

October 2011

LESSONS FROM THE OTTOMAN HAREM ON CULTURE, RELIGION & WARS

Murat Iyigun
University of Colorado

Abstract

The Ottoman Empire had a profound impact in Europe, the Middle East and North Africa at the apogee of its power, covering the era between 1453 CE and 1699 CE. In this paper, I exploit the empire's unique culture and institutions to examine the roles of ethnicity and religion in conflict and war. Using comprehensive data on Ottoman wars and conflicts covering the reigns of 31 Ottoman sultans between 1400 CE and 1909 CE, I document that the ethnic background of Valide Sultan (the queen mother) was an important and independent determinant of whether the empire engaged in military conquests in Europe, North Africa or the Middle East. Depending on the empirical specification, the reign of a sultan with a European maternal genealogy was enough to offset more than 70 percent of the empire's western orientation in imperial conquests. While these findings do not rule out a direct role of queen mothers and Harem politics in Ottoman affairs, they are more in line with a longer-term channel of cultural transmission between the Valide Sultans and their sons.

Keywords: Conflict, Religion, Production & Appropriation, Family Economics.

JEL Classification Numbers: C72, D74, N33, N43, O10.

For suggestions for improvement, I am very much indebted to Latika Chaudhary, Jared Rubin, Petra Moser, Carol Shiue and, in particular, Robert Barro, Claudia Goldin, Anne McCants and Rachel McCleary. For other useful guidance, I also thank Ran Abramitzky, Lee Alston, Davide Cantoni, Alan Olmstead, Stephen Haber, Paul Rhode, Philip Hoffman, Naci Mocan as well as participants of the 2008 All-University of California Conference on Economic History and the economic history workshop at Harvard University. All errors and speculations are mine. Please send all correspondence to Murat Iyigun, University of Colorado at Boulder, Department of Economics, Campus Box 256, Boulder, CO 80309-0256. E-mail: murat.iyigun@colorado.edu. Phone: (303) 492-6653. Fax: (303) 492-8622.

1. Introduction

What determines war and peace? And how important have religion, ethnicity and state ideology been for conflict historically? In a variety of forms and contexts, these two questions have long intrigued political scientists and economists alike.

The conventional studies of conflict and war overwhelmingly, if not solely, emphasize differences between social groups. This is primarily driven by the view that religion and ethnicity are two fundamental components of ‘culture capital’, the differences in which that can produce wholesale ‘clash of civilizations’. According to the ‘club theory’, religious and ethnic norms persist and are accentuated because they help maintain adherence and loyalty to different faiths and ideologies.¹ Taking this perspective, then, religiously-motivated wars are primarily about societies and not their rulers.

Political leaders’ motives for war and peace have been studied quite extensively in more contemporary political economy contexts.² However, the degree to which rulers themselves are driven by religious motives or the extent to which their own identities and cultural ties influence the patterns of international war has never been examined. A serious impediment for such an investigation has been the difficulty to observe variations in the rulers’ ethnic or religious identities independently of those of their own societies at large.

In a related vein, there exists a strand within economics which promotes the notion that ‘culture matters’. It is primarily on this basis that the channels through which cultural beliefs, views and traits are passed from one generation to the next have also been of interest to economists. Among the recent but influential papers in the economics literature on the intergenerational transmission of cultural traits, a salient example is provided by Fernandez et al. (2004) who argue that cultural traits or attitudes are transferred from mothers to sons.³

¹The culture capital view of religion has been advocated by, among others, Huntington (1996), Landes (1998), Inglehart and Baker (2000). For the ‘club theory’ of religion see, for instance, Innaccone (1992) and Berman (2000).

²Among the more notable papers in this strand, see for instance Hess and Orphanides (1995, 2001) and Glaeser (2005, 2006).

³In particular, Fernandez et al. identify that female labor force participation in the United States rose rapidly in the post-World War II era in part due to “the presence of a new type of man—one brought up in a family in which the mother worked.” For other relevant contributions in this strand, also see Fernandez (2007a, b), Fernandez and Fogli (2006, 2009).

Using village-level data from India, Beaman et al. (2009) illustrate a similar mechanism at the more

Ottoman history is relevant for all this due to three reasons. First, the empire had a profound and lasting impact in Europe, the Middle East and North Africa, especially during the apogee of its power between the 15th and 17th centuries. Most of the Balkans and eastern Europe remained under Ottoman imperial rule for centuries and many countries there today reflect the remnants of various institutional features inherited from the Ottomans. Indeed, some of the fundamental contemporary political problems of the Middle East and the Balkans are, at least in part, attributed to the empire's rapid disintegration during the late-19th and early-20th centuries.⁴

Second, some historians share the view that the Ottomans were motivated by the *Gaza ideology*, at least during the empire's early era running through the end of the 16th century. They state Gaza as the reason why the empire steadily looked westward for expansion driven by religious motives. As analyzed by Paul Wittek and noted by Kafadar (1996, p. 11) "what fueled the energies of the early Ottoman conquerors was essentially their commitment to Gaza, an 'ideology of Holy War' in the name of Islam. Ottoman power was built on that commitment..." Hence, to the extent that this view accurately describes the Ottomans' imperial predisposition and their geopolitical objectives, it provides a useful yardstick with which we can gauge and quantify the influence of other relevant determinants of conflict and war.

Third, within a fairly swift period of time following its foundation, the empire became a multi-ethnic and multi-religious civilization with many important posts within the military, administrative and palace hierarchies routinely being held by converts to Islam from the Balkans, the Mediterranean and the Black Sea.

In this paper, I exploit the Ottomans' unique imperial history to examine the influence of state ideologies versus that of ethno-religious ties in perpetuating or diverting conflicts and war. Whereas Gaza is put forward as the reason why the Ottomans initiated more conflicts in the West, and why on the eastern fronts, more conflicts were started by its rivals, another—not necessarily mutually exclusive—hypothesis claims that the Imperial Harem wielded considerable political power in Ottoman affairs. And various historians have suggested that the members of the Harem with different ethnic or religious

aggregate level: they find that exposure to female leaders weakens stereotypes about gender roles and eliminates the negative bias in how female leaders' effectiveness is perceived among male villagers.

⁴MacMillan (2001).

backgrounds often lobbied the Sultan to influence the geography of Ottoman conquests.⁵

Using a comprehensive dataset on conflicts and war in the Middle East, Europe and North Africa for the period between 1400 CE and 1700 CE, I find that Gaza was important for understanding Ottomans' imperial motives but it was not sufficient. What also mattered almost as much was the sultans' ethno-religious identities. In particular, while Ottoman conquests were predominantly in the West until the mid-1500s, I show that the ethnic background of *Valide Sultan* (the queen mother) was an important and independent determinant of whether the empire engaged in military conquests in Europe versus North Africa or the Middle East. Depending on the empirical specification, the reign of a sultan with a European maternal ethnic background was enough to offset more than 70 percent of the empire's western orientation in imperial conquests. In contrast, the sultans having a European matrilineal descent mostly had no discernible influence on the empire's eastern conflicts, while a Muslim matrilineal genealogy typically boosted Ottomans' military ventures in Europe.

I obtain these results using cross-section data covering the reigns of 31 sultans from 1400 to 1909 CE as well as time-series data spanning the reigns of 19 sultans over time interval between 1400 to 1701 CE and the reigns of 28 sultans between 1400 and 1851 CE. And regardless of the estimation method employed or the time span covered, the empirical estimates generally show that mothers of European descent suppressed Ottomans' European military involvements, whereas those of Muslim descent typically spurred them.

It is difficult, if not impossible, to discern how general these results are. But, as some level, they are a testament to the deep roots of ethnic and religious identities. That is because conversions to Islam, even and particularly among the elite of the Harem hierarchy who had influence on Ottoman policymaking, seem not to have been enough to maintain loyalty to the "Holy cause". The ethno-religious identities of the Sultans' inner circle played a significant and independent role in subverting the imperial ambitions of the empire toward the Middle East and North Africa. It is on this basis that one can account for the distinct geographical patterns of and shifts in the Ottomans' history of imperial conquest.

The role of women in Muslim civilizations in general and the Ottoman Empire in

⁵For example, see Peirce (1993), Imber (2002), Goffman (2002) and Shaw (1976).

particular has been—and continues to be—extensively debated. Peirce (1993) details the power of imperial women in the Ottoman Harem and other Ottoman historians, such as Shaw (1976) and Inalcik (1973), also review this topic at some length. The empirical analyses discussed below lend some credence to the view that women—in this case, the queen mothers in particular—had influence and extensive power in decision-making in an inherently Islamic and powerful empire. All the same, it is important to qualify the channel through which the Ottoman royal women might have had a bearing on Ottoman political and military actions. As I shall demonstrate below, I find some evidence that the harem politics played less of a role in influencing the sultans in state matters, but that, more likely, the sultans acted cognizant of their family legacies. In this, my findings are more in line with a channel of cultural transmission between the Valide Sultans and their ruling sons.

2. The Analytical Foundations

The empirical investigation below is reduced form. Nonetheless, the idea that cultural preferences, beliefs and values may persist intergenerationally—and that they may do so based on motives beyond pecuniary cost and benefit calculus—has solid roots in economic theory, political science and psychology. The literature on the economics of cultural transmission, in particular, provide the foundations for the empirics and interpretations below.

One highly relevant framework is explicated in Bisin and Verdier (2001). In their model, children’s preferences are acquired from their parents through a process of adaptation and imitation, whereby parents’ efforts to indoctrinate their offspring depends on the social and cultural environment. If family and society are closer substitutes in the transmission of cultural values, parents socialize with their children more intensely when the traits they wish to impart on their offspring are common only to the minority. According to Bisin and Verdier, parents evaluate their children’s actions from their own preference perspective. Hence, as is implicit in the empirics that follow, a mother always attempts to socialize her children according to her own cultural preferences.⁶

Next, we have Doepke and Zilibotti (2008) according to whom the intergenerational transmission of cultural traits, such as work ethics, thrift and patience, accounts for the

⁶For example, see Peirce (1993), Imber (2002), Goffman (2002) and Shaw (1976).

evolution of the social infrastructure from which the Industrial Revolution sprang. In Doepke and Zilibotti’s model, parents’ incentives for altering their offspring’s preferences depend on the economic environment. Accordingly, parents are more likely to invest in cultural traits that enhance patience in their children when the latter are more prone to enter professions that require skills acquisition and a delay of material rewards. What is also relevant to the empirics below is that social stratification occurs and can persist over time even with initially homogenous preferences, and religious values can serve to amplify those social differences.

Finally, there are analytical parallels between the work by Benabou and Tirole (2006) and the implicit mechanisms through which the maternal cultural lineage of the Ottoman sultans might have factored in their military actions. There is a model in which personal identities are shaped endogenously and individuals develop psychological mechanisms—such as dignity and taboos—to avoid cognitive dissonance related to their self ‘worth’. An important feature of this model is that, when individuals are uncertain about their own deep values, they turn to their past choices to ascertain ‘who they are’. And the key finding is that cultural identity investments are higher when social information is scarce and when a greater endowment of wealth—in our specific case below, one’s own religious and ethnic heritage—raises the stakes for viewing it as valuable.

The remainder of this paper is organized as follows: In the next section, I review some other related literature. In Section 4, I provide the historical background. In Section 5, I present the baseline findings. In Section 6, I expand upon the main results. In Section 7, I conclude.

3. Related Literature

In addition to the literatures referenced above, the work below relates to various strands in economics and political economy. To start with, we know fairly well that differences of religion have been important for conflict. As Richardson (1960) has shown, differences of Christianity and Islam, have been causes of wars and that, to a weaker extent, “Christianity incited war between its adherents.” Similarly, Wilkinson (1980) has claimed that “the propensity of any two groups to fight increases as the differences between them (in language, religion, race, and cultural style) increase.”

The corollary of such findings were in fact articulated earlier by the likes of Mon-

tesquieu, Kant and Angell. Their ‘liberal peace’ view emphasized that “mutual economic interdependence could be a conduit of peace.” Indeed, Jha (2008) finds some evidence of the view that differences in the degree to which Hindus and Muslims could provide complementary, non-replicable services in the medieval maritime ports of India explain the extent to which religious tolerance could be sustained over the long term. In particular, he shows that medieval trading ports were 25 percent less likely to experience a religious riot between 1850-1950, two centuries after Europeans eliminated Muslim advantages in trade. Clingingsmith et al. (2009) find that participation in the Muslim pilgrimage of *Hajj* increases observance of global Islamic practices while decreasing antipathy toward non-Muslims. Their evidence suggests that such changes are due to the interactions among Hajjis from around the world during the Holy Pilgrimage.

Counter-arguments to this view have involved various negative consequences, such as exploited concessions and threats to national autonomy emanating from asymmetric interdependence (Emmanuel, 1972 and Wallerstein, 1974). The empirical evidence is mixed, with earlier studies such as Polachek (1980) and Polachek et al. (1999) finding bilateral trade ties reduced conflict whereas Barbieri (1996) and Barbieri-Schneider (1999) showing that they raised it. Most recently, however, Lee and Pyun (2008) have provided evidence in favor of the conflict-dampening role of not only bilateral but also global trade ties, particularly among geographically-contiguous states.

Next, we have the political economy literature on the determinants of conflict and war on the one hand versus production on the other. The notion that appropriation and violent conflict over the ownership for resources should be modeled as an alternative to economic production was originally articulated by Haavelmo (1954) and further developed by follow-up papers such as Hirshleifer (1991), Grossman (1994), Grossman and Kim (1995), Grossman and Iyigun (1995, 1997), Skaperdas (1992, 2005), Alesina and Spolaore (2007) and Hafer (2006). The work below sits at the junction of these two strands since it examines the role of religion in influencing conflict and war.

There is also an active strand in economics which emphasizes religion, social norms and culture as important factors in individual behavior and social organization. The main focus of some papers is religion and culture in general (e.g., North, 1990, Iannaccone, 1992, Temin, 1997, Glaeser and Sacerdote, 2002, Barro and McCleary, 2005, Guiso, Sapienza and Zingales, 2006, and Spolaore-Wacziarg, 2009). Other papers in

this line emphasize how individual behavior and the evolution of various institutions interact with adherence to a specific religion, such as Judaism, Islam or different denominations within Christianity (e.g., Greif, 1993, 1994, 2006, Botticini and Eckstein, 2005, 2007, Kuran, 2004a, 2005, Arrunada, 2005, Abramitzky, 2008, Iyigun, 2008, Becker and Woessmann, 2009). The work below relates to this strand since it examines how the interplay between institutional state objectives versus rulers' personal motives influenced religiously-motivated and sustained international conflicts.

Finally, there is a nascent but burgeoning subfield of development economics and growth that has documented the role of leadership in economic performance and political stability (e.g., Jones and Olken, 2005, 2007). What follows complements this niche because it documents how leadership influenced the politics and actions of a historically important empire which left a lasting sociopolitical and economic imprint in eastern Europe, Middle East and North Africa.

4. Historical Background

4.1. The Ottoman Empire & Its Conquests

The Ottoman Empire's roots date back to a feudality (*beylik*) founded by Osman I around the Anatolian city of Eskişehir in 1299. With the exception of an interregnum period between 1402 and 1413, which began when the empire collapsed after Tamerlane decimated the Ottoman army, the Empire grew fairly steadily and rapidly during the 14th and 15th centuries. According to standard historiography, the Ottomans' era of political and military dominance covers the period between its conquest of Constantinople (Istanbul) in 1453 and the signing of the *Treaty of Karlowitz in 1699*.⁷

The Ottomans' patterns of conquest reflect the empire's westward orientation from its foundation running through the reign of Beyazid II, later giving way to more frequent conquests in the Middle East and North Africa in much of the 16th century, during the reigns of Selim I (the Grim) and Suleyman I (the Magnificent). Even as late as 1500 CE, the Ottomans controlled only parts of Asia Minor in the east, although they had full sovereignty in all of the Balkans and a significant chunk of southeastern Europe too. Within another century, however, the Ottomans had primarily turned eastward

⁷With this treaty, Ottomans ceded most of Hungary, Transylvania and Slavonia to Austria, Podolia to Poland and most of Dalmatia to Venice. According to Shaw (1976, p. 224), the agreement marked the Ottomans' transition from the "offensive to the defensive."

for imperial expansion. All of the Arabian peninsula and most of North Africa—with the notable exception of the northwestern coastal regions remaining under the control of Kingdom of Morocco—were under Ottoman rule by 1600 CE.

After a long period of stagnation starting with the *Treaty of Karlowitz* in 1699, the empire was on its steady sociopolitical decline and geographic retreat in the 19th century, with its disintegration being complete in the early-19th century.⁸

4.2. The Imperial Harem and the Queen Mother

The Imperial Harem, *harem-i hümayûn*, was the private quarters of the Ottoman sultan.⁹ This inner sanctum of the Harem included the residence of the Sultan’s wives and concubines as well as his imperial offspring.

While the institutional powers of the queen mother, the *Valide Sultan*, solidified with the establishment of the inner sanctum of the imperial harem in mid-16th century, she exerted influence over the eventual Sultan long before that.¹⁰ As Peirce (1993, p. 24) notes, “From the middle of the fifteenth century, and possibly earlier, when a prince left the capital for his provincial governorate, he was accompanied by his mother, whose role was to preside over the prince’s domestic household and perform her duty of “training and supervision” alongside the prince’s tutor. But when the queen mother emerged as an institutionally powerful individual toward the end of the sixteenth century, there were two generations of “political mothers” related to the single politically active male of the dynasty, the sultan... With the lapse of the princely governorate, the entire royal family was united in the capital under one roof, rather than, as previously, dispersed

⁸For detailed references on the history of the Ottoman Empire, see Faroqhi (2004), Kinross (1979), Inalcik (1973), Karpat (1974), Shaw (1976), and Goodwin (2000).

⁹Peirce (1993, pp. 5 – 7, 17, 24).

¹⁰Throughout the middle of the 16th century, the imperial harem consisted only of an administrative quarter which was inhabited by males, including the Sultan himself and the top echelons of the palace hierarchy. Towards the end of the century, however, when another private quarter to house the immediate family of the sultans was established, it too began to be called the imperial harem.

The move of the family harem from the old palace to the new one and its incorporation into the imperial harem, where the empire’s administration functioned, began to occur during the reign of Sultan Suleyman. His (only) wife Hurrem Sultan (a.k.a. Roxelana, her given, pre-conversion name) had a strong sway and influence on the Sultan and was thus able to convince him that she and the rest of the imperial family should live with Suleyman in the new palace. After the move was completed, “the sultan became increasingly a sedentary palace ruler, the members of his family, heretofore scattered among provincial capitals, were gradually relieved of their public duties and gathered into the imperial capital. By the end of the sixteenth century, no member of the royal family—male or female—left the capital, with the exception of the sultan himself.” (Peirce, 1996. p. 119).

throughout the royal domain. There was now only one royal household, over which the senior woman, the sultan's mother, naturally took charge."¹¹

Regardless of how the Ottoman Harem evolved as an institution over time, however, the key observation is that the princes' mothers were primarily responsible for their upbringing. And it is the royal mothers who had the most direct and sustained contact with the future Ottoman Sultans.

4.3. Successions, Sultans and Matrilineal Genealogies

It is important to establish next that Ottoman throne successions were deliberately non-institutionalized and highly random events. The only established rule was *unigeniture* and, starting around the 1450s, *infracticide*.¹²

On this point, Goffman (2002) states “[When one sultan died], one of his sons, rather than his many brothers and sons, succeeded him...the road toward unigeniture remained rocky, its institutionalization a matter of luck as well as strategy. Beyazid, for example, probably was able to eliminate his competent elder brother Yakub with ease because it was Beyazid who in 1389 was on the battlefield at Kosovo when his father fell...Yakub, meanwhile, had the misfortune to be far away in Anatolia.” Peirce (1993) makes this point even more succinctly when she declares “...the history of Turkish states, the Ottomans included, demonstrates a number of options for succession, none of them regarded as illegitimate or unconstitutional... However, the prevailing tendency

¹¹Peirce (1993, pp. 6, 7) describes in more detail how the harem hierarchy was typically controlled by the mother queen, *Valide Sultan*: “The imperial harem was much like the household harem, only much more extensive and with a more highly articulated structure... The larger the household, the more articulated the power structure of the harem.” Invariably, but more so after the 16th century, the harem hierarchy functioned under the control of the mother queen, *Valide Sultan*. More to the point, her influence transcended the harem boundaries because the empire itself was accepted as the personal domain of the royal family. For example, “Women of superior status in this female [harem] society, the matriarchal elders, had considerable authority not only over other women but also over younger males in the family, for the harem was also the setting for the private life of men... The authority enjoyed by the female elders transcended, in both its sources and its effects, the bounds of the individual family. In a polity such as the Ottomans, where the empire was considered the personal domain of the dynastic family, it was natural that important women within the dynastic household—in particular, the mother of the reigning sultan—would assume legitimate roles of authority outside the royal household,” Peirce (1993, p. 7).

That Ottoman imperial wives and mothers played an influential role in shaping, directly or indirectly, Ottoman administration and practices is discussed in other sources as well. For instance, see Shaw (1976, p. 24) and Goffman (2002, pp. 124-25). For further details, see also Iyigun (in progress).

¹²Inalcik (1973). For more details on the Ottoman succession struggles between 1300 and 1650, also see Imber (2002, pp. 96 - 115).

in most Turkish states was to avoid restrictions on eligibility and to regard all males as having a claim to eligibility for succession. In theory, the will of God, who had bestowed sovereignty on the dynastic family, would determine in each generation which of its scions should emerge victorious.”

Imber (2002, p.98) goes a step further to ascribe the resilience of the Ottoman empire to its two principles of succession: “The first, which seems to date from the earliest days of Ottoman rule, was that Ottoman territory was indivisible. The sons of Beyazid fought each other to the death rather than split up the lands that remained to them after Timur’s victory. The second principle was that none of the sultan’s heirs enjoyed primacy in the succession. The sultanate passed to whichever one of them could eliminate the competition... Ottoman subjects were, it seems, prepared to accept as ruler almost any legitimate heir to an Ottoman sultan, without regard to any order of precedence.”

An essential observation for our pursuit is that the royal offspring were predominantly born to concubines who were themselves slaves captured in various non-Muslim domains and converted to Islam. Imber (2002, p. 89) notes, for instance that “Throughout its history, the Ottoman dynasty continued to reproduce through slaves, but between the fourteenth and early sixteenth centuries it was also the custom to restrict each consort’s reproductive life to a single son.”

Table 1 lists a genealogical map of all Ottoman sultans between 1400 CE to 1909 CE. These genealogies, more or less, mirror Ottomans’ military conquests and territorial gains. In the five centuries on which we shall focus below, the empire had 31 sultans. Of those, 5 were Turkish, 4 were Venetian, 4 others were French, and the rest were Serbian (3), Greek (3), Polish (2), Albanian (2), Bosnian (2), Russian (2), Romanian, Bulgarian, Genoan and Circassian. Some of these genealogical links are debated and contested, as there are various claims about the maternal ethnic ancestors of some of these sultans. For instance, an alternative claim about the maternal genealogy of Mehmed II is that he had a Serbian mother instead of Turkish; that of Beyazid II is attributed to Serbian or French in some sources, instead of Albanian. A second hypothesis for the ancestry of Suleyman I involves a mother of European descent rather than a Turkish/Crimean one. In what follows, I shall adhere to the primary genealogical classification although, later on, I shall discuss how alternative classifications impact the main findings. As a

potentially valuable reference, the last column of Table 1 lists the years when the reigns of the queen mother and her son overlapped.

From the table, we see that 6 of the Ottoman sultans—roughly 19 percent of the total of 31—had Muslim matrilineal descent, with five sultans who reigned in the 15th and 16th centuries possessing Turkish heritages and one other who reigned in the late 19th century being of Circassian origin. In contrast, there were 23 sultans—about 75 percent of the total—who had European backgrounds, with 12 of those (39 percent of total) drawing from a Balkan matrilineal heritage. And while sultans with Turkish genealogies were clustered early on during the empire’s rise in the 15th century, those with European maternal origins were spread more uniformly, covering the 15th, 16th, 17th and 19th centuries by varying extent and spanning the 18th century entirely.

[Table 1 about here.]

If the imperial harem exerted a significant amount of political and familial influence in Ottoman affairs and the *Valide Sultan*, whose genealogical background varied, was the pinnacle of its hierarchy, a natural question to ask is whether and to what extent the political and familial influence of the imperial harem played a role in Ottoman conquests. In fact, even without the Ottoman Harem influencing political and military affairs, the sultans themselves could have been impartial to their ethnic and genealogical backgrounds in deciding Ottoman military plans. All of this playing out, of course, against the backdrop of the *Gaza* ideology defining the imperial objective of the empire from its foundation.

5. The Empirical Analysis

5.1. Ethnic Lineage, Politics & Ottoman Wars (1400 CE – 1909 CE)

The primary source of the empirical work is the *Conflict Catalog* being constructed by Brecke (1999). It is a comprehensive dataset on violent conflicts in all regions of the world between 1400 CE and the present. It contains a listing of all recorded *violent* conflicts with a Richardson’s magnitude 1.5 or higher that occurred during the relevant time span on five continents.¹³ While the Catalog is still under construction, it is virtually complete

¹³Brecke borrows his definition for violent conflict from Cioffi-Revilla (1996): “An occurrence of purposive and lethal violence among 2+ social groups pursuing conflicting political goals that results in

for Europe, North Africa and the Near East. It is this portion of the catalog that I rely on below.

For each conflict recorded in the catalog, the primary information covers (i) the number and identities of the parties involved in the conflict; (ii) the common name for the confrontation (if it exists); and (iii) where and when the conflict took place. On the basis of this data, there also exists derivative information on the duration of the conflict and the number of fatalities, which is available for less than a third of the sample. Supplementary data come from a variety of sources: for population measures, I use the estimates by McEvedy and Jones (1978) and, for genealogical background data, I rely on Peirce (1993) and <http://turkboard.com>.

Using these sources, I produced three alternative datasets: For my baseline specifications, I generated cross-section data with the reign of each of the 31 sultans between 1400 CE and 1909 CE representing one observation. As an alternative to the cross-section work, I also compiled 288 annual observations for the period between 1413 CE and 1700 CE.¹⁴ And for a more comprehensive alternative, I extended the time-series coverage through 1851 CE, spanning 438 years and the reigns of 28 Ottoman sultans.

With the cross-section data, I obtained the impact of ethnic identities on Ottoman military conquests by estimating this equation:

$$OTTOWAR_i = \gamma_0 + \gamma_1 EUROMOM_i + \gamma_2 X_i + \epsilon_i, \quad (1)$$

where $OTTOWAR_i$ is one of four alternative dependent variables described below and $EUROMOM_i$ is a dummy variable for whether sultan i had a European maternal genealogical link.

In various alternative empirical specifications using the cross-section data, the dependent variable, $OTTOWAR_i$, will be: (1) the number of newly-initiated conflicts between the Ottoman Empire and European powers during Sultan i 's reign, $OTTOMAN_i$;

fatalities, with at least one belligerent group organized under the command of authoritative leadership. The state does not have to be an actor. Data can include massacres of unarmed civilians or territorial conflicts between warlords."

Richardson's index corresponds to 32 or more deaths ($\log 32 = 1.5$) and the five continents covered are all those that are inhabitable (i.e., Europe, Asia, the Americas, Australia, and Africa).

¹⁴Although the data series start in 1400 CE, I exclude the years 1402 through 1412 CE due to the Ottomans' interregnum period which covered that time period (see subsection 4.1 above). But including this disruption in Ottoman reign in the time-series estimates does not qualitatively affect my key findings.

(2) the count of the newly-initiated number of Ottoman conflicts with its non-European foes during i 's sultanate, $OTHEROTTOMAN_i$; (3) the *aggregate* number of conflicts the Ottomans had with continental Europeans during i 's reign (both those which began during i 's tenure and those began earlier), $AGOTTO_i$; and (4) the *aggregate* number of Ottomans' extra-European conflicts, $AGOTHER_i$.

While the central justification for using (1) and (2) is quite straightforward, that for (3) and (4) is provided by two factors: One, we would like to identify whether the sultans' ethnic backgrounds affected not only the immediate and pending confrontations, but also the longer running feuds. Two, warfare in the medieval and pre-industrial eras was a highly seasonal activity, with longer-running hostilities typically coming to a halt during the winter months, only to be picked up again with the onset of warmer weather in the spring. In this sense, all unresolved military confrontations were renewed every year. In any case, if matrilineal genealogical links did matter for the Ottomans' conquest patterns, then we would expect γ_1 to be negative and statistically significant for specifications in which (1) and (3) are the dependent variables. As a corollary, we would expect γ_1 to be positive and statistically significant, or at least, insignificant, for specifications in which (2) and (4) are the dependent variables.

The dependent variables are comprehensive: they include all Ottoman conflicts on record (including naval battles) with their rivals in Europe, the Middle East and North Africa. Classifying Ottoman confrontations by geographic region can be complicated because of the ambiguities of defining the border of the European continent vis-a-vis Asia.¹⁵ For practical purposes, I divide the Eurasian landmass roughly vertically with reference to Istanbul (the Ottoman capital), and consider Ottomans' involvements to the west of that division to be in Europe and to the east of it to be in Asia (hence, as elsewhere).¹⁶

In the empirics below, the control variables X_i often include the length of reign of sultan i , $REIGNLENGTH_i$; the year of ascension of sultan i , $ASCENDYEAR_i$; estimates of the Ottoman and European population levels during i 's sultanate, $OTTOPOP$

¹⁵See, for example, Findlay and O'Rourke (2007, p. 2).

¹⁶Accordingly, Ottomans' various Crimean, Muscovy and Russian engagements are classified as *OTHEROTTOMAN*, while those with and in Lithuania, Moldavia and Poland are categorized as *OTTOMAN*. I discuss the robustness of my estimates to alternative classification rules at the end of subsection 5.2.

$-AVG_i$ and $EUROPOPAVG_i$; and an indicator variable for each of the three centuries during which sultan i ruled, $CENTURY_i$. Depending on the parsimony of the empirical specification I employ and various alternative estimates, other control variables in X_i are: the age at which the sultans ascended the throne, $ASCENDAGE$; a dummy variable to denote whether i ruled before or after the Lepanto Sea Battle in 1571, $LEPANTO_i$; a dummy for whether or not the sultans' reign overlapped at all with his mother's tenure as Valide Sultan, $MOMOVERLAP_i$ and the number of years during which the sultans' reign overlapped with his mother's tenure as Valide Sultan (i.e., when the queen mother was alive), $OVERLAPYEARS_i$.

I include $ASCENDYEAR$ and $CENTURY$ in my estimates because there has been a secular decline in warfare in Europe since the 15th century.¹⁷ I include $LEPANTO$ to examine if the Ottomans' patterns of military activity were altered following their first decisive defeat against European allied forces in 1571. I control for the age at which the sultan ascended the throne, $ASCENDAGE$, as well as his length of reign, $REIGNLENGTH$, to identify if those had systematic discernible effects on Ottoman military activities. Unlike the time-series regressions, which I shall discuss immediately below, all explanatory variables in the cross-section estimates are sultan specific.

With the two alternative time-series data, I obtained the impact of ethnic identities on Ottoman military conquests by estimating the following equation:

$$OTTOWAR_t = \lambda_0 + \lambda_1 EUROMOM_t + \lambda_2 X_t + \varepsilon_t, \quad (2)$$

where $OTTOWAR_t$ is one of four alternative dependent variables described above (with the exception that it represents the number of conflicts in question at time t during sultan i 's tenure), and $EUROMOM_t$ is a dummy variable for whether the sultan at time t had a European maternal genealogical link. All other control variables in these estimates are the time-series analogs of the cross-section control variables I just referenced. The only exception is that, in all of the time-series estimates, the lagged dependent variable, $OTTOWAR_{t-1}$, is included as a control in X_t as well.¹⁸

¹⁷See, for instance, Woods and Baltzly (1915), Richardsdon (1960), Wilkinson (1980), Brecke (1999) and Lagerlöf (2007).

¹⁸To confirm the validity of this empirical specification using annual conflict data, I employed the Dickey-Fuller test for cointegration. At a significance level of one percent, I rejected the existence of a unit root in all four dependent variables, $OTTOMAN_t$, $OTHEROTTOMAN_t$, $AGOTTO_t$ and

Note that, in the time-series estimates, the dummy *EUROMOM* is sultan specific, but it does not exhibit time variation during the reign of a given sultan. This is the case with *ASCENDAGE* as well. In contrast, both *MOMOVERLAP* and *REIGNLENGTH* are sultan specific and time variant. Other controls, such as the population levels of Europe and Ottoman territories, *EUROPOP* and *OTTOPOP*, in addition to the year- and century-specific time trends, *TIME* and *CENTURY*, are time specific.

In what follows, I shall rely on these three different estimates in turn, each with its own inherent pros and cons. The cross-section estimates rely on limited data, with the number of observations bound by the 31 sultans who ruled the empire between 1400 CE and 1909 CE. But they also represent the most parsimonious cut without compromising much on informational content. The benefit of the shorter time-series data and estimation is that they cover a period when the Ottoman Empire was mostly on the offensive and expansion in territorial sovereignty. Thus, as I shall document later on, these data correspond to a period when the empire was for the most part the aggressor, engaging its eastern and western foes pretty much on its own terms. Since we are primarily interested in the conflicts which the Ottomans initiated or instigated, this period takes on special significance. On the down side, this period also covers the least extent of variation in the sultans' ethnic and religious backgrounds, with 19 sultans taking the helm at various points during the three-century interval. In the alternative, expanded time series, there are nine more sultans. However, the 18th and 19th centuries also span the period when the empire is in unambiguous decline and the extent to which its patterns of conflicts reflect its own design is more in dispute. All the same, those estimates would help to provide an alternative set of results addressing our central questions.

Table 2.a shows the summary statistics for the cross-section data. On average, there were close to four and a half Ottoman versus European wars during the reign of each sultan, whereas there were about 2.5 wars in which Ottomans engaged other rivals. At the same time, Ottomans' European engagements exhibited much higher variance too. On a per year of reign basis, there was roughly a quarter of a European-

AGOTHER_t.

Also, in neither of the main specifications reported below, I could reject the null of no autocorrelation using the Durbin-Watson *d statistic*.

Ottoman war versus about a fifth of Ottomans against others. Three-quarters of the sample of 31 sultans had mothers of European descent, whereas about 19 percent had Muslim mothers and 6 percent (2 sultans) had mothers of Russian descent, with the latter accounting for the complementary category of ‘neither European nor Muslim’. The mothers of the 31 sultans were alive for roughly 70 percent of their sons’ rule. And the average population level of the Ottoman territories was 21 million during the reign of a representative sultan, whereas that of the continental European region was roughly 134 million. As the data for *EUROMOM* and *MUSLIMMOM* suggest, on average, 51 percent of each sultan’s total wars were against European foes when their mothers had European lineage. That percentage is 16 percent higher for sultans whose mothers were of Muslim lineage. Moreover, not only does the ratio of European to total wars exhibit less variance for sultans with Muslim matrilineal heritage, the upper and lower bounds of the support for the 95 percent confidence intervals are higher too for such sultans.¹⁹

Table 2.b presents the summary statistics and the correlation matrices for the baseline time-series data. There are various interesting facts to highlight here too. First, there was roughly one Ottoman military engagement with Europeans every three years, while there was an extra-European one (i.e., *OTHEROTTOMAN*), including domestic uprisings, every five years. The nineteen Ottoman sultans which reigned over the empire between 1400 and 1700 ascended the throne around 22 years of age and remained at the helm for an average of about 14 years. We confirm that Ottoman rulers were predominantly born to concubines who were slaves of mostly east European descent: as indicated by the averages for *EUROMOM* and *MUSLIMMOM*, the empire was under the rule of a sultan with a European matrilineal descent for roughly 127 years in contrast to the 115 years when it was ruled by a sultan with a Turkish maternal genealogical background.

To give us an overall sense of Ottomans’ rivalries in Europe, there were roughly 35 confrontations of Ottomans with the Hapsburgs that took place between 1413 and 1699; 11 in Poland between 1484 and 1699; and 11 others with Venice between 1416 and 1687. Elsewhere, Ottomans’ chief nemesis were the Iranian Safavids, with whom

¹⁹The data I am referring to are as follows: There were 23 sultans with European mothers and six sultans with Muslim mothers. The mean ratio of *OTTOMAN* / (*OTTOMAN* + *OTHEROTTOMAN*) for sultans with European mothers was .503 whereas that for sultans with Muslim moms was .674. The 95 percent confidence intervals for the two groups, respectively, were [.347, .659] and [.385, .963].

there were 11 confrontations over the period between 1463 and 1638. There were also 5 confrontations with the Black Sea Cossacks that took place between 1594 and 1674; four each with Mamluks and Muscovy from 1485 through 1700; and three with the Karamans of Anatolia between 1465 and 1474.

Turning to the correlation matrices, we note that the Ottoman military engagements in Europe were more likely when (a) the mother of the sultan had a Muslim lineage; (b) the sultan ascended the throne at a younger age, and (c) his length of reign was relatively shorter. The empire was more likely to engage in extra-European confrontations when the sultan ascended the throne at an older age and his length of reign was relatively longer. Such conflicts were only weakly linked to the maternal genealogy of the sultan. Note also that the correlations of Ottomans' European confrontations and those elsewhere show clearly opposite trends, with the former declining over time and the three centuries and the latter increasing with time and the passage of each century.

The main difference between the statistics shown in Tables 2.b and 2.c stems from the fact that Ottomans' violent confrontations with Europeans as well as extra-Europeans is lower in 2.c, reflecting the higher propensity of such conflicts occurring in the earlier time intervals. As well, the fraction of the time when the empire was ruled by a sultan with a European (Muslim) matrilineal descent was much higher (lower) in the extended time series.

[Tables 2.a through 2.c about here.]

In Table 3, I report my baseline cross-section results based on equation (1). The dependent variable involves the total number of newly-initiated conflicts between the Ottomans and continental Europeans during the reign of a given sultan, $OTTOMAN_i$. The first regression is the most-parsimonious, univariate estimate. $EUROMOM$ comes in with the predicted negative sign and with a statistical significance at the five percent level. But what is more telling in this limited specification is the fact that $EUROMOM$ alone can explain more than 40 percent of the variation in Ottomans' European engagements. The next two regressions in columns (2) and (3) add three attributes of the reign of each sultan. Specifically, in column (2), I control for the reign of each sultan, $REIGNLENGTH$, on account of the arithmetic that sultans that ruled longer might have engaged the Europeans more often. In column (3), I include the year and century in

which the sultan ascended his throne, *ASCENDYEAR* and *ASCENDECENTURY*, respectively. In both regressions, *EUROMOM* continues to enter with a negative and statistically significant coefficient, although its magnitude is roughly cut in half from the baseline regression in column (1).

Of the other explanatory variables considered, we see—without much surprise—that reign length does raise the likelihood of a European military engagement. But neither *ASCENDYEAR* nor *ASCENDECENTURY* has any bearing on *OTTOMAN*. Column (4) then includes two demographic variables related to the Ottoman and European territories: *OTTOPOPAVG* and *EUROPOPAVG*. The inclusion of these two controls does render the *EUROMOM* coefficient statistically insignificant, although it still comes in with the right sign and registers a p-value of 19 percent. Column (5) incorporates three more variables related to the reign of sultans and their maternal links: the year in which the sultan took the throne, *ASCENDAGE*, an indicator of whether the sultan’s rule overlapped at all with his mother’s life, *MOMOVERLAP*, and the number of years the sultan’s rule and Valide Sultan’s life overlapped, *OVERLAPYEARS*. With this specification, we are back to a statistically significant and negative *EUROMOM* effect, with none of the controls besides *REIGNLENGTH* exerting an influence on Ottomans’ European campaigns. Finally, in column (6), I add *LEPANTO*, which is a dummy variable for whether *i* ruled before or after the Lepanto Sea Battle in 1571. Doing so retains *EUROMOM* as negative and statistically significant at the ten percent level. It also produces two statistically significant variables in *REIGNLENGTH* (positive) and *LEPANTO* (negative).

As well, the impact of a European matrilineal descent on Ottomans’ military activities is very large: taking the lowest statistically significant coefficient shown in column (6) and the average of 4.4 European-Ottoman wars per sultan, for example, we infer that European matrilineal descent lowered Ottomans’ European conflict propensity by about two-thirds.

[Table 3 about here.]

Table 4 reports my alternative estimates produced on the basis of equation (2) and the 288-year time-series data. The dependent variable here is *OTTOMAN_t*, the number of newly-initiated conflicts between the Ottomans and continental Europeans in year *t*.

I report the *OLS estimates* in the first three columns of Table 4 and *Poisson* (negative binomial) *regressions* in columns (4) through (6).²⁰ In all estimates that follow, I also cluster the error terms by the reign of each sultan.

Columns (1) and (4) present results of the most-parsimonious specification, in which only the maternal ethnicity of the sultan, the lagged-dependent variable, the European and Ottoman population levels and time as well as century trends are included. In both columns, the coefficient estimates on the maternal ethnic genealogy of the sultan’s mother, *EUROMOM*, is negative and statistically significant at the five percent level or higher. This is in favor of the view that the sultans’ ethnic backgrounds mattered in Ottoman wars, with a European maternal link offsetting the empire’s underlying western imperial orientation. In fact, the impact of *EUROMOM* on Ottoman conflicts is consistent with the cross-section estimates shown in Table 3 and remarkably large: taking the estimate of $-.21$ in column (1) and the average value of the Ottomans’ European wars over the sample period, which was $.31$, these estimates suggest that a European matrilineal tie reduced the Ottomans’ military ventures in Europe (or against them) by close to 70 percent. The estimate in column (4) generates an even larger decline of about 85 percent.²¹ As for the other control variables in the column (1) and (4) regressions, there was a clear, negative and statistically significant time trend in the Ottomans’ European military engagements, which is picked up by both *TIME* and *CENTURY*. In addition, the European population level shows a positive and significant impact on our dependent variable. Since the population levels were rising fairly steadily over this time frame, this is also indicative of some partial offset in the declining time trend of Ottomans’ European conflicts.²²

²⁰Probit regressions are designed primarily for count data that are discreet and have a preponderance of zeros and small values, such as my dependent variables with the time-series data.

²¹The dependent variable in Poisson regressions is in logs. This implies that the dependent variable, $\log OTTOMAN_t$, drops by $.788$ when the sultan’s mother was of a European ethnic background. Thus, evaluated at the mean of $\log(.31)$, this produces a reduction in the Ottomans’ European conflicts of roughly $.25$ in levels, which corresponds to about an 85 percent drop.

²²In fact, for the relevant timespan, note that the McEvedy and Jones population estimates are available only for the years 1400, 1500, 1600 and 1700 for the Ottoman territories and it includes an additional estimate for 1550 for Europe. Thus, the annual population estimates are extrapolated from those four or five observations for the entire period. This, in essence, embeds piecewise-linear time trends in both *OTTOPOP* and *EUROPOP*.

In subsection 5.2 below, I revisit this issue and discuss the role of these variables in the empirical estimates.

Columns (2) and (5) add the age at which the sultans took charge, the cumulative duration of their reigns as well as the indicator for whether the queen mother is alive in a given period. As can be seen in the two columns, neither of these variables exert a statistically meaningful impact on the propensity of Ottomans to engage in conflicts with Europeans, although *MOMOVERLAP* is always negative. The key observation is that the matrilineal background of the sultan still makes a statistical difference. If anything, the magnitude impact of *EUROMOM* on lowering the empire’s military engagements with Europeans is now somewhat larger.

Finally, columns (3) and (6) add the dummy variable for the Lepanto Sea Battle in 1571. *LEPANTO* does not come in significantly, but it also does not influence the key findings reported in previous columns. In fact, the inclusion of the Lepanto dummy makes the statistically significant and negative impact of *EUROMOM* on Ottoman-European conflicts even larger.

[Table 4 about here.]

5.2. Alternative Specifications & Robustness

The empirical findings above show a pattern of how the ethnic genealogical links of the Ottoman sultans factored in the empire’s patterns of conquest and war. In particular, we have seen some support for the idea that, while the empire might have been built on the foundations of a *Gaza ideology*, targeting Christian Europe in the name of Holy War, either the harem politics or the ethnic identity of the sultan himself were strong enough to negate or propagate the empire’s westward orientation for conflict and imperial conquest. That noted, there are various empirical and conceptual issues that need to be dealt with regarding the results we have reviewed thus far.

In Tables 5 and 6, I return to the cross-sectional data in order to address some issues relevant for the baseline cross-section estimates reported in Table 2. To start with, note that one could control for whether or not sultans had Muslim matrilineal links instead of European ones.²³ And, as a corollary of the paper’s central thesis regarding sultans with European matrilineal descent, one would expect to see a positive coefficient

²³Mehmet IV (r. 1648 - 1687) and Abdülmecit (r. 1839 - 1861) had mothers of Russian descent which, according to our baseline classification rules, is neither European nor Muslim. Thus, *EUROMOM* and *MUSLIMMOM* are collinear but not perfectly so, exhibiting some independent variation.

on *MUSLIMMOM* when the dependent variable involves one of the two variants of Ottomans' European military ventures. To explore this angle, Table 5 reports the analogs of the estimates shown in Table 2, with the sole exception that *MUSLIMMOM* is the key explanatory variable instead of *EUROMOM*. As shown, these estimates yield positive coefficients for *MUSLIMMOM* in all specifications and they attain statistical significance in four of the six regressions. Moreover, the absolute value of the *MUSLIMMOM* coefficients is typically larger than that of *EUROMOM* which, taken together with the statistical significance and overall fit of the regression in Table 5 versus 2, suggest even stronger results with *MUSLIMMOM*.

A second important issue revolves around the time controls and population estimates that, by construction and data limitations, manifest piecewise-linear time trends. In order to explore the extent to which different time controls could be influencing the empirics, Table 6 presents two sets of alternative estimates. In neither of the six regressions shown, do I include the original time controls of *TIME* and *CENTURY*. In columns (1) through (4), those two variables are replaced by two dummies: one for the rise of the Ottoman Empire, *RISE*, which takes on the value of one during the reigns of sultans who ruled before 1571 CE; and another for its era of decline, *DECLINE*, which switches to one for the reign of sultans who ruled after 1828 CE.²⁴ In columns (5) and (6), I remove *TIME* and *CENTURY* and use instead a nonlinear time trend (by including *TIME* and *TIME*²). These results are generally in line with those shown in Table 3, although a bit weaker. All *EUROMOM* coefficients enter negatively and, in three of those specifications, *EUROMOM* attains statistical significance at the 10 percent or higher level.²⁵ In columns (1) and (6), *EUROMOM* is insignificant, but it comes in with p-values of 15 and 11 percent, respectively.

[Tables 5 and 6 about here.]

Next, consider the time-series estimates shown in Table 4. As with the cross-section estimates, it is possible that the maternal ethnic link variables are picking up

²⁴The Ottomans rise and growth more broadly cover the period between 1299 and 1683, although their European dominance ends with the Lepanto Sea Battle in 1571. And according to conventional historiography, the era of Ottoman decline covers 1828 to 1908. For further details, see Shaw (1976).

²⁵In the regressions listed in columns (3) through (5), the statistically significant coefficients on *EUROMOM* attain p-values of 9 percent, 6 percent and 6 percent, respectively.

a time trend, because most sultans had Turkish (hence, Muslim) maternal ties early on and they had non-Turkish and often European genealogical ties later in the sample period. Indeed, as shown in Table 1, five of the seven sultans who were in power during the first half of the sample period were of Turkish maternal descent. But it is important to acknowledge in this context that, in all estimates shown in Table 4, both *TIME* and *CENTURY* yield negative and significant coefficients. Thus, the impact of the maternal histories of the sultans on the patterns of Ottoman war and conflict is their direct effects which are above and beyond those captured by our two time trends.

Still, it is important to check the role of time trends in our key results derived utilizing time-series data. To that end, I have considered two other approaches. First, I ran regression similar to the ones I discussed immediately above where I removed *TIME* and *CENTURY_t* and included indicators for the rise and decline of the empire instead. I have chosen not to report them in detail because the results were very much line with those reported above.

Second, using the time series-data, we can explore the extent to which the timing of the reigns of sultans of European matrilineal descent influences our key findings. To be more precise, I have already made note of the fact that mothers of Turkish matrilineal descent were very much front-loaded in the rise and growth stages of the empire and that this was true—albeit to a weaker extent—regarding the reigns of sultans of Muslim lineage. Hence, if the data are consistent with the underlying hypothesis of the paper, then removing all time controls (as well as the quasi-artificial variables that are piecewise linear functions of time) ought to produce coefficients on *MUSLIMMOM* and *EUROMOM* that are still significant but also altered in magnitude according to the generally negative net effects of our four time dependent controls: *TIME*, *CENTURY_t*, *EUROPOP_t* and *OTTOPOP_t*.

Table 7 reports six specifications which explore this point. In the first three columns, the table reports regressions in which *MUSLIMMOM* is the main explanatory variable and, in the last three, it is *EUROMOM*. All other explanatory variables are the ones shown in Table 4, except that *TIME*, *CENTURY_t*, *EUROPOP_t* and *OTTOPOP_t* are excluded. As shown, the exclusion of the time trends, in general, render neither *MUSLIMMOM* nor *EUROMOM* statistically insignificant. In fact, *MUSLIMMOM* continues to exert a significant and positive impact on Ottoman-

European conflicts in all three specifications. And, as expected the magnitude of its role on propagating such conflicts appears generally larger when all of our time-related controls are excluded.²⁶ The effect of European matrilineal links is also generally robust to the exclusion of our time-related variables, although we do not see coefficients on *EUROMOM* in columns (4) through (6) of Table 7 that are higher in magnitude compared with the regressions listed in the same columns of Table 4. An important reason for this is that the negative correlation of *MUSLIMMOM* with our time trends is significantly larger in magnitude than that of the positive correlation of *EUROMOM* with time.²⁷

[Table 7 about here.]

Recall that we have an alternative variable for Ottomans' European conquests, *AGOTTO_t*, which represents the *aggregate* number of conflicts the Ottomans had with continental Europeans at time *t* (those that were initiated at time *t* and those that were ongoing then, although they had begun earlier). Due to the fact that medieval and pre-Industrial era warfare was highly seasonal, we could examine the extent to which Ottomans' ongoing as well as newly-initiated conflicts at time *t* were affected by *EUROMOM*.

In Table 8, I reestimate the regressions reported in Table 4 this time using *AGOTTO*, the number of *all* longer-running confrontations of Ottomans with the Europeans (those that began at date *t* as well as those which began earlier, but that were continuing at that time). As shown, *EUROMOM* enters negatively in all regressions and it is statistically significant in column (3). Moreover, in four other estimates, the coefficient on *EUROMOM* carries a p-value of 11 percent. Given that the average number of ongoing Ottoman-European conflicts was roughly 1.4, these estimates correspond to a drop of about 30 percent in the number of *all* longer-running confrontations of Ottomans with

²⁶The paper does not include the analog of Table 4 with *MUSLIMMOM* as the key explanatory variable instead of *EUROMOM*, although Table 6 reports similar specifications using the cross-section data. But, for reference, regressions that also include all of our time-related controls, *TIME*, *CENTURY_t*, *EUROPOP_t* and *OTTOPOP_t*, produce coefficients on *MUSLIMMOM* that equal .536, .495 and .500, respectively. Thus, columns (1) and (2) of Table 7 produce coefficients that are larger in magnitude whereas column (3) produces one that is smaller.

²⁷The correlation of *MUSLIMMOM* with *YEAR* is $-.38$ in contrast with the $.24$ correlation of *EUROMOM* with *YEAR*. The correlation of *MUSLIMMOM* with *CENTURY* is $-.40$ as opposed to the $.27$ correlation of *EUROMOM* with *CENTURY*.

the Europeans. With this, we have some weak empirical support for the fact that a European genealogical maternal background of the sultans primarily influenced the *initiation* of wars between the Ottomans and Europeans and not necessarily their *continuation*.

[Table 8 about here.]

Next, we have the issue of reverse causality. Nevertheless, given the discussion in subsection 4.3, this is highly unlikely. As I have already noted in detail, Ottoman throne successions were deliberately non-institutionalized and highly random events. The historiography of Ottoman procreation norms, throne successions and the institutional features of the harem were all designed to ensure competition among all the sultans' brothers and his male offspring for succession. In this, we have a *de jure* basis for why the identity of Valide Sultans' identities was exogenous to Ottomans' European affairs. Of course, this does not rule out the possibility that Valide Sultans' identities were *de facto* endogenous.

From this latter perspective, there are two issues that complicate the empirical analyses: One, due to Ottomans' patterns of conquest, which were frontloaded with eastern European and Balkan territorial gains, it is possible that the Harem composition began to tilt heavily in favor of a European presence because of Ottomans' European conquests. That, in turn, could have made it more likely for Ottoman sultans to have a European matrilineal descent. Note, however, that the basic mechanism I advocated above would remain intact in that case, although the explanatory variables would affect Ottoman conquests with long lags.

Specifically, there is one channel through which Ottomans' external confrontations could have influenced the matrilineal background of the sultans:²⁸ given that each sultan acceded the throne at about 22 years of age, there is a chance that the Ottomans' wars are correlated with their conflicts roughly twenty two years ago. If the Ottoman harem likely consisted of a larger representation of whomever they were defeating in war, then it is more likely that the mother of a sultan who began to rule the empire roughly two decades later had an ethnic tie to those foes. Thus, if whom the Ottomans engaged militarily in a given period had a (negative) correlation with whom they might have confronted two decades prior, the estimates above would be biased. In order to account

²⁸Thanks to Jared Rubin who pointed out this scenario.

for this possibility, I reran the estimates shown in Tables 4 with the 22-year lagged value of the left-hand-side variables as an additional control variable. The negative impact of *EUROMOM* on *OTTOMAN* was retained, so I have chosen not to report these estimates here.

Two, it is also possible that internal or external political developments might have been the channel through which Ottomans' conquests came to bear on the identity of Ottoman sultans. But the history literature on this topic suggests no specific references that this may have been the case.²⁹ The chronology of the matrilineal genealogies of Ottoman sultans reveals very little persistence in ethnic identities. But there is stronger persistence more broadly when one examines religious identity or classifies Valide Sultans according to whether they had Turkish roots. Specifically, of the 31 succession transitions, there are only five instances in which the ethnicity of two successive Valide Sultans coincided and one where three successive mother queens shared the same Turkish background. In contrast, there were 24 transitions where the queen mothers had different ethnic identities. Of course, there is clustering of Muslim queen mothers over the period between 1413 and 1566, with only one of the six queen mothers over that time interval having a European lineage. However, it is difficult to discern whether this persistence in religious identities across the queen mothers were due to internal or external political dynamics.

Another important issue involves the degree of uncertainty in the ethnic lineage of some of the sultans. As I have noted in subsection 4.3, there are alternative hypotheses for the ethnic lineage of at least three Ottoman sultans: Mehmed II, Beyazid II and Suleyman I. In addition, there are some doubts about the lineage of two other rulers, Selim I and Murad III, although no clear alternatives have been established for their backgrounds. To examine the extent to which these classifications might have affected the baseline results, I created some alternative ethnic lineage series in which I use the ethnic background alternatives for Mehmed II, Beyazid II and Suleyman I. Note, however, that these alternative claims make a difference for only Mehmed II (with his Turkish

²⁹Goffman (2002, p. 186) does note that Europeans, in particular, the Italians, had envoys in Constantinople in attempts to "collect information about and predict the actions of a foreign and dangerous nemesis" at a time when the conventional international diplomatic ties did not yet exist. But there is no indication that such foreign interactions had success in penetrating or influencing the politics of the Harem.

ethnic maternal link switching to European) and Suleyman I (with his maternal lineage of Turkish Crimean becoming European, specifically Balkan). Beyazid II, in fact, has two alternatives for his primary maternal background which is Albanian. However, neither of the two alternatives of Serbian and French affect a change in his *EUROMOM* status. Due to these observations, I created six alternative maternal background series for *EUROMOM* and *MUSLIMMOM*: in two of them, I altered Mehmed II's alternative ethnic lineage only; in the next two, I changed Suleyman I's ethnic background only; and in the final two, I switched the maternal ethnic histories of both Mehmed II and Suleyman I. Although I have chosen not to report them here, the change in classification generally made the conflict-augmenting impact of *EUROMOM* weaker when the background of Mehmed II is altered. However, entertaining the alternative lineage for Suleyman I did not influence our central findings.

Then, there is the sensitivity of our key findings with respect to the geographic classification of Ottoman conflicts. Recall that, in all of the preceding empirics, I divided the Eurasian landmass roughly vertically with reference to Istanbul (the Ottoman capital), and considered Ottomans' involvements to the west of that division to be in Europe and to the east of it to be elsewhere. The central justification for this division is purely geographic: the European and Asian continents are divided into two by the Bosphorus and Dardanelles Straits, which leaves the eastern coast of the Bosphorus (which divides Istanbul into two) in Asia and the western part in Europe.

Nevertheless, I reviewed my data and identified the types and number of conflicts that could be affected by this classification choice. There are only a total of 33 observations based on primarily two different (country) locations. Twenty-one of these involve conflicts in Russia (in Crimea or the Black Sea coasts) fought between Russians, Cossacks or Crimeans against the Ottomans. According to my original classification rule, these are all labeled as extra-European conflicts. Another twelve include Ottomans' conflicts in Moldavia or Wallachia, which are two locations that are closest geographically to Istanbul from the West. Originally, I classified all such confrontations as Ottomans' European confrontations.

Given these conflicts and locations, I entertained two alternative robustness checks regarding the division of the Eurasian landmass. First, I lumped all of the twenty-one conflicts in Russia as part of Ottomans' European engagements. To be consistent with

this change, I also reclassified two sultans with Russian matrilineal descents as sultans with *EUROMOM*. Second, I included Ottomans' Moldavian and Wallachian engagements as extra-European. In effect, this meant reclassifying the twelve such conflicts in the dataset as extra-European affairs. This adjustment did not necessitate any modifications in the *EUROMOM* variable because no sultan had Moldavian or Wallachian matrilineal heritage. Doing so revealed that results are sensitive to the lumping of all Russian conflicts as European affairs and the treatment of Russian moms as Europeans. But shifting the Moldavian and Wallachian affairs out of Europe did not have an influence on my central findings.

As an alternative line of inquiry, I removed all of the maternal ethnicity dummies from the time-series estimates and included dummies for the reign of each sultan instead.³⁰ Doing so helps to isolate the fixed effects of each sultan who ruled the Ottoman empire between the 15th and 18th centuries. As right-hand side control variables, all of the estimates included *TIME*, *CENTURY*, *OTTOPOP*, *EUROPOP*, *ASCENDAGE*, and *REIGNLENGTH* in addition to the thirteen dummy variables for sultans. I regressed *OTTOMAN* and *OTHEROTTOMAN* on these explanatory variables. For Ottomans' European conflicts, only Mehmed II, Suleyman I and Mehmed IV entered with statistically significant signs and they were all positive. Of those Ottoman rulers, Mehmed II and Suleyman I had Turkish ethnic lineages and Mehmed IV had a Russian background. For Ottomans' eastern frontier conflicts, only Murad III and Mehmed III yielded statistically significant signs and they were both positive. Murad III and Mehmed III both had Venetian matrilineal descent. And when I reran these regressions with Ottomans' all wars in the west and the east, *AGOTTO* and *AGOTHER*, as the dependent variables, I got similar results. The exceptions were the positive and significant impact of Murad IV on *AGOTTO* and the negative and significant influence of Murad II on *AGOTHER*.

As an additional robustness check and alternative line of inquiry, there are two other variables which would have been useful to control for: the number of brothers each sultan had who competed for the Ottoman throne and the age of the queen mother when

³⁰The only restriction I imposed is that a sultan had to be at the helm for at least five years. On this basis, Mustafa I (r. 1617-18, 1622-23), Osman II (r. 1618-22), Suleyman II (r. 1687-91) and Ahmed II (1691-95) were excluded.

her son acceded the throne. Unfortunately, I was not able to find reliable and complete data on either of those variables.

6. Discussion

I shall conclude this paper by making some further observations that relate to the baseline analyses.

First, the average magnitude of the effects of maternal lineage, say for *EUROMOM*, is quite large. It implies that, while Ottomans engaged its European foes once every three years on average, they did so once every decade when a sultan with a European matrilineal descent was at the helm. To put this in further context, and as I have shown in Iyigun (2008), of the 93 Ottoman-European military conflicts that occurred between 1400 CE and 1700 CE, 63 were historically documented to be initiated by the Ottomans (roughly about 68 percent), but only 17 out of 52 of the Ottomans confrontations with other sovereigns and groups elsewhere (including Anatolia) were instigated by the empire itself (about 33 percent).³¹ Even more remarkable is the fact that most of the Ottomans' European ventures were front-loaded: in the period between 1400 and 1550, Ottomans engaged Europeans in 51 conflicts; of those, 40 were begun with some Ottoman initiative (which is close than 80 percent). Thus, when one factors in the fact that some Ottoman-European wars were initiated by the Europeans too, the impact of having a European matrilineal descent becomes even larger.

In this context, one ought to also bear in mind that economic and financial motives would not have been major factors in Ottomans' tendency to primarily target eastern continental Europe: according to Maddison's (2001) estimates, eastern Europe had per-capita incomes of 400 and 462 in 1990 U. S. dollars around 1000 and 1500 CE respectively, whereas his estimates for the geographic regions what are now modern-day Iran and Egypt for the same periods are 450 and 565, respectively. Hence, the pattern and timing of Ottoman conflicts are consistent with its hypothesized ideology. Nonetheless, when pitted against the influence of 'family culture and ties' on afflicting conflict and war, the empire's institutional objectives and motives—as exemplified by *Gaza*—seem to have been secondary. In particular, the results above show how sultans' own genealogical backgrounds almost entirely offset the Ottomans' imperial orientation and its implicit

³¹There are only a few cases where border skirmishes prior to the conflict itself make it harder to assess how the confrontation began; otherwise this turned out to be a fairly straightforward exercise.

religious motives.

Second, there are at least two possible channels through which maternal genealogy might have mattered for Ottomans' imperial quests. One is that the Ottoman Imperial Harem was an institution that played a typically varying but influential role in determining the empire's political actions and the most powerful member of its hierarchy was the *Valide Sultan*. Alternatively, it is also possible that the harem played no role in influencing the sultan in state matters, but the sultans acted cognizant of their family legacies, presumably and in part because their mothers' cultural heritage was transmitted intergenerationally as part of their upbringing. Obviously, the empirical work above cannot fully distinguish between these two channels. Nonetheless, it does verify that ethnic lineage—and perhaps religious identities too—was a strong enough influence on Ottoman matters so as to almost completely nullify one of the founding motives of an inherently Islamic empire.

All the same, we can try to exploit the fact that the private quarters of the imperial harem were built only in the mid-16th century, around 1566.³² If it was primarily the political influence of the harem that drove Ottoman conquests and not the sultans' ethnic and cultural matrilineal upbringing, then it is plausible that the queen mothers' influence should have risen after the private harem quarters were built. In Table 9, I reproduce specifications shown in Tables 4. The only exception now is that a dummy variable for the construction of the private harem quarters, *HAREM*, as well as its interaction with *EUROMOM* are included as additional explanatory variables. As shown, these new variables neither yield statistically significant effects, nor alter the impact of *EUROMOM* on Ottoman conflicts reported earlier. In fact, all the coefficient estimates for *EUROMOM* are in line with the magnitude of those presented in Table 4. The interaction of *EUROMOM* with *HAREM* does enter negatively in all regressions, although it also exhibits high variance and, therefore, it is never statistically significant. *HAREM* does come in with a significant and positive sign in four of the six regressions. While this is no doubt cursory, it could be suggestive of the fact that the sultans' upbringing mattered more than the queen mothers' political influence.³³

³²Recall that the private quarters of the Ottoman Harem were added later, as a consequence of which the role of the harem in Ottoman politics is believed to have risen. This is why, for example, Peirce (1993, ch. 4) labels the era between 1566 and 1656 as the 'age of the Queen Mother'.

³³There is one other possibility which needs to be entertained: since the Janissary corps as well as the

[Table 9 about here.]

In this vein, we should also be able to detect that the periods when the queen mothers were alive and in charge of the Harem were statistically different. Consider this: if Harem politics were the main culprit of the patterns of Ottoman warfare, but not the intergenerational links of cultural transmission (which presumably were in place even when the sultans were much younger and not in charge), then the impact of the sultans' matrilineal ties should be conditional on the extent to which the mothers were alive and in charge of the royal harems. It is with this idea that I reran the estimates originally reported in Tables 3 and 4 with one modification: I included *MOMOVERLAP* as well as the interaction of *MOMOVERLAP* with either *EUROMOM* or *MUSLIMMOM* as additional explanatory variables. Doing so, I found some additional confirmation in support of the intergenerational transmission channel: neither of the interaction terms came in significantly, although *EURMOM* was still significant and negative in all three estimates and *MUSLIMMOM* was positive and significant in all relevant estimates.

Next, we have the issue of ethnicity versus religion. In particular, is it possible to ascertain whether it was ethnic or religious matrilineal ties that mattered more in the patterns of Ottoman conquest? At some level, this is obviously difficult to discern because most of the sultans' mothers were Turkish and Muslim or they were Christian and non-Turkish (which meant European, with the exception of the Russian Orthodox moms of Mehmed IV and Abdülmecit).³⁴ So it is quite difficult, if not impossible, to dissect whether it was religious or ethnic ties that affected the sultans' conquest motives. However, there is a way by which we can explore if the impact of having moms of Balkan descent depended on whether or not the mother's ethnic region was under Ottoman rule. The idea is that, if it was religion (ethnicity) which mattered more, then the incentive to divert Ottomans away from Europe ought to have still remained high (declined) after

top echelons of the Ottoman military and administration relied on converts to Islam whose origins lay in conquered lands, it is possible that they—not Valide Sultans nor the Sultans' ethnicities themselves—account for the changes in the pattern of Ottoman conquests. There are two issues to bear in mind in this regard. First, we do not have the ethnicity details for the military and palace hierarchies that we do on those of queen mothers. Second, political power was still concentrated but, nonetheless, more diluted among the viziers and the top echelons of the Janissary corps. As such, one would expect less of an impact from the ethnic and religious backgrounds of a member of these institutions.

³⁴There was one additional Muslim mom who wasn't ethnically Turkish—Sultan Abdülhamit II who ruled between 1876 and 1909 had a Circassian mother.

the mothers' home regions fell to the Ottomans.

To test this idea, we can in fact interact each queen mother's ethnicity with dummies for the date at which that ethnic region came under Ottoman control (if it did at all). The downside of this exercise is that, of the maternal ethno-regional backgrounds, only *BALKANMOM* (those of Serbian, Greek, Albanian, Bulgarian and Bosnian descent) came under the control of the Ottomans, typically around the mid- to late-15th century during the reign of Mehmed II (the Conqueror). And only one sultan, Beyazid I, had a mother of Balkan descent prior to the Balkans being transferred to Ottoman control. All the same, I carried out an exercise in which the key explanatory variable included a dummy for the period during which the Balkans were under Ottoman control, *BALKANINDP*, as well as the interaction of this dummy with *BALKANMOM*.³⁵ Although, for the sake of brevity, I do not report the results here, I found that the conflict-suppressing role of *BALKANMOM* in Ottoman-European wars was all the more important *before* the region fell under Ottoman control. Equally interesting is the fact that, for Ottomans' confrontations with extra-Europeans, the conflict-propagating role of *BALKANMOM* was more pronounced *before* the region became an Ottoman territory.³⁶ In general, I take these results to be suggestive of the idea that ethnicity and nationalities, but not so much religion, drove some of these results. Alas, given that these findings hinge on the rule of only one sultan, Beyazid I, they should be interpreted with a great deal of caution.

Finally, recall that membership in the Ottoman harem, bureaucracy or public administration required a Muslim identity. Thus, all wives and queen mothers were either Muslims at birth or converts to Islam of Christian or Jewish backgrounds.³⁷ In this, we have some implication that ethnic and religious identities had some latent persistence.

7. Conclusion

In this paper, I rely on the Ottomans' unique imperial history to examine the influence

³⁵The dummy *BALKANINDP* attains the value of 1 during independence from the Ottomans and 0 after conquest.

³⁶These results are not shown but, as all other empirics discussed and not shown, they are available from the author upon request.

³⁷A possible exception was Orhan's wife, Theodora, who might have retained her religion even after becoming an imperial wife. However, Orhan is the second Ottoman sultan with his reign corresponding to a much earlier period before 1400.

of religion, ethnicity and family ties in perpetuating or diverting conflict and war. The Gaza ideology is generally emphasized as the reason why the Ottomans initiated more conflicts in the West, and why on the eastern fronts, more conflicts were started by its rivals. But according to another not necessarily mutually exclusive theory, the Imperial Harem wielded considerable political power in Ottoman affairs.

Using a comprehensive dataset on conflicts and war in the Middle East, Europe and North Africa for the period between 1400 CE and 1909 CE, I find that Gaza was important but not sufficient for explaining Ottomans' imperial motives. What also mattered almost as much was the sultans' ethno-religious heritage. In particular, while Ottoman conquests were predominantly in the West until the mid-1500s, I show that the ethnic background of Valide Sultan (the queen mother) was an important and independent determinant of whether the empire engaged in military conquests in Europe versus North Africa or the Middle East. Depending on the empirical specification, the reign of a sultan with a European maternal ethnic background was enough to offset more than 70 percent of the empire's western orientation in imperial conquests. As I have also identified, however, the sultan having a European matrilineal descent mostly had no discernible influence on the empire's eastern conflicts.

On this basis, we have found that the religious, ethnic or cultural identities of the Sultans' inner circle played a significant and independent role in subverting the imperial ambitions of the empire toward the Middle East and North Africa. Hence, we have evidence in Ottomans' history that the rulers' *individual* identities as much as those of their societies more broadly were important in the long run for maintaining conflicts, conquests and wars on ethnic or religious grounds.

All in all, these findings relate to a strand within economics which explores the channels through which cultural beliefs, views and traits are intergenerationally transmitted. The evidence we have seen above suggest that the sultans acted cognizant of their family legacies and in line with a channel of cultural transmission between the Valide Sultans and their ruling sons.

8. References

- Abramitzky, R.** (2008). "The Limits of Equality: Insights from the Israeli Kibbutz," *Quarterly Journal of Economics*, 123:3, August, 1111–59.
- Armstrong, K.** (1988). *Holy War: Crusades and their Impact on Today's World*, (New York, NY: Anchor Books).
- Alesina, A. and E. Spolaore.** (2007). "International Conflict, Defense Spending and the Size of Countries," *European Economic Review*.
- Barbieri, K.**(1996). "Economic Interdependence: A Path to Peace or a Source of Interstate Conflict?" *Journal of Peace Research*, 33(1), 29-49.
- Barbieri, K. and G. Schneider.** (1999), "Globalization and Peace: Assessing New Directions in the Study of Trade and Conflict", *Journal of Peace Research*, 36(4), 387-404.
- Barro, R. and R. McCleary.** (2003). "Religion and Economic Growth," *American Sociological Review*, October.
- Barro, R. and R. McCleary.** (2005). "Which Countries Have State Religions?," *Quarterly Journal of Economics*, November.
- Beaman, L., R. Chattopadhyay, E. Duflo, R. Pande, and P. Topalova.** (2009). "Powerful Women: Does Exposure Reduce Bias?," *Quarterly Journal of Economics*, 124:4, November, 1497-1540.
- Becker, O. S. and L. Woessmann.** (2009). "Was Weber Wrong?: A Human Capital Theory of Protestant Economic History," *Quarterly Journal of Economics*, 124:2, May, 531-96.
- Benabou, R. and J. Tirole.** (2006). "Identity, Dignity and Taboos: Beliefs as Assets," Princeton University, unpublished manuscript.
- Berman, E.** (2000). "Sect, Subsidy and Sacrifice: An Economist's View of Orthodox Jews," *Quarterly Journal of Economics*, August.
- Bisin, A. and T. Verdier.** (2001). "The Economics of Cultural Transmission and the Evolution of Preferences," *Journal of Economic Theory*, 97:2, April, 298-319.
- Botticini, M. and Z. Eckstein.** (2005). "Jewish Occupational Selection: Education, Restrictions, or Minorities?," *Journal of Economic History*, 65:4, December.
- Botticini, M. and Z. Eckstein.** (2007). "From Farmers to Merchants, Voluntary Conversions and Diaspora: A Human Capital Interpretation of Jewish History," *Journal of the European Economic Association*, no. 5, September, 885-926.
- Brecke, P.** (1999). "Violent Conflicts 1400 A.D. to the Present in Different Regions of the World," 1999 Meeting of the Peace Science Society, unpublished manuscript.
- Brecke, P.** (in progress). "The Conflict Dataset: 1400 A.D. - Present," Georgia Institute of Technology.

- Cioffi-Revilla, C.** (1996). "Origins and Evolution of War and Politics," *International Studies Quarterly*, 40 (1), March, 1-22.
- Clingingsmith, D., A. I. Khwaja, and M. Kremer.** (2009). Estimating the Impact of the Hajj: Religion and Tolerance in Islam's Global Gathering," *Quarterly Journal of Economics*, 124:3, August, 1133–70.
- Doepke, M. and F. Zilibotti.** (2008). "Occupational Choice and the Spirit of Capitalism," *Quarterly Journal of Economics*, 123:2, May, 747–793.
- Emmanuel, A.** (1972). *Unequal Exchange: A Study of the Imperialism of Trade*, (New York & London: Monthly Review Press).
- The Euro Atlas Shop, The Euro Atlas**, <http://www.euroatlas.com>.
- Fernandez, R., A. Fogli and C. Olivetti.** (2004). "Mothers and Sons: Preference Formation and Female Labor Force Dynamics," *Quarterly Journal of Economics*, 119 (4), 1249-1299, 2004.
- Fernandez, R.** (2007a). "Women, Work, and Culture," *Journal of the European Economic Association*, 5: 2-3, 305-332.
- Fernandez, R.** (2007b). "Culture and Economics," in the *New Palgrave Dictionary of Economics*, 2nd edition, edited by Steven N. Durlauf and Lawrence E. Blume, Palgrave Macmillan (Basingstoke and New York).
- Fernandez, R. and A. Fogli.** (2006). "Fertility: The Role of Culture and Family Experience," *Journal of The European Economic Association*, 4: 2-3.
- Fernandez, R. and A. Fogli.** (2009). "Culture: An Empirical Investigation of Beliefs, Work, and Fertility," *American Economic Journal: Macroeconomics*, 1:1, 146-77.
- Findlay, R. and K. H. O'Rourke.** (2007). *Power and Plenty: Trade, War and the World Economy in the Second Millennium*, (Princeton, NJ: Princeton University Press).
- Glaeser, E. L.** (2005). "The Political Economy of Hatred," *Quarterly Journal of Economics*, 120 (1), 45-86.
- Glaeser, E. L.** (2006). "The Political Economy of Warfare," Harvard Institute of Economic Research, Working Paper No: 2125, December.
- Glaeser, E. L., and B. I. Sacerdote.** (2008). "Education and Religion." *Journal of Human Capital*, 2 (2), 185-215.
- Glaeser, E. L., R. La Porta, F. Lopez-de-Silanes, and A. Shleifer.** (2004). "Do Institutions Cause Growth?" *Journal of Economic Growth* 9 (3): 271-303.
- Goffman, D.** (2002). *The Ottoman Empire and Early Modern Europe*, (Cambridge: Cambridge University Press).
- Greif, A.** (1993). "Contract Enforceability and Economic Institutions in Early Trade: The Maghribi Traders' Coalition," *American Economic Review*, 83 (3), June, pp. 525-48.

- Greif, A.** (1994). “Cultural Beliefs and the Organization of Society: A Historical and Theoretical Reflection on Collectivist and Individualist Societies,” *Journal of Political Economy*, 102 (5), October, pp. 912-50.
- Greif, A.** (2006). *Institutions: Theory and History*, (Cambridge: Cambridge University Press).
- Grossman, H. I.** (1994). “Production, Appropriation, and Land Reform,” *American Economic Review*, 84(3), June, 705-12.
- Grossman, H. I. and M. Kim.** (1995). “Swords or Plowshares? A Theory of the Security of Claims to Property,” *Journal of Political Economy*, 103(6), December, 1275-1288.
- Grossman, H. I. and M. Iyigun.** (1995). “The Profitability of Colonial Investment,” *Economics & Politics*, 7:3, November, 229-24.
- Grossman, H. I. and M. Iyigun.** (1997). “Population Increase and the End of Colonialism,” *Economica*, 64(3), August, 483-493.
- Guiso, L., P. Sapienza, and L. Zingales.** (2003). “People’s Opium? Religion and Economic Attitudes.” *Journal of Monetary Economics*, 50 (1), 225—82.
- Guiso, L., P. Sapienza, and L. Zingales.** (2006). “Does Culture Affect Economic Outcomes?” *Journal of Economic Perspectives*, Spring, 20 (2), 23-48.
- Haavelmo, T.** (1968). *A Study in the Theory of Economic Evolution*, (Amsterdam: North-Holland).
- Hafer, C.** (2006). “On the Origins of Property Rights: Conflict and Production in the State of Nature,” *Review of Economic Studies*, January, 73 (1) 119- 43.
- Hauk, E. and M. Saez-Marti.** (2002). “On the Cultural Transmission of Corruption,” *Journal of Economic Theory*, 107:2, December, 311–335.
- Hess, G. D. and A. Orphanides.** (1995). “War Politics: An Economic, Rational-Voter Framework,” *American Economic Review*, 85 (4), September, 828-846.
- Hess, G. D. and A. Orphanides.** (2001). “War and Democracy,” *Journal of Political Economy*, 109(4), August, 776-810.
- Hirshleifer, J.** (1991). “The Paradox of Power,” *Economics & Politics*, 3:3, November, 177-200.
- Hotelling, H.** (1929). “Stability in Competition,” *Economic Journal*, 39:1, March, 41-57.
- Huntington, S. P.,** (1996). *The Clash of Civilizations and the Remaking of World Order*, (New York, NY: Simon & Schuster).
- Iannaccone, L. R.** (1992). “Sacrifices and Stigma: Reducing the Free-Riding in Cults, Communes and Other Collectives.” *Journal of Political Economy* 100 (2), April, 271—91.

- Imber, C.** (2002). *The Ottoman Empire: 1300-1650*, (New York, NY: Palgrave, MacMillan).
- Inalcik, H.** (1973). *The Ottoman Empire: The Classical Age, 1300-1600*, (London).
- Inglehart, R and W.E. Baker.** (2000). "Modernization, Cultural Change, and the Persistence of Traditional Values," *American Sociological Review*, 65:19- 51.
- Iyigun, M.** (2008). "Luther and Suleyman," *Quarterly Journal of Economics*, 123 (4), November, 1465-94.
- Iyigun, M.** (in progress). *Tales of Faith in Socioeconomic Progress*, (Chicago, IL: The University of Chicago Press), book manuscript in progress.
- Jha, S.** (2008). "Trade, Institutions and Religious Tolerance: Evidence from India," Stanford Business School, unpublished manuscript.
- Jones, B. F. and B. A. Olken.** (2005). "Do Leaders Matter? National Leadership and Growth since World War II" *Quarterly Journal of Economics* 120 (3), pp. 835-864, August 2005.
- Jones, B. F. and B. A. Olken.** (2007). "Hit or Miss? The Effect of Assassinations on Institutions and Growth" NBER Working Paper No: 13102, May.
- Kafadar, C.** (1996). *Between Two Worlds: The Construction of the Ottoman State*, reprinted edition, (Berkeley, CA: University of California Press).
- Karpat, K.** (1974). *The Ottoman State and its Place in World History*, ed., (Leiden).
- Kinross, L.** (1979). *Ottoman Centuries*, (New York, NY: Harper Perennial).
- Kuran, T.** (2004a). "Why the Middle East Is Economically Underdeveloped: Historical Mechanisms of Institutional Stagnation," *Journal of Economic Perspectives*, 18, Summer, 71-90.
- Kuran, T.** (2004b). "The Economic Ascent of the Middle East's Religious Minorities: The Role of Islamic Legal Pluralism," *Journal of Legal Studies*, 33, June, 2003, 475-515.
- Kuran, T.** (2005). "The Logic of Financial Westernization in the Middle East," *Journal of Economic Behavior and Organization*, 56 (April 2005): 593-615.
- Lagerlöf, N.** (2007). "From Malthusian War to Prosperous Peace," University of York, unpublished manuscript.
- Landes, D.** (1998). *The Wealth and Poverty of Nations*, (New York, NY: W. W. Norton & Co.).
- Lee, J. and J. H. Pyun.** (2008). "Does Trade Integration Contribute to Peace?," University of California, Davis, unpublished manuscript.
- Levy, J. S.** (1983). *War in the Modern Great Power System, 1495 - 1975*, (Lexington, KY: The University Press of Kentucky).

- MacMillan, M.** (2001). *Paris 1919: Six Months that Changed the World*, (New York, NY: Random House).
- Maddison, A.** (2001). *The World Economy: A Millennial Perspective*, (Paris: OECD Publications).
- McEvedy C. and R. Jones.** (1978) *Atlas of World Population History*. Facts on File, New York.
- McNeill, W.** (1984). *The Pursuit of Power : Technology, Armed Force, and Society since A.D. 1000*, (Chicago, IL: University of Chicago Press).
- Mokyr, J.** (1990). *The Lever of Riches*, (New York: Oxford University Press).
- Mokyr, J.** (2002a). *The Gifts of Athena: Historical Origins of the Knowledge Economy*, (Princeton: Princeton University Press).
- Mokyr, J.** (2002b). “The Enduring Riddle of the European Miracle: the Enlightenment and the Industrial Revolution,” Northwestern University, unpublished manuscript.
- Mokyr, J.** (2005a). “Mobility, Creativity, and Technological Development: David Hume, Immanuel Kant and the Economic Development of Europe,” Northwestern University, unpublished manuscript.
- Mokyr, J.** (2005b). ““The Great Synergy: the European Enlightenment as a Factor in Modern Economic Growth,” Northwestern University, unpublished manuscript.
- Moore, R. I.** (1994). *The Origins of European Dissent*, originally published by Allen Lane, 1985, (Toronto, ON: University of Toronto Press).
- Peirce, Leslie, P.** (1993). *The Imperial Harem: Women and Sovereignty in the Ottoman Empire*, (Oxford: Oxford University Press).
- Polachek, S.** (1980), “Conflict and Trade”, *Journal of Conflict Resolution*, 24 (1), 57-78.
- Polachek, S., J. Robst and Y-C. Chang.** (1999), “Liberalism and Interdependence: Extending the Trade-Conflict Model”, *Journal of Peace Research*, 36 (4), 405-422.
- Richardson, L. F.** (1960). *Statistics of Deadly Quarrels*, (Pittsburgh, PA: The Boxwood Press).
- Rosenberg, N. and L. E. Birdzell, Jr.** (1986). *How the West Grew Rich: The Economic Transformation of the Industrial World*, (New York, NY: Basic Books).
- Shaw, S.** (1976). *History of the Ottoman Empire and Modern Turkey*, Vol. 1, (Cambridge: Cambridge University Press).
- Skaperdas, S.** (1992). “Cooperation, Conflict, and Power in the Absence of Property Rights,” *American Economic Review*, September, 82, 720-39.
- Skaperdas, S.** (2005). “The Market for Protection and the Origin of the State,” University of California at Irvine, unpublished manuscript, May.

- Spolaore, E. and R. Wacziarg.** (2009). “The Diffusion of Development,” *Quarterly Journal of Economics*, S124:2, May, 469-529.
- Temin, P.** (1997). “Is it Kosher to Talk about Culture?” *Journal of Economic History*, 57 (2), June, 267—87.
- Tilly, C.** (1992). *Coercion, Capital and European States: AD 990 - 1992 (Studies in Social Discontinuity)*, (New York, NY: Blackwell Publishers).
- Wilkinson, D.** (1980). *Deadly Quarrels: Lewis F. Richardson and the Statistical Study of War*, (Berkeley, CA: University of California Press).
- Woods, F. A. and A. Baltzly.** (1915). *Is War Diminishing? A Study of the Prevalence of War in Europe from 1450 to the Present Day*, (Boston, MA: Houghton Mifflin Co.).

Table 1: Ottoman Sultans & their Genealogical Links (1400 CE – 1909 CE)

Ottoman Sultans' Genealogical Chart				
Name	Period of Reign	Mother's Name	Genealogy	Overlap
Beyazid I	1389 – 1401	Gülçiçek Hatun	Greek	–**
Mehmed I	1413 – 1421	Devlet Hatun	Turkish	–
Murad II	1421–1444, 1446–1451	Emine Hatun	Turkish	1421-1449
Mehmed II	1444–1446, 1451–1481	Hüma Hatun	Turkish	–**
Beyazid II	1481 – 1512	I. Gülbahar Hatun	Albanian	–**
Selim I	1512 – 1520	II. Gülbahar Hatun	Turkish	–
Süleyman I	1520 – 1566	Ayşe Hafsa Sultan	Turkish	1520-1534
Selim II	1566 – 1574	Hürrem Sultan	Polish*	–
Murad III	1574 – 1595	Nurbanu Sultan	Venetian*	1574-1583
Mehmed III	1595 – 1603	Safiye Sultan	Venetian	1595-1603
Ahmed I	1603 – 1617	Handan Sultan	Greek	1603-1605
Mustafa I	1617–1618, 1622–1623	?	Albanian	–**
Osman II	1618 – 1622	Mahfiruz H. S.	Serbian	1618-1620
Murad IV	1623 – 1640	Kösem Sultan	Bosnian	1623-1640
İbrahim I	1640 – 1648	”	”	1640-1648
Mehmed IV	1648 – 1687	Turhan Sultan	Russian	1648-1682
Süleyman II	1687 – 1691	Saliha D. Hatun	Serbian	1687-1689
Ahmed II	1691 – 1695	Hatice Muazzez S.	Polish*	–
Mustafa II	1695 – 1703	Emetullah R. G. S.	Venetian	1695-1703
Ahmet III	1703-1730	Emetullah R. G. S.	”	1703-1715
Mahmut I	1730-1754	Saliha Sultan	Greek	1730-1739
Osman III	1754-1757	Şehsuvar Sultan	Serbian	1754-1756
Mustafa III	1757-1774	Mihrişah Sultan	French	–
Abdülhamit I	1774-1789	Rabia Sermi S.	French	–
Selim III	1789-1807	Mihrişah Valide S.	Genoese	1789-1805
Mustafa IV	1807-1808	Ayşe Seniyp. S.	Bulgarian	1807-1808
Mahmut II	1808-1839	Nakşidil Sultan	French	1808-1817
Abdülmecit	1839-1861	Bezmialem Sultan	Russian	1839-1853
Abdülaziz	1861-1876	Pertevniyal Sultan	Romanian	1861-1876
Murat V	1876-1876	Şevkefsa Sultan	French	1876-1876
Abdülhamit II	1876-1909	Tirimüjgan Sultan	Circassian	–

Sources: Shaw (1976), Peirce (1993), <http://turkboard.com> & Turk Wikipeidi. ? denotes some degree of uncertainty about genealogy; – indicates no alternative theories exist and * represents of Jewish decent and ** denotes unknown interval of mother-son overlap in which case no period of overlap is assumed in the empirical estimates. The column ‘Overlap’ lists the period of each sultan’s reign when both the Sultan himself and his mother, the Valide Sultan, were alive.

Table 2.a: Descriptive Statistics and the Correlation Matrix

Cross Section			<i>The Correlation Matrix</i>									
<i>n</i> = 31	<i>Mean</i>	<i>St. Dev.</i>	<i>OTT</i>	<i>OTHR</i>	<i>EUM</i>	<i>MUSM</i>	<i>OLP</i>	<i>ASAGE</i>	<i>RLEN.</i>	<i>ASDYR</i>	<i>CENT</i>	<i>OTP</i>
<i>OTTOMAN</i>	4.39	4.96	1	...	...	...	...	...	...	...	...	...
<i>OTHEROTT.</i>	2.45	2.77	.668	1	...	...	...	...	...	...	...	...
<i>EUROMOM</i>	.742	.445	-.361	-.361	1	...	...	...	...	...	...	...
<i>MUSLMOM</i>	.194	.402	.443	.306	-.812	1	...	...	...	...	...	...
<i>MOMOLAP</i>	.710	.461	.071	.115	.165	-.226	1	...	...	...	...	...
<i>ASCDAGE</i>	29.6	12.0	-.489	-.329	.342	-.109	-.431	1	...	...	...	...
<i>R.LENGTH</i>	16.5	12.1	.779	.739	-.458	.228	.112	-.421	1	...	...	...
<i>ASCENDYR</i>	1655.2	142.3	-.334	-.234	.435	-.599	.241	.195	-.182	1	...	...
<i>CENTURY</i>	3.10	1.35	-.314	-.184	.388	-.589	.261	.105	-.156	.974	1	...
<i>OTTOPOP</i>	20.8	7.93	-.422	-.212	.563	-.641	.419	-.052	-.312	.749	.726	1
<i>EUROPOP</i>	133.5	72.3	-.157	-.188	.238	-.389	.110	.089	-.104	.847	.833	.406

Table 2.b: Descriptive Statistics and the Correlation Matrix

1400 CE – 1700 CE			<i>The Correlation Matrix</i>								
<i>n</i> = 300	<i>Mean</i>	<i>St. Dev.</i>	<i>OTT</i>	<i>OTHR</i>	<i>AGOTTO</i>	<i>AGOTH</i>	<i>MMOM</i>	<i>EMOM</i>	<i>RLEN</i>	<i>AGE</i>	<i>OTP</i>
<i>OTTOMAN</i>	.310	.585	1	...	...	...	...	...	...	...	...
<i>OTHEROTT.</i>	.170	.426	.056	1	...	...	...	...	...	...	...
<i>AGOTTO</i>	1.37	1.10	.529	.043	1	...	...	...	...	...	...
<i>AGOTHER</i>	.507	.641	-.064	.589	-.051	1	...	...	...	...	...
<i>MUSLIMMOM</i>	.383	.487	.169	.072	.239	-.046	1	...	...	...	...
<i>EUROMOM</i>	.423	.495	-.085	.007	-.052	.123	-.676	1	...	...	...
<i>R.LENGTH</i>	14.0	11.2	.067	-.069	.077	-.134	.273	-.272	1	...	...
<i>ASCENDAGE</i>	22.2	11.7	.044	.038	.078	-.067	.160	.306	-.027	1	...
<i>OTTOPOP</i>	16.5	9.00	-.092	.031	-.065	.119	-.573	.459	.017	-.173	1
<i>EUROPOP</i>	89.7	16.8	-.094	.039	-.093	.086	-.519	.403	.078	-.073	.951

1400 CE – 1850 CE			<i>The Correlation Matrix</i>								
<i>n</i> = 450	<i>Mean</i>	<i>St. Dev.</i>	<i>OTT</i>	<i>OTHR</i>	<i>AGOTTO</i>	<i>AGOTH</i>	<i>MMOM</i>	<i>EMOM</i>	<i>RLEN</i>	<i>AGE</i>	<i>OTP</i>
<i>OTTOMAN</i>	.262	.552	1	...	...	...	...	...	...	...	...
<i>OTHEROTT.</i>	.158	.411	.053	1	...	...	...	...	...	...	...
<i>AGOTTO</i>	1.03	1.08	.557	.055	1	...	...	...	...	...	...
<i>AGOTHER</i>	.420	.600	-.044	.607	.041	1	...	...	...	...	...
<i>MUSLIMMOM</i>	.256	.437	.183	.073	.367	.049	1	...	...	...	...
<i>EUROMOM</i>	.591	.492	-.162	-.011	-.268	.002	-.705	1	...	...	...
<i>R.LENGTH</i>	12.8	10.1	.078	-.002	.092	-.072	.295	-.263	1	...	...
<i>ASCENDAGE</i>	25.1	11.8	.071	-.010	-.155	-.103	-.025	.433	-.117	1	...
<i>OTTOPOP</i>	19.0	8.15	-.123	.005	-.245	.004	-.651	.548	-.075	.022	1
<i>EUROPOP</i>	116.6	47.0	-.046	-.019	-.327	-.174	-.474	.397	-.034	.145	.608

Table 3: Cross-Sectional Results, 1400 CE – 1909 CE

Dependent Variable: No. of Ottoman-European Wars during Reign of Sultan

	<i>OLS</i> Regressions					
	(1)	(2)	(3)	(4)	(5)	(6)
<i>EUROMOM_i</i>	-7.06* (2.20)	-3.50* (1.66)	-3.25** (1.73)	-2.67 (2.00)	-2.91** (1.59)	-2.52** (1.35)
<i>REIGNLENGTH_i</i>	...	.257* (.047)	.259* (.050)	.269* (.050)	.239* (.071)	.224* (.066)
<i>ASCENDYEAR_i</i>	...	...	.0039 (.015)	-.0088 (.017)	.025 (.031)	.043 (.031)
<i>ASCENDCENTURY_i</i>	...	...	-.754 (1.57)	-.852 (1.62)	-2.22 (2.06)	-2.70 (2.07)
<i>OTTOPOPAVG_i</i>	...	...	...	.083 (.129)	-.155 (.214)	.040 (.209)
<i>EUROPOPAVG_i</i>	...	...	...	.023 (.013)	.001 (.020)	-.011 (.019)
<i>ASCENDAGE_i</i>	...	...	...	...	-.137 (.111)	-.185 (.112)
<i>MOMOVERLAP_i</i>	...	...	...	...	1.73 (1.72)	2.11 (1.39)
<i>OVERLAPYEARS_i</i>	...	...	...	...	-.150 (.131)	-.172 (.125)
<i>LEPANTO_i</i>	...	...	...	...	...	-7.01* (2.42)
No. of obs.	31	31	31	31	31	31
R^2	.401	.695	.704	.724	.771	.810

Note: * and ** respectively denote significance at the 5 percent and 10 percent levels. Heteroskedasticity-corrected, robust errors reported. Dependent variable: total no. of new Ottoman-European conflicts that were initiated during the sultan's reign. Source for the conflict data: Brecke (1999). Source for population data: McEvedy and Jones (1978).

Table 4: Time-Series Results, 1413 CE – 1700 CE

Dependent Variable: No. Newly Initiated Ottoman-European Wars per Year

	<i>OLS</i> Regressions			Poisson Regressions		
	(1)	(2)	(3)	(4)	(5)	(6)
<i>EUROMOM_t</i>	-.210* (.070)	-.207** (.115)	-.207** (.112)	-.788* (.246)	-.808* (.385)	-.821* (.374)
<i>TIME</i>	-.010* (.004)	-.011* (.005)	-.011* (.005)	-.042* (.016)	-.044* (.017)	-.045* (.018)
<i>CENTURY_t</i>	-.295* (.128)	-.304* (.113)	-.303* (.110)	-1.03* (.419)	-1.12* (.399)	-1.12* (.404)
<i>OTTOPOP_t</i>	.019 (.011)	.017 (.017)	.017 (.020)	.070** (.041)	.063 (.056)	.060 (.069)
<i>EUROPOP_t</i>	.053* (.024)	.057* (.026)	.057* (.027)	.218* (.087)	.238* (.093)	.242* (.101)
<i>OTTOMAN_{t-1}</i>	-.031 (.054)	-.031 (.057)	-.031 (.058)	-.097 (.157)	-.106 (.172)	-.106 (.173)
<i>ASCENDAGE_t</i>	...	-.001 (.006)	-.001 (.006)	...	-.006 (.018)	-.005 (.018)
<i>REIGNLENGTH_t</i>	...	-.0003 (.004)	-.0003 (.004)	...	-.004 (.014)	-.004 (.014)
<i>MOMOVERLAP_t</i>	...	.009 (.120)	.009 (.123)	...	-.033 (.364)	-.036 (.375)
<i>LEPANTO_t</i>	...	...	.001 (.156)	...	...	.062 (.542)
No. of obs.	288	288	288	288	288	288
<i>R</i> ²	.047	.047	.047	...	...	...

Note: * and ** respectively denote significance at the 5 percent and 10 percent levels. Error terms clustered by the reign of each of the 19 sultans. Dependent variable: no. of new Ottoman-European conflicts that began in a given year between 1413 - 1700. Source for the conflict data: Brecke (1999). Source for population data: McEvedy and Jones (1978).

Table 5: Muslim Mothers' & Ottomans' Newly-Initiated European Wars

Dependent Variable: No. of Ottoman-European Wars during Reign of Sultan

	<i>OLS</i> Regressions					
	(1)	(2)	(3)	(4)	(5)	(6)
<i>MUSLIMMOM_i</i>	6.55* (2.88)	3.41** (1.82)	3.13* (1.75)	2.69 (2.29)	2.96 (1.85)	2.67** (1.32)
<i>REIGNLENGTH_i</i>	...	.282* (.039)	.283* (.041)	.291* (.043)	.244* (.068)	.227* (.064)
<i>ASCENDYEAR_i</i>	...	...	.0037 (.015)	-.011 (.017)	.028 (.033)	.047 (.033)
<i>ASCENDCENTURY_i</i>	...	...	-.616 (1.59)	-.761 (1.62)	-2.46 (2.06)	-2.94 (2.08)
<i>OTTOPOPAVG_i</i>	...	...	...	.112 (.119)	-.145 (.212)	.058 (.200)
<i>EUROPOPAVG_i</i>	...	...	...	.024 (.015)	.0003 (.022)	-.011 (.021)
<i>ASCENDAGE_i</i>	...	...	...	...	-.160 (.119)	-.207** (.118)
<i>MOMOVERLAP_i</i>	...	...	...	...	1.23 (1.57)	1.72 (1.26)
<i>OVERLAPYEARS_i</i>	...	...	...	...	-.120 (.109)	-.146 (.107)
<i>LEPANTO_i</i>	...	...	...	...	...	-7.26* (2.41)
No. of obs.	31	31	31	31	31	31
<i>R</i> ²	.281	.687	.692	.716	.767	.807

Note: * and ** respectively denote significance at the 5 percent and 10 percent levels. Error terms clustered by the reign of each of the 19 sultans. Dependent variable: no. of new Ottoman-European conflicts that began in a given year between 1413 - 1700. Source for the conflict data: Brecke (1999). Source for population data: McEvedy and Jones (1978).

Table 6: More Cross-Sectional Results, 1400 CE – 1909 CE

Dependent Variable: No. of Ottoman-European Wars during Reign of Sultan

	<i>OLS</i> Regressions					
	(1)	(2)	(3)	(4)	(5)	(6)
<i>EUROMOM_i</i>	-2.80 (1.87)	-2.65 (1.97)	-3.72** (2.10)	-3.78** (1.85)	-3.39** (1.68)	-2.51 (1.48)
<i>REIGNLENGTH_i</i>	.258* (.048)	.263* (.053)	.249* (.068)	.248* (.063)	.262* (.060)	.232* (.058)
<i>RISE_i</i>	1.07 (1.90)	.099 (4.65)	-3.69 (5.15)	-5.59 (3.54)	...	...
<i>DECLINE_i</i>	.722 (1.25)	2.86 (3.70)	-1.37 (3.93)	-2.80 (3.81)	...	...
<i>OTTOPOPAVG_i</i>	...	-.023 (.243)	-.294 (.278)	-.105 (.272)	...	...
<i>EUROPOPAVG_i</i>	...	-.012 (.019)	.009 (.020)	.019 (.020)	...	...
<i>ASCENDAGE_i</i>	...	...	-.105 (.069)	-.109 (.070)	-.076 (.053)	-.145* (.065)
<i>MOMOVERLAP_i</i>	...	...	2.39 (1.52)	3.04** (1.58)	1.74 (1.64)	1.95 (1.30)
<i>OVERLAPYEARS_i</i>	...	...	-.168 (.107)	-.177 (.109)	-.137 (.116)	-.159 (.092)
<i>LEPANTO_i</i>	...	...	...	-6.32* (1.97)	...	-6.13* (2.32)
<i>ASCENDYEAR_i</i>	...	...	...	...	-.046 (.099)	.102 (.101)
<i>ASCENDYEAR_i²</i>	...	...	...	...	.000013 (.00003)	-.00003 (.00003)
No. of obs.	31	31	31	31	31	31
<i>R</i> ²	.700	.704	.764	.799	.749	.791

Note: * and ** respectively denote significance at the 5 percent and 10 percent levels. Heteroskedasticity-corrected, robust errors reported. Dependent variable: total no. of new Ottoman-European conflicts that were initiated during the sultan's reign. Source for the conflict data: Brecke (1999). Source for population data: McEvedy and Jones (1978).

Table 7: Alternative Time-Series Estimates, 1413 CE – 1700 CE

Effect of Muslim Mothers: Columns (1) - (3);
 Effect of European Mothers: Columns (4) - (6).

	Poisson Regressions					
	(1)	(2)	(3)	(4)	(5)	(6)
$MUSLIMMOM_t$	.564* (.185)	.568* (.176)	.433* (.195)	...	...	...
$EUROMOM_t$	...	...	...	-.379** (.219)	-.398** (.243)	-.109 (.303)
$OTTOMAN_{t-1}$	-.031 (.178)	-.031 (.186)	-.036 (.187)	.010 (.184)	.007 (.188)	-.023 (.194)
$ASCENDAGE_t$	...	-.0025 (.012)	-.005 (.014)	...	.0065 (.014)	-.0065 (.019)
$REIGNLENGTH_t$	...	-.0002 (.011)	-.001 (.011)	...	.0028 (.001)	-.00005 (.010)
$MOMOVERLAP_t$	...	-.044 (.283)	-.068 (.281)	...	.013 (.324)	-.077 (.309)
$LEPANTO_t$	...	...	-.200 (.248)	...	...	-.486* (.283)
No. of obs.	288	288	288	288	288	288

Note: * and ** respectively denote significance at the 5 percent and 10 percent levels. Error terms clustered by the reign of each of the 19 sultans. Dependent variable: no. of all Ottoman-European conflicts that began or continued in a given year between 1413 - 1700. Source for the conflict data: Brecke (1999). Source for population data: McEvedy and Jones (1978).

Table 8: Ethnic Backgrounds & Ottomans' Cumulative European Wars

Dependent Variable: No. of New and Ongoing Ottoman-European Wars

	OLS Regressions			Poisson Regressions		
	(1)	(2)	(3)	(4)	(5)	(6)
$EUROMOM_t$	-.213 (.165)	-.317 (.187)	-.356** (.184)	-.139 (.122)	-.232 (.145)	-.238 (.149)
$TIME$	-.0037 (.0079)	-.0072 (.0086)	-.0092 (.0092)	.0004 (.0058)	-.0017 (.0071)	-.0021 (.0077)
$CENTURY_t$	-.612* (.205)	-.635* (.214)	-.601* (.198)	-.451* (.201)	-.449* (.220)	-.445* (.213)
$OTTOPOP_t$	.046* (.014)	.057* (.017)	.047* (.018)	.049* (.014)	.056* (.014)	.054* (.018)
$EUROPOP_t$	.021 (.047)	.037 (.050)	.045 (.054)	-.007* (.035)	.0018 (.042)	.0032 (.045)
$OTTOMAN_{t-1}$	.625* (.062)	.612* (.066)	.610* (.066)	.370* (.046)	.365* (.054)	.365* (.055)
$ASCENDAGE_t$	...	.0034 (.0055)	.0051 (.0051)	...	.0039 (.0040)	.0041 (.0036)
$REIGNLENGTH_t$	...	-.0006 (.0032)	.0008 (.0039)	...	-.0015 (.0036)	-.0013 (.0041)
$MOMOVERLAP_t$	...	.167 (.118)	-.159 (.122)	...	.095 (.099)	.094 (.101)
$LEPANTO_t$	...	...	.230 (.320)	...	...	.033 (.228)
No. of obs.	288	288	288	288	288	288
R^2	.503	.506	.507	...	...	...

Note: * and ** respectively denote significance at the 5 percent and 10 percent levels. Error terms clustered by the reign of each of the 19 sultans. Dependent variable: no. of all Ottoman-European conflicts that began or continued in a given year between 1413 - 1700. Source for the conflict data: Brecke (1999). Source for population data: McEvedy and Jones (1978).

Table 9: Building the Private Quarter of Harem & Queen Mothers' Role

Dependent Variable: No. of New Ottoman-European Wars per Year

	OLS Regressions			Poisson Regressions		
	(1)	(2)	(3)	(4)	(5)	(6)
$EUROMOM_t$	-.219* (.073)	-.225* (.100)	-.221* (.101)	-.805* (.203)	-.778* (.279)	-.757* (.290)
$HAREM_t$	.258 (.218)	.285 (.234)	.380* (.187)	1.17* (.521)	1.25** (.647)	1.35* (.575)
$HAREM_t * EU.MOM_t$	-.100 (.134)	-.088 (.179)	-.069 (.177)	-.783 (.619)	-.780 (.608)	-.705 (.596)
$TIME$	-.014** (.008)	-.014** (.008)	-.014** (.008)	-.070* (.028)	-.070* (.028)	-.067* (.029)
$CENTURY_t$	-.276* (.130)	-.260* (.124)	-.265* (.122)	-1.04* (.422)	-1.00* (.429)	-.999* (.428)
$OTTOPOP_t$	.0097 (.016)	.009 (.023)	.011 (.024)	.056 (.066)	.051 (.085)	.053 (.086)
$EUROPOP_t$	.074** (.041)	.074** (.041)	.071** (.040)	.352* (.142)	.351* (.146)	.338* (.149)
$DEPVAR_{t-1}$	-.034 (.057)	-.033 (.059)	-.036 (.060)	-.128 (.178)	-.126 (.183)	.131 (.186)
$ASCENDAGE_t$	...	.0006 (.052)	-.0003 (.055)	...	.0001 (.0015)	-.0019 (.016)
$REIGNLENGTH_t$	...	.0012 (.0041)	.011 (.0041)	...	.0023 (.012)	.0022 (.012)
$MOMOVERLAP_t$	...	.011 (.118)	.021 (.119)	...	-.036 (.338)	-.016 (.353)
$LEPANTO_t$	...	...	-.166 (.174)	...	...	-.278 (.483)
No. of obs.	288	288	288	288	288	288
R^2	.050	.051	.052	...	...	...

Note: * and ** respectively denote significance at the 5 percent and 10 percent levels. Error terms clustered by the reign of each of the 19 sultans. Dependent variable: no. of all Ottoman-European conflicts that began or continued in a given year between 1413 - 1700. Source for the conflict data: Brecke (1999). Source for population data: McEvedy and Jones (1978).