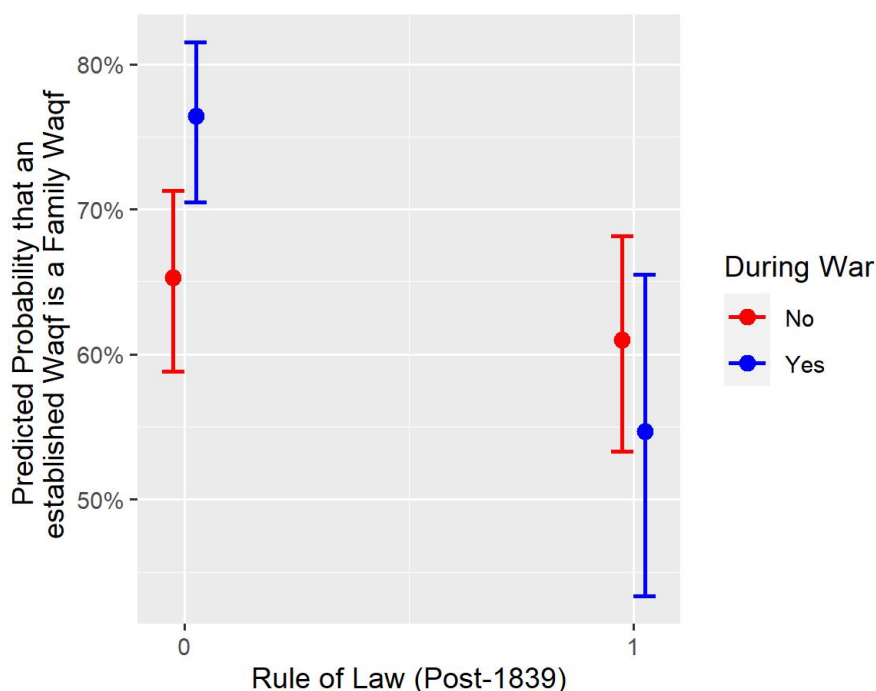
Note:

*p<0.1; **p<0.05; ***p<0.01
Odds ratios with t-values reported

In order to evaluate Hypothesis 2.2, we can go on to check Models 3 and 4 in table 5 (post-1839 subset, stronger rule of law). Neither in Model 3, nor in Model 4 is any significant positive association between an ongoing war and the type of waqf. In both models the odds ratios for the During War variable are below 1 and are not estimated to be statistically significant, which means that there is no sufficient evidence that wars increase the likelihood of a new waqf is a family waqf rather than a charitable waqf. This rejects Hypothesis 2.2, as expected.

Figure 2 plots the predicted probabilities that a given established waqf is a family waqf, based on Model 3 in Table 4, with 95% confidence intervals. One thing to notice is that among the waqfs that were established before stronger rule of law is introduced (left-hand side of the plot), advent of war increases the probability that a waqf is self-benefiting from 65% to 76%. We do not see such a war effect for the cases after rule of law is introduced (right-hand side), here war generates no increase on the probability of the type of waqf.

Figure 2: Predicted Probabilities that a Waqf is a Family Waqf



If we compare the probabilities across different levels of rule of law, we see that introduction of stronger rule of law brings substantial decreases in the probability that a waqf is self-benefiting. Yet this decrease is much higher for the waqfs established during wartime. While the predicted probability decreases from 76% to 55% with the introduction of rule of law for the wartime cases, this decrease is from 65% to 61% for the peacetime cases.

Regarding the three covariates used in the analysis, Female and State-Affiliated Donor variables are not significantly estimated to be significant in the analysis for the whole period. The variable measuring the distance of the property from Istanbul is estimated to have an odds ratio of over 1.1 in Models 2 and 4, and is statistically significant only at the 0.1 level. These odds ratios indicate that those who were farther away from Istanbul were more likely to found family waqfs.

We can see some interesting patterns in the analysis with the temporal subsets in Table 5. In the pre-1839 period, the odds ratio for the state-affiliated individual dummy indicates that state-affiliated individuals were less likely to establish a family waqf. Regarding the Distance to Istanbul variable, interestingly we can see that it matters for the Post-1839 sample, but not for the Pre-1839 sample. Even though this might sound counter-intuitive at first, I believe that this can be due to the risk of constant losses of territory of the Ottomans in the Balkans during this period. Wealth holders who feared their assets might be risked not due to the Sultan's predation but a foreign ruler's predation or any other repercussion of the frequent warfare and uprisings in the region may have thought channeling their wealth to waqfs could help safeguard them.

5.2 War and Immobile Assets

Table 6 presents the analysis that assesses the determinants of waqf endowments containing immobile assets, evaluating Hypotheses 3.1 to 3.3. The odds ratio of the Rule of Law variable is 0.170 and it indicates that after 1839, when rule of law is stronger, any given new waqf is 5.88 times more likely to contain real estate compared to the pre-1839 period. Therefore, we can confirm Hypothesis 3.1. Model 2 adds the covariates to the specification and the overall results are similar, only the odds ratio of the Rule of Law variable increasing to 0.210.

Models 3 and 4 contain the interaction effects in order to evaluate Hypothesis 3.4. Even though these estimates are not estimated to be statistically significant, they are in the expected direction and substantively meaningful. The odds ratio of the interaction effect is 0.584 in Model 3 and 0.620 in Model 4, indicating that the changes that occur in the likelihood of a waqf endowment containing real estate due to war are 70% and 61% higher in the pre-1839 period compared to the post-1839 period.

Table 7 reports the analyses for the temporal subsets in order to evaluate Hypotheses 3.2 and 3.3. In Models 1 and 2, the coefficients for the During War dummy are over 1.55 but are significantly estimated only at the 0.1. This suggests that waqfs established during

Table 6: Logistic Regression Analysis of Determinants of Real Estate Containing Waqf Endowments

	Endowment Contains Real Estate			
	(1)	(2)	(3)	(4)
During War	1.247 t = 1.220	1.282 t = 1.345	1.552 t = 1.851*	1.556 t = 1.831*
Rule of Law	0.170 t = -9.890***	0.210 t = -8.323***	0.207 t = -7.020***	0.251 t = -5.962***
Female Donor		2.157 t = 2.620***		2.135 t = 2.581***
State-Affiliated Donor		1.799 t = 2.495**		1.780 t = 2.447**
Distance to Istanbul (100km)		1.165 t = 2.660***		1.165 t = 2.663***
War * Rule of Law			0.584 t = -1.441	0.620 t = -1.259
Observations	685	685	685	685
Log Likelihood	-384.645	-373.193	-383.599	-372.395
Akaike Inf. Crit.	775.290	758.386	775.197	758.790

Note:

*p<0.1; **p<0.05; ***p<0.01
Odds ratios with t-values reported

wartime are more than 1.55 times more likely to contain real estate compared to waqfs established during peacetime. This provides support for Hypothesis 3.2. In Models 3 and 4, with the Post-1839 subset, there is no meaningful increase in the likelihood that a waqf endowment contains real estate during wartime. This, as expected, rejects Hypothesis 3.3.

5.3 Wartime Changes in Fiscal Revenues

Table 8 below reports the results from OLS regressions that aim to capture how much state's fiscal revenues change during wartime and across periods. Model 2 tests Hypothesis 4.1. The coefficient of the lagged war dummy is negative. Therefore we can reject Hypothesis 4.1, which predicted a positive coefficient. This is in line with my expectations, warfare does not increase fiscal revenues before 1839.

Moving to Model 3, we can check how war changes fiscal revenues after 1839. The coefficient of the war dummy is positive and is estimated to be 0.074, with 0.1 level of

Table 7: Logistic Regression Analysis of Determinants of Real Estate Containing Waqf Endowments for the Temporal Subsets of the Sample

	Endowment Contains Real Estate			
	Subsets:			
	Pre-1839 (1)	Pre-1839 (2)	Post-1839 (3)	Post-1839 (4)
During War	1.552 t = 1.851*	1.559 t = 1.861*	0.907 t = -0.338	1.061 t = 0.179
Female Donor		0.948 t = -0.161		9.087 t = 3.628***
State-Affiliated Donor		1.135 t = 0.477		5.462 t = 2.976***
Distance to Istanbul (100km)		0.953 t = -0.705		1.770 t = 4.908***
Observations	446	446	239	239
Log Likelihood	-223.920	-223.532	-159.679	-125.606
Akaike Inf. Crit.	451.839	457.065	323.358	261.213

Note:

*p<0.1; **p<0.05; ***p<0.01
Odds ratios with t-values reported

significance. This confirms Hypothesis 4.2. Even though this estimate is not within the conventional 0.05 level of significance, its magnitude is sizeable. It indicates that the annual increases in fiscal revenues are expected to be 7.4 percentage points higher when there was a war in the previous year. This is indeed very large since the mean annual increase in fiscal revenues in this dataset is merely 3.6%.

Lastly, the interaction effect in Model 1 tests Hypothesis 4.3. This interaction effect is positive as expected, but is significant only at the 0.1 level. Anyhow, its magnitude is also very large, 22.5 percentage points. This magnitude designates a substantial shift in war's effect on fiscal revenues across the two periods. War's estimated average effect on the annual change in fiscal capacity is 22.5 percentage points higher in the post-1839 period compared to the pre-1839 period.

As I have acknowledged before, the results obtained with this dataset should be approached cautiously. It has some missing observations for certain key years in the nineteenth century (two years during the Crimean war and one year after the 1877-78 Russo-Turkish War). Yet, the results I obtained so far seems to complete the picture I have attempted to give: the war makes states relationship should be more likely to work under stronger rule of law.

Table 8: Relationship Between War and Fiscal Revenues Before and After 1839

	Revenues of the Central Treasury		
	Full Sample (1)	Subsets: Pre-1839 (2)	Post-1839 (3)
War (lagged)	-0.151** (0.073)	-0.151 (0.094)	0.074* (0.041)
Rule of Law	-0.109 (0.074)		
War * Rule of Law	0.225* (0.121)		
Constant	0.136** (0.060)	0.136* (0.078)	0.027 (0.018)
Observations	119	66	53
R ²	0.041	0.039	0.062
Adjusted R ²	0.016	0.024	0.043
Residual Std. Error	0.276 (df = 115)	0.356 (df = 64)	0.115 (df = 51)
F Statistic	1.626 (df = 3; 115)	2.574 (df = 1; 64)	3.362* (df = 1; 51)

Note:

*p<0.1; **p<0.05; ***p<0.01
OLS Regression. Standard errors in parenthesis

5.4 External Validity

Since this study does not rely on any cross-sectional variation and is based on a limited portion of the territories of the Ottoman Empire, concerns can arise about the generalizability

of the findings to other regions of the Ottoman Empire and also to other countries. I argue that empirical results from several other studies should alleviate these concerns.

Adigüzel and Kuran (2020) utilize a similar dataset of waqfs from Ottoman Istanbul over a similar time period (1600-1900) and they find increases in the share of new family waqfs around periods of armed conflict and political turmoil. This indicates that the mechanism of increasing fiscal pressures of wartime and the risk of confiscation or arbitrary taxation inclining wealth holders to shelter their property via waqfs may have been also present in Istanbul, the empire's capital.

Regarding the generalizability of the results to other contexts, I believe that one study that I have already discussed is helpful. Besley and Persson (2011) find that higher executive constraints in the past and also higher contemporary executive constraints are associated with higher levels of contemporary fiscal capacity. Even though the key variable in this study is a general measure of executive constraints and does not reveal much about private property rights, higher executive constraints imply higher property rights protection.

5.5 Robustness Checks and Further Analyses

To check whether the results from the analysis with the waqf data are robust to changing to start date of the analysis, I discarded all observations before 1700. The analysis with the post-1700 observations reported in Tables A2 and A3 in the Online Appendix show very similar patterns.

In order to keep geography constant across time, I discarded all observations in territories that do not stay under Ottoman rule throughout the whole period of this analysis, in other words these are the territories that the Ottomans lost. They include all the territories where the Greek nation state acquired upon declaring its independence (roughly the Southern half of today's Greece), the island of Crete which left Ottoman control in 1897 and most of what is today's Bulgaria (except for a limited number of localities in Southern Bulgaria) where Ottomans lost direct control after the war of 1877-8 with Russia. Even though the

total number of observations decline to 404, from 687 in the original analysis when these observations are excluded, the results in Online Appendix Tables A4 and A5 reveal that the patterns are similar, but some key coefficients are less significantly estimated, or are not estimated to be statistically significant anymore, even though their sizes are still substantially meaningful.

I also calculated the distance between the waqf and where the war is being fought in order to check whether this distance changes the likelihood of the waqf's type. To calculate this distance, I geocoded the closest point where an ongoing war had been fought to the place of the waqf's establishment, up until the day it was established. For the information on the location of war, I used Clodfelter (2008) and Jaques (2007). The results in Table A6 in Online Appendix surprisingly reveal that a given new waqf is more likely to be a family waqf in places farther away from the war's location. Naturally, I cannot add the war dummy to the analysis because by definition this sample only contains waqfs that are established during wartime. However, the result regarding the effect of strong rule of law does not change even within this subsample and controlling for the distance to war.

I also conducted some analyses to explore the determinants of the donor being state affiliated. Using this dummy variable as the dependent variable in logistic regression analyses, I find that the donors are much less likely to be state affiliated under stronger rule of law, whether when we look at all types of waqfs (Online Appendix Table A7) or only family waqfs (Online Appendix Table A8). These patterns are consistent with the literature and the broader theoretical framework depicted in this paper. Firstly, for the results with the family waqfs, state-affiliated individuals, being among the primary targets of the ruler's predation before 1839 (Arslantaş 2017), may have particularly started feeling less concerned about being confiscated after 1839. Another explanation which can account for both results is that in the former period, when trade was less developed and the economy was smaller, wealth was more concentrated in the hands of the state elite. In the latter period merchants and other non-state affiliated individuals may have accumulated a higher share of the wealth.

Therefore, it makes sense that in the former period any new waqf is more likely to be established by a state-affiliated individual compared to the latter.

Finally, I used alternative fiscal revenue data for the Ottoman state's central treasury in order to examine the relationship between war and fiscal revenues. With Karaman and Pamuk's (2010) data, I replicated the analysis between war and fiscal revenues in Table 8. The dataset has annual fiscal revenues of the Ottoman state converted to per capita revenues in gram silver. I examine how the total number of war years in a decade (lagged) are associated with the increases in fiscal revenues. The results I report in Online Appendix Table A9 are in line with the original results in Table 8. While the occurrence of war is not associated with any increases in the state's fiscal capacity before 1839, it has a positive relationship with the increases in fiscal revenues after this date. One note of caution here is about the limitations of these data. It has very few number of observations due to missingness in the pre-1839 period, and due to lower number of decades in the post-1839 period, with the total number of observations being 13. For what it is worth, the interaction effect between the total number of wars and the Rule of Law dummy is estimated to be statistically significant with $p < 0.1$, with a substantively large coefficient. An additional year of war increases the changes in fiscal revenues by 8.68 percentage points in the post-1839 period compared to the pre-1839 period.

6 Conclusion

The results in this article indicate that under weak of the rule of law, wars increase wealth sheltering by asset owners. This pattern of wealth sheltering disappears once a higher degree of rule of law is introduced, the ruler's right to confiscate private property is abrogated, and certain checks on the ruler make it more credible that the ruler cannot renege on his promise to respect private property rights. This may have affected the relationship between war

and state building. While war does not increase fiscal revenues before the introduction of stronger rule of law in 1839, it starts increasing fiscal capacity in the post-1839 period.

The results in this article speak to the literatures on state and fiscal capacity building, and the politics of taxation. The literature that argues that the credible commitments the ruler can make to respecting private property rights by tying his own hands can result in better economic outcomes is well known (North and Weingast 1989; Stasavage 2002). More importantly for the purposes of this article, these credible commitments can create some quasi-voluntary tax compliance in Levi's (1988) terms since asset holders can prefer being taxed at a restrained rate to sheltering their wealth by diverting their assets to very inefficient tools. This way, states can increase their fiscal capacity during wartime. Providing better protection of their private property and increasing the predictability of the ruler's actions by constraining the ruler appears to be a key factor in increasing the tax compliance of the wealthy. Even though these results may require further examination in other contexts and with higher-quality data, they have interesting implications.

Considering that there is ongoing debate on whether the bellicist literature is applicable to contexts outside of Western Europe, this article points out to an often-overlooked factor which may be necessary for warfare to strengthen states: the rule of law. Weak rule of law, low protection of private property and few constraints on the rulers in some non-Western European contexts can be one reason why warfare did not contribute to the development of states with higher fiscal capacity. This study also draws attention to possible strategies that wealth owners and taxpayers can follow and presents a case whereby the consideration of these strategies can illuminate new aspects of the relationship between war and fiscal capacity.

Nineteenth century was a period of deep and significant changes for the faltering Ottoman Empire. It had entered the nineteenth century far behind its European rivals in terms of fiscal revenues and came to the brink of destruction for a couple of times during the nineteenth century. Even though its revenues still lagged far behind European countries, by

World War I it had managed to achieve a remarkable fifteen-fold increase in revenues (Karman and Pamuk 2010). This improvement in the empire's fiscal revenues coincided with the empire's large-scale modernization in other domains during the long nineteenth century such as administrative, political, military, legal, and also perhaps cultural. In this sense, this study also highlights that it may be necessary to pay more attention to the changes and processes in ensuring a higher-quality rule of law in general, and more specifically in private property rights while thinking about how the Ottoman Empire was able to survive the difficult long nineteenth century, and also thinking about the Tanzimat period or Ottoman modernization in general.

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Online Appendix

A List of Wars

Table A1: List of Wars by Date and Source

Years	Month and Day	Name	Source
1591-1606		Habsburg-Ottoman	Clodfelter (2008)
1603-1612		Turco-Persian	Clodfelter
1614-1621		Polish-Turkish War	Clodfelter
1616-1618		Turco-Persian	Clodfelter
1623-1638		Turco-Persian	Clodfelter
1645-1669		Candian War	Clodfelter
1663-1664		Habsburg-Ottoman	Clodfelter
1671-1676		Polish-Turkish War	Clodfelter
1676-1681		Russo-Turkish War	Davies (2007)
1683-1699	14 July-26 January	Habsburg-Ottoman	Clodfelter
1695-1700	?-July 14	Russo-Turkish War	Clodfelter
1710-1711	October-21 July	Russo-Turkish War	Clodfelter
1714-1718	9 December-21 July	Venetian-Austrian-Turkish War	Clodfelter
1722-1727	?-October	Turco-Persian	Clodfelter
1730-1736	Spring-October	Turco-Persian	Clodfelter
1735-1739	Late 1735-3 October	Austro-Russian-Turkish War	Clodfelter
1742-1746	4 October-4 September	Turco-Persian	Clodfelter; Ulutas and Baser (2019)
1768-1774	October-16 July	Russo-Turkish War	Clodfelter
1775-1779		Turco-Persian	Shaw (1991)
1787-1792	19 August-9 January	Russo-Turkish War	Clodfelter
1798-1801	1 July-2 September	French Campaign in Egypt & Syria	Clodfelter
1804-1813	14 February-7 October	Serbian Wars of Independence	Clodfelter
1806-1812	?-28 May	Russo-Turkish	Clodfelter
1811-1818	Early 1811-11 September	Wahhabi War	Clodfelter; COW (Sarkees and Wayman 2010)
1815-1817	March-?	Serbian Wars of Independence	Clodfelter
1820-1821	September-?	Ottoman Conquest of Sudan	COW
1821	20 February-June	Romanian Independence	Clodfelter
1821-1829	February-September	Greek War of Independence	Clodfelter; COW
1821-1823		Turco-Persian War	COW
1826	June-September	Janissary Rebellion	Clodfelter; COW
1828-1829	26 April-16 September	Russo-Turkish War	Clodfelter;COW
1830-1831	February-November	First Albanian Revolt	COW
1831-1833	1 October-27 December	Egyptian-Turkish	Clodfelter; COW
1832-1837		Bilmez-Asiri War	COW
1836-1837		First Bosnian Uprising	COW
1839-1841	10 June-February	Egyptian-Turkish	Clodfelter; COW
1841		Second Bosnian Uprising	Clodfelter; COW
1842-1843	December-January	Karbala Revolt	COW
1848	June-September	Romanian Independence	Clodfelter; COW
1851	April-July	Ottoman-Yam	COW

Table A1: List of Wars by Date and Source (continued)

Years	Month and Day	Name	Source
1852-1853	December- March	First Turco-Montenegrin	Clodfelter; COW
1853-1856	16 October-30 March	Crimean	Clodfelter; COW
1856	January-February	Hodeida Siege	COW
1856		Cretan Insurrection	COW
1858-1859	May-June	Second Turco-Montenegrin	Clodfelter; COW
1861-1862	December-31 August	Third Turco-Montenegrin	Clodfelter; COW
1866-1867	May-February	First Cretan Insurrection	Clodfelter; COW
1870-1872	November-December	Ottoman Conquest of Arabia	COW
1875-1876	30 June-29 June	Bulgarian and Bosnian Insurrections	Clodfelter; COW
1876-1877	18 June-23 April	Serbo-Turkish	Clodfelter; COW
1877-1878	24 April-31 January	Russo-Turkish	Clodfelter; COW
1890-1892	April-September	First Yemen Rebellion	COW
1895-1897	September-February	Second Cretan Insurrection	Clodfelter; COW
1895-1896	October-?	Druze-Turkish	COW
1897	18 April-20 May	Greco-Turkish	Clodfelter; COW
1903	2 August-2 November	Ilinden Insurrection	Clodfelter; COW
1904-1906	November-January	Second Yemen Rebellion	COW
1908	July	Young Turk Revolution	COW
1909	April	Young Turks Counter-Coup	COW
1910-1912	March-16 October	Second Albanian Revolt	Clodfelter; COW
1910-1911	October-October	Asir-Yemen Revolt	COW
1911-1912	29 September-18 October	Italian-Turkish War	Clodfelter; COW
1912-1913	17 October-19 April	First Balkan War	Clodfelter; COW
1913	15 July-10 August	Second Balkan War	Clodfelter; COW

B Robustness Checks

Table A2: Analysis of Determinants of Family Waqf, Start Date Moved to 1700

	Established Waqf is Family Waqf			
	(1)	(2)	(3)	(4)
During War	1.342 t = 1.681*	1.333 t = 1.632	1.885 t = 2.817***	1.876 t = 2.772***
Rule of Law	0.606 t = -2.895***	0.616 t = -2.627***	0.830 t = -0.869	0.839 t = -0.788
Female Donor		1.237 t = 0.790		1.204 t = 0.685
State-Affiliated Donor		0.758 t = -1.318		0.743 t = -1.403
Distance to Istanbul (100km)		1.126 t = 2.199**		1.127 t = 2.203**
During War * Rule of Law			0.409 t = -2.476**	0.409 t = -2.462**
Observations	649	649	649	649
Log Likelihood	-406.419	-402.529	-403.350	-399.495
Akaike Inf. Crit.	818.839	817.057	814.699	812.990

Note:

*p<0.1; **p<0.05; ***p<0.01
Odds ratios with t-values reported

Table A3: Logistic Regression Analysis of Determinants of Family Waqf for the Temporal Subsets of the Sample, Start Date Moved to 1700

	Established Waqf is Family Waqf			
	Subsets:			
	Pre-1839 (1)	Pre-1839 (2)	Post-1839 (3)	Post-1839 (4)
During War	1.885 t = 2.817***	1.859 t = 2.735***	0.772 t = -0.919	0.785 t = -0.842
Female Donor		1.272 t = 0.706		0.937 t = -0.141
State-Affiliated Donor		0.682 t = -1.597		1.015 t = 0.031
Distance to Istanbul (100km)		1.058 t = 0.864		1.291 t = 2.503**
Observations	410	410	239	239
Log Likelihood	-241.998	-239.686	-161.351	-157.782
Akaike Inf. Crit.	487.997	489.372	326.703	325.565

Note:

*p<0.1; **p<0.05; ***p<0.01
Odds ratios with t-values reported

Table A4: Logistic Regression Analysis of the Determinants of Family Waqf for the Whole Sample, Geography Held Constant

	Established Waqf is Family Waqf			
	(1)	(2)	(3)	(4)
During War	1.082 t = 0.354	1.041 t = 0.178	1.632 t = 1.496	1.500 t = 1.211
Rule of Law	0.492 t = -3.185***	0.515 t = -2.628***	0.687 t = -1.295	0.687 t = -1.196
Female Donor		2.643 t = 2.371**		2.611 t = 2.339**
State-Affiliated Donor		0.587 t = -1.797*		0.595 t = -1.744*
Distance to Istanbul (100km)		1.084 t = 1.140		1.077 t = 1.034
During War * Rule of Law			0.464 t = -1.719*	0.509 t = -1.485
Observations	404	404	404	404
Log Likelihood	-248.775	-242.102	-247.297	-240.998
Akaike Inf. Crit.	503.550	496.203	502.594	495.997

Note:

*p<0.1; **p<0.05; ***p<0.01
Odds ratios with t-values reported

Table A5: Logistic Regression Analysis of Determinants of Family Waqf for the Temporal Subsets of the Sample, Geography Held Constant

	Established Waqf is Family Waqf			
	Subsets:			
	Pre-1839 (1)	Pre-1839 (2)	Post-1839 (3)	Post-1839 (4)
During War	1.632 t = 1.496	1.520 t = 1.232	0.758 t = -0.914	0.805 t = -0.702
Female Donor		2.063 t = 1.368		2.719 t = 1.490
State-Affiliated Donor		0.407 t = -2.519**		1.280 t = 0.422
Distance to Istanbul (100km)		0.940 t = -0.620		1.213 t = 1.723*
Observations	203	203	201	201
Log Likelihood	-112.199	-106.212	-135.098	-130.909
Akaike Inf. Crit.	228.398	222.423	274.196	271.817

Note:

*p<0.1; **p<0.05; ***p<0.01
Odds ratios with t-values reported

Table A6: Analysis of the Relationship Between the Distance to the Ongoing War and Waqf Type

	Established Waqf is Family Waqf	
	(1)	(2)
Distance to War (100 km)	1.035 t = 1.807*	1.041 t = 2.061**
Rule of Law	0.345 t = -3.335***	0.363 t = -2.957***
Female Donor		2.716 t = 2.200**
State-Affiliated Donor		0.930 t = -0.221
Distance to Istanbul (100km)		1.066 t = 0.741
Observations	292	292
Log Likelihood	-163.838	-160.137
Akaike Inf. Crit.	333.676	332.274

Note:

*p<0.1; **p<0.05; ***p<0.01
Odds ratios with t-values reported

Table A7: Logistic Regression Analysis of the Determinants Whether the Donor is State Affiliated

	Donor is State Affiliated			
	(1)	(2)	(3)	(4)
During War	0.836 t = -0.959	0.840 t = -0.927	0.922 t = -0.401	0.925 t = -0.383
Rule of Law	0.209 t = -6.410***	0.229 t = -5.956***	0.255 t = -4.842***	0.279 t = -4.486***
Distance to Istanbul (100km)		1.166 t = 2.847***		1.165 t = 2.831***
During War * Rule of Law			0.469 t = -1.254	0.478 t = -1.222
Observations	687	687	687	687
Log Likelihood	-358.452	-354.404	-357.581	-353.578
Akaike Inf. Crit.	722.905	716.807	723.162	717.156

Note:

*p<0.1; **p<0.05; ***p<0.01
Odds ratios with t-values reported

Table A8: Logistic Regression Analysis of the Determinants Whether the Donor is State Affiliated Only for Family Waqfs

	Donor is State Affiliated			
	(1)	(2)	(3)	(4)
During War	1.058 t = 0.249	1.057 t = 0.243	1.092 t = 0.358	1.090 t = 0.349
Rule of Law	0.282 t = -4.153***	0.293 t = -4.011***	0.303 t = -3.241***	0.314 t = -3.135***
Distance to Istanbul (100km)		1.001 t = 1.253		1.001 t = 1.250
During War * Rule of Law			0.801 t = -0.335	0.805 t = -0.326
Observations	458	458	458	458
Log Likelihood	-241.311	-240.530	-241.254	-240.475
Akaike Inf. Crit.	488.622	489.059	490.508	490.951

Note:

*p<0.1; **p<0.05; ***p<0.01
Odds ratios with t-values reported

Table A9: Relationship Between War and Fiscal Revenues Before and After 1839, Using Alternative Data

	Changes in Fiscal Revenues per Decade		
	Full Sample	Subsets: Pre-1839	Post-1839
	(1)	(2)	(3)
Total Number of War Years (lagged)	0.009 (0.018)	0.009 (0.011)	0.096 (0.051)
Rule of Law	-0.079 (0.205)		
War Years * Rule of Law	0.087* (0.042)		
Constant	-0.029 (0.135)	-0.029 (0.083)	-0.108 (0.206)
Observations	13	7	6
R ²	0.528	0.124	0.472
Adjusted R ²	0.370	-0.051	0.340
Residual Std. Error	0.192 (df = 9)	0.118 (df = 5)	0.256 (df = 4)
F Statistic	3.352* (df = 3; 9)	0.707 (df = 1; 5)	3.576 (df = 1; 4)

Note:

*p<0.1; **p<0.05; ***p<0.01
OLS Regression. Standard errors in parantheses.

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