A Tale of Two Plateaus: The Consequences of the Sunni-Shia Divide

By

Metin M. Coşgel, University of Connecticut, USA

Sadullah Yıldırım, Ibn Haldun University, Turkey

For presentation at the Economic History Workshop, Yale University

April 1, 2019

(Preliminary and Incomplete—Looking forward to comments and suggestions)

Abstract: Religious events can have fundamental and long-lasting socioeconomic consequences. A crucial turning point in Islamic history was the forced conversion of the populace in the Iranian plateau to Shia branch of Islam in the sixteenth century. For a systematic analysis of the consequences of the Sunni-Shia divide, we use a georeferenced dataset, called "Historical Polities Data," and apply methods of border specification and geographic regression discontinuity design. The results show that the forced conversion of the populace in the Iranian Plateau had adverse consequences for the political stability and population growth of settlements there as compared to those in the Anatolian Plateau.

Department of Economics, University of Connecticut, Storrs, CT 06269; Ph: (860) 486-4662; Fax: (860) 486-4463; E-mail: metin.cosgel@UConn.edu

Department of Economics, Ibn Haldun University, Istanbul, Turkey; E-mail: sadullah.yildirim@ihu.edu.tr

Acknowledgements: We acknowledge the research assistance of Florence Digennaro, Makany Toure, and Weixing Zhang. Gary Cox kindly shared his data on world city populations. We are also grateful for the helpful comments and suggestions of Murat Iyigün, Ulaş Karakoç, Min Seong Kim, Laura Panza, Eik Leong Swee, John Tang, and participants at the 2018 Middle Eastern Economic History Workshop at the Australian National University in Canberra, the 2018 World Economic History Congress in Boston, and the 2019 Meeting of the Association for the Study of Religion, Economics, and Culture in Boston.

A Tale of Two Plateaus:

The Consequences of the Sunni-Shia Divide

Religious events can have fundamental and long-lasting socioeconomic consequences. A crucial turning point in Islamic history was the forced conversion of the populace in the Iranian plateau to Shia branch of Islam in the sixteenth century, approximately the same era as the Protestant Reformation. In 1501, Safavid rulers broke from the mainstream Sunni Muslims by declaring Shia Islam as the official religion of the new state. Since at this time the populace in the Iranian plateau was predominantly Sunni, the Safavids initiated a vigorous campaign of conversion through both persuasion and coercion. The conversion campaign left an enduring legacy in the Iranian plateau, long after the demise of the Safavids, as can be seen in the majority Shia populations currently observed in the lands once ruled by the Safavid Empire.

This paper will examine the consequences of the Sunni-Shia divide in Islamic history. For a systematic analysis, we focus on the divergent paths of development between the plateaus of Iran and Anatolia over time. The Sunni-Shia divide became the focal point of the enduring political conflict with the neighboring Ottomans, the seat of the Sunni caliphate centered in the neighboring Anatolian plateau. Our main objective is to uncover the impact of "Shia conversion treatment" on the political stability and population density of human settlements in a comparative framework. We use a dataset called "Historical Polities Data," which consists of georeferenced records for the political history of settlements throughout history (Coşgel, 2016). For each settlement, we determine the dominating polity in ten-year

increments, and we use this information to calculate the duration of each polity's rule and indices of historical political stability.

For our identification strategy, we use the geographic location of settlements relative to the historical border between the polities centered in the plateaus of Iran and Anatolia. The analyses include several variables that control for the standard geographic characteristics of units, such as climate, soil quality, and terrain ruggedness, and additional variables that consider the special characteristics of the region, such as a settlement's desert status and proximity to the coast and rivers. To identify the effect of the Sunni-Shia divide, we use the methods of border specification and spatial discontinuity analysis.

We first use the data to analyze the impact of Sunni-Shia divide on political stability. For a comprehensive coverage of the settlement units in the plateaus of Iran and Anatolia, the sample includes all Asian territories of the Ottoman and Safavid Empires at their height in the sixteenth century. For each settlement unit, we calculate the turnover rate of polities in its history in ten-year intervals during the period between 1390 and 1900. We run the spatial analyses separately for the period before and after the Shia conversion to determine whether a stability differential preexisted for the settlements located on the Iranian side of the border, all else being the same, or the impact was due to conversion treatment. In addition to running the analyses for all settlements in the region, we restrict the sample gradually to those within 500, 300, 200, and 150 km of the border between the two plateaus that separated the control and treatment areas.

In the next stage of our analysis, we examine the impact of Sunni-Shia divide on population, a standard measure and key outcome of interest in recent analysis of comparative development. We examine population at two temporal frameworks. The first is historical, during the period between the beginning of the sixteenth century and the end of the nineteenth century. Although this analysis has the advantage of being suitable for panel data methods, estimates of historical population are available for a limited

number of settlements. For a broader coverage, we examine the long-term impact of Shia conversion on population in recent years, for which consistent estimates are available for the whole region. We focus on the year 2000, after the Iranian revolution and prior to the effects of death and migration caused by the Gulf War and subsequent events in the Middle East. The historical and current temporal frameworks are obviously complementary in that we would expect the historical analysis to show the process through which current differences in population density have accumulated.

The results of our analyses show that forced conversion had significant adverse impacts on the political stability and population density of settlements in the Iranian plateau. Although there was no significant difference in political stability between the two plateaus before the sixteenth century, settlements in the Iranian plateau suffered from diminished stability afterwards compared to those on the Anatolian side. Moreover, in both border specification and spatial discontinuity analysis, the magnitude of the treatment effect increased as we gradually restricted the sample to regions within closer proximity of the political border between the two plateaus.

In the same vein, the results indicate a significant adverse impact of conversion treatment on population in both historical and current frameworks. Our historical analysis, based on the period between 1500 and 1900, shows that the settlements in the Iranian plateau that received the conversion treatment from the Safavids in the sixteenth century had lower populations than those on the Anatolian side. Our analysis for the year 2000 similarly shows that the population density in recent years was significantly lower in settlements previously ruled by the Safavid Empire. Both the incidence and duration of the Safavid rule had positive effects on the population of a settlement. Consistent with the results for political stability, the magnitude of the treatment effect increased for restricted samples within closer proximity of the political border, in both border specification and spatial discontinuity analysis.

We performed various tests of robustness to see how our results change under alternative specifications of the analysis. The results of our historical analysis of population could simply be an inherited outcome of the settlements in the Iranian plateaus rather than the impact of Sunni-Shia divide, so we estimate the same model with data based on the period before the sixteenth century. Likewise, the results of our analysis for the year 2000 might be sensitive to specifying the treatment effect through the frequency rather than the simple incidence of a settlement's rule by a Shia state. We run the border specification and spatial discontinuity analyses under the alternative definition to test for this possibility. In addition, the results for the year 2000 could simply be an outcome of the Iranian revolution of 1979. We change the dependent variable to population in the year 1970 to consider this possibility. Overall, our results are robust to these alternative specifications.

Our analysis is closely related to the recent literature on the causes and consequences of defining religious events such as the Protestant Reformation. Crucial religious events have recently received increasing attention in social sciences, as scholars have used systematic analysis to examine the long-term impacts of historical "natural experiments" on comparative development. The event that has received the most attention has been the Protestant Reformation (Becker et al, 2016). Researchers have used new sources of data and state of the art econometric techniques to identify the Reformation's effect on economic growth, institutional change, conflict, and various other outcomes. The results generally confirm Max Weber's insight that the Reformation had a significant impact on long-term development in Europe, though largely for different reasons than he hypothesized. Although the renewed interest in the impact of the Protestant Reformation has covered a wide range of topics, progress has been limited in the analysis of other crucial events, particularly those concerning other religions. Social scientists have focused primarily on developments in western Europe, including Catholic-Protestant differences in economic behavior and performance. Crucial events and the causes and consequences of sectarian differences in Islamic history have received scant systematic analysis.

Our systematic analysis of the consequences of the Sunni-Shia divide in the Middle East fills the void in this literature.

Our analysis is also related to the broader economic growth literature on the deep roots of economic outcomes. Economists have recently studied the long-term effects of geographic factors, ancient political borders, and colonization and other important events on today's economic activities.[1] By examining the impacts of factors deeply-rooted in the history of settlements in the plateaus of Anatolia and Iran, we contribute results from the experience of the Middle East and show how proximity to historical borders and differential rule by polities centered in these plateaus caused a divergence between the two regions in political stability and population growth.

Finally, our results are related to the empirical literature on the comparative development of the Middle East. The economic performance of the Middle East relative to the West has long been a major topic of interest. Scholars have recently used estimates of standard measures, such as GDP and population, as broader indicators of economic performance for the Middle East or the Islamic World as a whole.[2] The Middle East, however, is not a monolithic entity that lends itself easily to broad comparisons with other regions. Despite sharing certain commonalities, the countries and territories that comprise the region differ significantly in geography, institutions, and religious traditions (Held and Cummings, 2014). The physical environment varies enormously across the Middle East in terrain, climate, soil quality, oil

[1] See, for example, Becker et al (2016), Dell (2010), Depetris-Chauvin (2016), Henderson et al (2018), and Spolaore and Wacziarg (2005).

[2] See, for example, Pamuk (2006), Blaydes and Chaney (2013) and Bosker, et al, (2013). A closely related literature concerns the urban history of the Middle East. In edited volumes that exemplify the highly developed scholarship in this literature, specialists have recently discussed various aspects of the social, economic, and political history of urban life in the region (Sluglett, 2008; Jayyusi et al 2008). For other examples of different approaches and geographic focus, see Acun (2002) on Ottoman cities, Raymond (1984) on Arab cities, English (1966) and Tavassoli (2016) on city and village in Iran, and Blake and Lawless (1980) for the changing Middle Eastern city. In the broader literature, historians have used various sources, ranging from works of architecture to official tax or court records, to construct the urban history of numerous Middle Eastern cities over time. We contribute to this literature by offering new data, macro perspective, and a novel geographic and quantitative analysis of the deep roots and comparative history of urban development in the Middle East.

reserves, and other geographic features, which greatly complicates generalizations regarding the types of transportation, land use, and economic activities. In addition, as our results show, enormous differences exist between the plateaus of Iran and Anatolia, a divide originating from the forced conversion of the Iranian plateau to Shia Islam a long time ago. Whereas the literature has so far treated the Middle East as a monolithic entity for analysis of comparative development, our investigation encourages scholars to engage in comparisons within the region by identifying other divergent patterns.

THE SHIA CONVERSION IN IRAN

Prior to the sixteenth century, the religious scene in the Iranian plateau was complex, but the population was predominantly Sunni, as elsewhere in the Muslim world (Amoretti, 1986: 617). Shia Muslims were in the minority, as were the Jews, Christians, Zoroastrians, and other small religious communities. Shia conversion began in 1501, when Shah Ismail assumed the tile of Shah and declared Twelver Shiism as the official religion of a new state that came to be known as the Safavid Empire. He was the son of Haydar, a Sufi leader who instructed his soldier-followers to wear the twelve-folded red headgear commemorating the twelve imams, for which they were dubbed the Qizilbash (Turkish for "the red heads"). With the support of the Qizilbash, Ismail defeated the Aqqoyunlu Empire that dominated the Iranian plateau and built the new Shia state. He used various strategies of persuasion and coercion to transform Shiism from a minority community religion to that of the whole state (Abisaab, 2004).

The conversion of the population who lived on the Iranian plateau to Twelver Shiism during the sixteenth century constitutes one of the most important developments in Islamic history. Formally, Ismail sought to establish the new religion through official propaganda and requirements that highlighted fundamental doctrinal tenets of the new religion. As an example of non-coercive persuasive

propaganda, he initiated a campaign to rewrite Iranian history (Ashtiani, 1989: 486) Among coercive measures, he ordered that mosques include the additional phrase "I witness that 'Ali is God's friend" in the call to prayer. He also required all subjects to publicly curse the first three caliphs of the early Islamic era, an anti-Sunni denouncement. To ensure obedience, his royal decree stated: "Whoever disobeys, he is to be beheaded" (Amanat, 2017: 33).

The forced conversion policy was harsh and directed broadly at most of the religious groups in the population. The form of Shiism espoused by the Safavid rulers as the official religion was distinct from not just Sunni Islam but the millenarian movements flourishing in the Iranian plateau at the time and the popular Sufism evident in their own background. As Arjomand (1984: 109) has argued, the conversion process required the Safavid state to adhere persistently to "a ruthless religious policy carried out on four fronts. The policy consisted in the eradication of millenarian extremism, persecution of popular Sufism, suppression of Sunnism, and, finally, the propagation of Twelver Shi'ism."

Resistance was met with severe revenge. For example, thousands of Sunnis were massacred in Tabriz after an initial resistance to conversion, and Sunni elite and scholars were executed in Isfahan, Shiraz, and Baghdad because of their opposition (Amanat, 2017: 47). In the same vein, an officer in Ismail's army ordered the population of Herat to gather in the mosque and curse the enemies of Shiism and the Safavids. He executed anyone who refused, including the chief judge and other elites (Moazzen (2018: 4). Tahmasp, his son and successor, introduced a new group in the military corps that was responsible for ensuring the ritual cursing of the first three caliphs, and he continued the persecution of Sunnis and others, many of whom escaped to Mughal India (Quinn, 2010: 212).

The Safavid rulers relied on religious scholars (*ulamā*) to promote Twelver Shiism and indoctrinate the population. They invited prominent scholars from abroad to reinforce those already in Iran. For example, Ismail and Tahmasp brought in "renowned Twelver Shia scholars from Arabic-speaking

countries – Iraq, Bahrain and Jabal 'Amil in Syria" (Abisaab, 2005: 8). These scholars were given important positions in the government to establish a distinct Safavid Shia identity. They formed close affinity with the rulers and instituted the Friday prayer in the name of the ruler for much needed political legitimacy. They helped the Safavid rulers in advancing the urban elites' knowledge of Shia doctrines and in disseminating religious beliefs and practices among the masses.

The Safavids conversion project had significant direct consequences, owing internally to the rising importance of religious scholars and externally to the rising tension with Sunni neighboring states, especially the Ottomans. While the power that the Safavid rulers gave to religious scholars was necessary for support, it had the adverse effect of creating a near-autonomous hierarchical organization of clerics with enormous influence. Ismail gave a special recognition to the clerical establishment by instituting the office of *sadr*, which had full control over religious affairs of the state. Religious scholars received substantial funding from charitable foundations (*waqf*), religious dues (*qoms*), and property donations. Entry into the organization was restricted because of the advanced educational and linguistic requirements regulated by the hierarchy itself. Certain clerical families held positions for generations, often strengthened through marriage ties and claims of being descendants of Imams.

Externally, the rise of the Safavids resulted in numerous conflicts with their Sunni neighbor Ottomans and the establishment of a border that set the plateaus of Iran and Anatolia on divergent paths of political, religious, and economic development. The religious and political tension between the two powers led to significant territorial conflicts, trade embargoes, and military wars in the first half of the sixteenth century. Although the Ottomans did little to challenge the Safavids in the first decade of their rise, the military conflict started in 1514 and continued until the signing of the Amasya treaty in 1555. The peace was occasionally disturbed by other rulers in ensuing centuries, but the border agreed in this treaty continued as the long-term political boundary between the plateaus under successor regimes, long after the demise of the Safavids.

Figure 1 about here

Figure 1 shows the persistence of the boundary between the polities centered in the plateaus of Iran and Anatolia over time, as set by the Amasya treaty in 1555. For comparison, it also includes the boundaries of today's nations. As seen in the map, the boundary once established between the Ottoman and Safavid Empires stayed in approximately the same location over the centuries to separate the plateaus, despite numerous changes in rulers and other political borders in the Middle East. In the sixteenth century, the region was controlled entirely by the Ottoman and the Safavid dynasties. As Imber (2010: 339) has noted, "the mountains of eastern Anatolia, Azerbaijan and the Caucasus formed a barrier between [the two states]." The Ottomans continued to maintain their control on the western side of the boundary with Iranian states until the beginning of the twentieth century. Although the Safavid power declined after the death of shah Abbas the Great (1587-1629) and the dynasty ended in 1736, the Iranian plateau was controlled by the Afsharid, Zand, and Qajar dynasties until 1925 on the eastern side. Despite numerous military and political changes affecting the polities centered in Anatolia and Iran, the boundary itself remained approximately the same during this period. The boundary nearly approximates the border between modern states centered in the two plateaus even today, as seen in the Figure.

To avoid misunderstanding, we should clarify that we do not believe that the consequences of the Sunni-Shia divide examined in this paper are due to the substantive differences in religious beliefs and practices. Religious differences per se are not sufficiently significant to cause a major divergence in proximate or long-term socio-economic outcomes. It is rather the Safavid government's policy of ruthlessly imposing a new set of religious beliefs and practices onto the whole population that caused the divergence. Any population subjected to such treatment, persistently across generations, would be expected to suffer enormous consequences in terms of lack of trust for political leaders, insecurity of life and property, and overall detriment to the well-being and reproductive abilities of the population. The

question that we examine below is a test of this expectation in the comparative development of the plateaus of Iran and Anatolia.

POLITICAL STABILITY

We now turn attention to the consequences of the Sunni-Shia divide, starting with its impact on political stability. During the period between the disintegration of the Abbasid Caliphate in the tenth century and the establishment of the Safavid Empire, the political history of the plateaus of Iran and Anatolia were highly correlated. The plateaus were either ruled together by a single regime or split into several polities fragmented in the region.[3] After the sixteenth century, however, the stability of the polities centered in the Anatolian and Iranian plateaus experienced major divergence. While the Ottoman Empire ruled Anatolia and neighboring lands continuously during this period, the Iranian plateau lacked the same continuity. The Safavid Empire was the first stable regime in Iran since the Abbasids, but stability did not continue afterwards, as the region experienced the rise and fall of several states and the power struggles between them. Since the founding of the Safavid dynasty, polities established in Iran have had six different capital cities, a remarkable indicator of the lack of political stability in the plateau during this period.

For a systematic analysis of differential political stability, we use information from a dataset called "Historical Polities Data" (Coşgel, 2016). The dataset consists of georeferenced records on the political history of settlements in the region throughout history in 10 year intervals. The geographic units of analysis are the towns and cities that form the basic administrative divisions of today's countries. For

[3] Dale (2010: Chapter 1), Fierro (2010: Parts 2-3), Morgan and Reid (2010: Parts 1-2).

each unit, the dataset includes information regarding the characteristics of political ruler (e.g., state and religion) over time.

We use the database to generate a simple Historical Political Stability Index (HPSI) for each unit. We first define a dummy variable that marks the continuity of unit's ruler for each ten-year interval during the period between 1390 and 1900. It equals one if the unit was controlled by the same ruler ten years earlier, and zero if there was a change. We then aggregate this information over time to calculate the number of years that the unit was stable during this period. We normalize the final index to range between 0 and 1, so that the value of the HPSI would become 0 for a hypothetical town that had a change of rulers every decade, and 1 if the ruler never changed during this period. Appendix 1 includes the descriptive statistics of this variable.

Figure 2 about here

For a visual illustration of the impact of the Sunni-Shia divide on historical political stability, Figure 2 shows the values of HPSI for today's administrative units in the Middle East, separately for the period before and after the 1555 treaty. The figure includes the boundaries of the Ottoman and Safavid Empires established by the treaty. In the period before the establishment of the border, political stability seems to be about the same between the two sides. After 1555, however, political stability is clearly lower on the Iranian side of the border than on the western side.

To identify the impact of the Sunni-Shia divide on political stability, we first use the method of border specification. We estimate the following equation:

$$HPSI_i = \beta_0 + \beta_1 IP_i + \boldsymbol{X}'_i \boldsymbol{\beta}_2 + \varepsilon_i, \quad (1)$$

Where *HPSI* is the index of political stability explained above. IP_i is the key explanatory variable of interest, which is the location of a settlement unit relative to the border that separated the plateaus, a

dummy variable that takes the value of 1 if the unit is located on the Iranian Plateau, 0 otherwise. $\boldsymbol{X'_i}$ is a vector of control variables that includes standard GIS data to consider the effects of size, climate, terrain, irrigation, and soil quality. In addition, it includes variables that consider the special geographic characteristics of the region by controlling for a unit's desert status, petroleum reserves, and proximity to the coast, rivers, trade routes, and major cities. Tables in the Appendix show the descriptive statistics of the control variables included in our analysis.

We run the analysis separately for the periods before and after the year 1555 to see how the impact of being on the Iranian Plateau changed after the Sunni-Shia divide emerged. To identify the border effect, in addition to running the analysis for the full sample, we restrict it gradually to settlements that are within closer proximity of the border. More specifically, we run the analyses separately for those within 500, 300, 200, and 150 km of the border.

Tables 1 and 2 report the results of the border specification analysis. As Table 1 shows, there was no significant difference overall between the settlement on the two sides of the 1555 border in the full sample, all else being the same. In fact, the effect was positive and significant for settlements on the Iranian side that were within 300 km of the border. More specifically, the likelihood of political stability between two consecutive decades was 8 percent higher for those settlements.

When we look at the results reported in Table 2, however, we see a compete reversal after the year 1555. In the period following the establishment of the Sunni-Shia divide, the settlements on the Iranian side became significantly worse off in political stability. The effect was lower for settlements that were increasingly closer to the border, for example an 11 percent reduction in the likelihood of political stability for settlements within 150 km of the border on the Iranian side relative to those on the Anatolian side. The results indicate that forced Shia conversion had an adverse impact on political stability in the plateau of Iran.

To see the consistency of our results under a different method of identification, we run spatial regression discontinuity analysis, which additionally considers the geographic coordinates of a settlement. That is, we estimate the following equation:

$$HPSI_i = \beta_0 + \beta_1 IP_i + f(geographic\ location_i) + \boldsymbol{X'}_i \boldsymbol{\beta}_2 + \varepsilon_i, \quad (2)$$

where f(*geographic location*$_i$) is a linear function of the latitude and longitude of the settlement, and other variables are as specified in (1).

Tables 3 and 4 here

As seen in Tables 3 and 4, the results are consistent. Although being on the Iranian side of the border had either an insignificant or a positive effect on political stability before 1555, the impact was reversed after 1555.

POPULATION IN HISTORY

We now turn to analysis of population in the plateaus of Iran and Anatolia. This analysis consists of two temporal frameworks, historical and current. We start with population in history, possible for only a limited number of major urban areas for which we have estimates. Historical data nevertheless has the advantage of providing contemporaneous snapshots of urban development and political history in a panel framework.

The data for this analysis comes from the "Historical Urban Population, 3700-2000" (HUP) dataset, recently geocoded and developed by Reba et al (2016, 2018). It includes the location and size of urban populations in the World over the last 6,000 years. It is based on data previously published in tabular form by Chandler (1987) and Modelski (2003), and it includes population estimates for a large enough

number of cities in the Middle East for our period to make it possible to analyze urban history systematically.

Although Bosker et al (2013) have also developed a dataset of city populations in the Middle East, we have decided to use the HUP dataset because of its superior temporal and spatial coverage. Whereas the Bosker et al (2013) dataset provides estimates at 100-year intervals, the HUP has more frequent coverage, in some cases every 25-50 years. More important, the former dataset does not include any cities from the Iranian plateau. The HUP dataset, by contrast, includes 17 cities in Iran for a total of 87 cities in the Middle East.

Although the HUP dataset has an unbalanced panel structure, it offers a sufficiently comprehensive geographic and temporal coverage of the Middle East. Despite covering small cities sparsely, it nevertheless includes population estimates of major cities in most years. Overall, it provides 285 data points, which can be used for an adequate comparative analysis of the patterns and determinants of urban development in the region. Figure 3 shows the locations of the cities included in the dataset.

Figure 3 about here

Focusing on the years 1550, 1650, 1750, and 1850, Figure 4 shows the population sizes of major cities in in the Middle East over time.[4] Istanbul was already the largest city in the region by 1550, despite estimated to be about half of Cairo's size (400,000) only 50 years earlier in 1500. Istanbul remained the largest city during this period. Esfahan, Shiraz, and Tabriz were the largest cities in the plateau of Iran. The relative sizes of these cities changed over time as a reflection of their political importance. Although Esfahan was the largest city in the plateau in 1650 as the capital of the Safavid Empire at its height, its size declined after the end of the dynasty in 1736.

[4] When the HUP dataset did not provide an estimate for a city for one of the years included in Figure 4, we used the estimate from the nearest year.

Figure 4 about here

For a simple broad comparison of city growth in the plateaus of Iran and Anatolia over time, we can use the mean population of the cities in the HUP dataset in the two regions. As seen in Figure 5a, the average size of the cities was mostly lower for those in the Iranian plateau during this period. The years of exception to this trend were the height of the Safavid rule. Although the enormous size of Istanbul was a significant factor in driving the difference, the divergence remained for the most part after the end of the Safavid Dynasty, even when we exclude Istanbul from the sample, as seen in Figure 5b. Recall from the earlier discussion that cities in the plateau of Iran entered a long period of significant political turmoil after the Safavids, while the Ottoman cities on the other side of the border experienced relatively greater political stability during the same period.

Figure 5 about here

We now use regression analysis for a systematic comparison of population in the plateaus of Anatolia and Iran during the period between 1500 and 1900. The dependent variable is the log of population, based on the HUP panel dataset. The key explanatory variable is the identity of the political ruler of a city in each time period. We gather this information from the geocoded "Historical Polities Data," and simply code it as a dummy variable (equals 1 if true) based on whether a city was ruled by a Shia polity centered in the plateau of Iran, under the Ottoman control, or ruled by some other polity (e.g., the Mamluks before their fall to the Ottomans in 1517). Given the panel structure of the data, we simply include fixed effects to control for the individual characteristics of each city and time-period.

Table 5 about here

Table 5 shows the results of OLS regression analysis of how political rulers affected population in history. As noted in the Table, Ottoman control of a city is the omitted category so that the coefficients of "City ruled by Iranian Polity" and "City ruled by other polities" show the differential effect relative to being ruled by the Ottomans. The results indicate that being ruled by a polity centered in the plateau of Iran had a negative effect on city population compared to the Ottoman rule.[5] The coefficient of "City ruled by Iranian Polity" is consistently negative across equations. Although the significance of this coefficient falls in equation (3), this is reasonable given the inclusion of only year fixed-effects.

CURRENT POPULATION

We now turn our attention to the impact of historical Sunni-Shia divide on current population. The advantage of current analysis is that we have more reliable and complete data available for geographic units of all sizes in the whole region. We focus on the years 2000, which allows us to avoid distortions caused by the adverse effects of the Gulf War and subsequent events on population. In the next section, we run the same analysis for the year 1979 to see if the results are consistent for the period before the Iranian revolution of 1979.

The population data for the year 2000 come from the Socioeconomic Data and Applications Center (SEDAC) in NASA's Earth Observing System Data and Information System (EOSDIS), hosted by the Center for International Earth Science Information Network at Columbia University. The SEDAC provides estimates of population in various formats. For a high-resolution view of the distribution of population, we use the gridded format, available from the Gridded Population of the World (GPW) collection (version 4) with an output resolution of 30 arc-seconds (approximately 1 km at the equator). These data

[5] For the effect of Ottoman stability on urban development in Arab cities, see Raymond (1979, 1984).

consist of estimates of population density (number of persons per square km) based on counts consistent with national censuses and population registers.

We use SEDAC estimates of population, rather than figures reported by local governments, because the official records are often incomplete or unreliable for some countries in the Middle East (Held and Cummings, Ch. 4) The last official census of Lebanon, for example, was performed in 1932. Most countries contain politically sensitive groups, such as tribes and ethnic or religious minorities, which makes official counts regarding these groups and the general population in these regions questionable. The SEDAC estimates overcome many of these concerns by integrating population data from hundreds of organizations, including national statistics offices, private research organizations, planning agencies, and international organizations.

Figure 6 shows the gridded view of population density in the Middle East based on the GPW data. As seen on the map, Ankara, Cairo, and Tehran, the capital cities of the three most populous nations in the region, are among the most densely populated cities. Other high-density areas include cities of major historical importance, such as Alexandria, Istanbul, and Esfahan, which once served as capitals of great empires that ruled in the region. Population density is also high in the coastal areas of western Mediterranean. Less dense but still highly concentrated are the regions along the coastline of the Black Sea, eastern side of the Aegean, and southern Caspian Sea.

Figure 6 about here

The high density of population in coastal areas clearly demonstrates the importance of the geographical environment, because of easier access to the sea for transportation, resources, and economic activities. Geographic constraints likewise seem important in dictating the inland distribution of population. Whereas the density is relatively even in places with favorable geographic environments, in other regions with harsh climate and poor resources people tend to concentrate heavily in clusters of better

environments. This has historically been the case along the Nile River, where masses of people are engaged in intensive cultivation of fertile soil, surrounded by mostly uninhabited lands. As seen in Figure 1, desert areas typically show no sign of habitation for long stretches of land, especially in the area known as Rub' al Khali, the Empty Quarter, in the southern portion of the Arabian Peninsula. The exception, of course, has been the outcome of the unusual pace of urbanization that has taken place in the city-states of Kuwait, Bahrein, and others, which grew enormously in the twentieth century on the western side of the Peninsula, along the Gulf coast, accompanying petroleum development in that region.

For a quantitative analysis of influences on population in the year 2000, we aggregate the SEDAC estimates of population given in the gridded format to the level of the polygons, since the geographic units of our analysis are the towns and cities that form the basic administrative divisions of today's countries.

To identify the effect of Sunni-Shia divide on current population, we use the methods of border specification and spatial regression discontinuity analysis. The equations that we estimate are the same as those specified in (1) and (2) above, except that the dependent variable is now the natural logarithm of the population. The key explanatory variable, once again, is whether a settlement is on the Iranian side of the border that separated the Safavid and Ottoman Empires in the year 1555. To isolate this effect on current population, the analysis includes various other variables that control for geographic

and locational characteristics of settlements. For example, it includes a settlement's distance to rivers, coastline and major cities, and various standard geographic variables, such as precipitation, temperature, soil quality, and desert status. In addition, we include fixed effects for today's countries to control for cross-country institutional differences.

Tables 6 and 7 about here

Tables 6 and 7 show the results of border specification and spatial regression discontinuity analysis of the Sunni-Shia divide on current population. In both tables, the effect of being ruled by a Shia state in the year 1555 is negative and significant. The results are consistent with the analysis of historical population, as expected.

ROBUSTNESS CHECKS

***In progress **

WORKS CITED

Abisaab, Rula J. 2004. *Converting Persia: Religion and Power in the Safavid Empire*. Vol. 1. London ; New York: I.B. Tauris.

Acun, Fatma. 2002. "A Portrait of the Ottoman Cities" *Muslim World*, 92(3): 255.

Amanat, Abbas. 2017; 2017. *Iran: A Modern History*. New Haven, CT: Yale University Press.

Amoretti, B. S. 1986. "Religion in the Timurid and Safavid Periods." In *The Cambridge History of Iran: The Timurid and Safavid Periods*, ed. Peter Jackson and Lawrence Lockhart, 610-655. Vol. 6. Cambridge: Cambridge University Press.

Arjomand, Said A. 1984. *The Shadow of God and the Hidden Imam: Religion, Political Order, and Societal Change in Shi'Ite Iran from the Beginning to 1890*. Vol. 17. Chicago: University of Chicago Press.

Becker, Sascha O., Katrin Boeckh, Christa Hainz, and Ludger Woessmann. 2016. "The Empire is Dead, Long Live the Empire! Long-Run Persistence of Trust and Corruption in the Bureaucracy" *Economic Journal*, 126(590): 40-74.

Blake, Gerald H. and Richard I. Lawless. 1980. *The Changing Middle Eastern City*. London; New York: Croom Helm; Barnes & Noble Books.

Blaydes, Lisa and Eric Chaney. 2013. "The Feudal Revolution and Europe's Rise: Political Divergence of the Christian West and the Muslim World before 1500 CE" *American Political Science Review*, 107(1): 16-34.

Bosker, Maarten, Eltjo Buringh, and Jan L. van Zanden. 2013. "From Baghdad to London: Unraveling Urban Development in Europe, the Middle East, and North Africa, 800-1800" *Review of Economics and Statistics*, 95(4): 1418-1437.

Chandler, Tertius. 1987. *Four Thousand Years of Urban Growth: An Historical Census*. Lewiston, N.Y., U.S.A.: St. David's University Press.

Cosgel, Metin M. 2016. *Historical Polities Data*: University of Connecticut, Department of Economics, Working papers: 2016-16.

Dale, Stephen F. 2010. *The Muslim Empires of the Ottomans, Safavids, and Mughals*. Cambridge, UK ; New York: Cambridge University Press.

Dell, Melissa. 2010. "The Persistent Effects of Peru's Mining Mita" *Econometrica*, 78(6): 1863-1903.

Depetris-Chauvin, Emilio. 2016. "State History and Contemporary Conflict: Evidence from Sub-Saharan Africa" .

English, Paul W. 1966. *City and Village in Iran: Settlement and Economy in the Kirman Basin*. Madison: University of Wisconsin Press.

Fierro, Maribel, ed. 2010. *The New Cambridge History of Islam: The Western Islamic World, Eleventh to Eighteenth Centuries*. Vol. 2. Cambridge: Cambridge University Press.

Held, Colbert C. and John T. Cummings. 2014. *Middle East Patterns: Places, Peoples, and Politics*, Sixth ed. Boulder, Colorado: Westview Press.

Henderson, J. V., Tim Squires, Adam Storeygard, and David Weil. 2018. "The Global Distribution of Economic Activity: Nature, History, and the Role of Trade" *Quarterly Journal of Economics*, 133(1): 357-406.

Imber, Colin. 2010. "The Ottoman Empire (tenth/sixteenth Century)." In *The New Cambridge History of Islam: The Western Islamic World, Eleventh to Eighteenth Centuries*, ed. Maribel Fierro, 332-365. Vol. 2. Cambridge: Cambridge University Press.

Jayyusi, Salma K., Renata Holod, Attilio Petruccioli, and André Raymond. 2008. *The City in the Islamic World*. Vol. 94. Leiden ; Boston: Brill.

Moazzen, Maryam. 2018. *Formation of a Religious Landscape: Shi'i Higher Learning in Safavid Iran*. Leiden ; Boston: Brill.

Modelski, George. 2003. *World Cities: -3000 to 2000*. Washington, DC: Faros 2000.

Morgan, David O. and Anthony Reid, ed. 2010. *The New Cambridge History of Islam: The Eastern Islamic World, Eleventh to Eighteenth Centuries*. Vol. 3. Cambridge: Cambridge University Press.

Pamuk, Sevket. 2006. "Estimating Economic Growth in the Middle East since 1820" *Journal of Economic History*, 66(3): 809-828.

Quinn, Sholeh. 2010. "Iran Under Safavid Rule." In *The New Cambridge History of Islam: The Eastern Islamic World, Eleventh to Eighteenth Centuries*, ed. David O. Morgan and Anthony Reid, 201-238. Vol. 3. Cambridge: Cambridge University Press.

Raymond, André. 1984. *The Great Arab Cities in the 16th-18th Centuries: An Introduction*. New York: New York University Press.

Raymond, André. 1979. "The Ottoman Conquest and the Development of the Great Arab Towns" *International Journal of Turkish Studies*, 1(1): 84-101.

Reba, M. L., F. Reitsma, and K. C. Seto. 2018. *Historical Urban Population: 3700 BC - AD 2000*. Palisades, NY: NASA Socioeconomic Data and Applications Center (SEDAC).

------. 2016. "Spatializing 6,000 Years of Global Urbanization from 3700 BC to AD 2000" *Scientific Data*, 3: 160034.

Sluglett, Peter. 2008. *The Urban Social History of the Middle East, 1750-1950*. Syracuse, N.Y.: Syracuse University Press.

Spolaore, Enrico and Romain Wacziarg. 2005. "Borders and Growth" *Journal of Economic Growth*, 10(4): 331-386.

Tavassoli, Mahmoud. 2016. *Urban Structure in Hot Arid Environments: Strategies for Sustainable Development*: Springer International Publishing.

Figure 1
The Sunni-Shia Divide in 1555: Ottoman and Safavid Empires

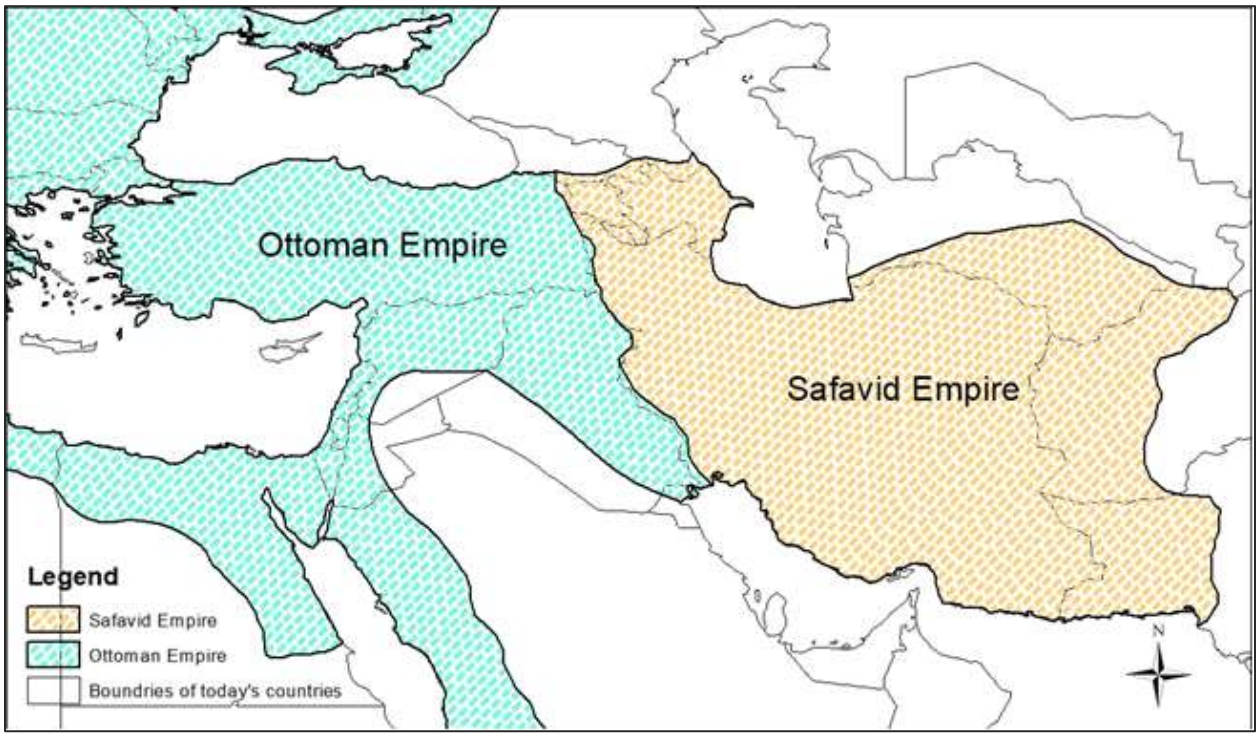
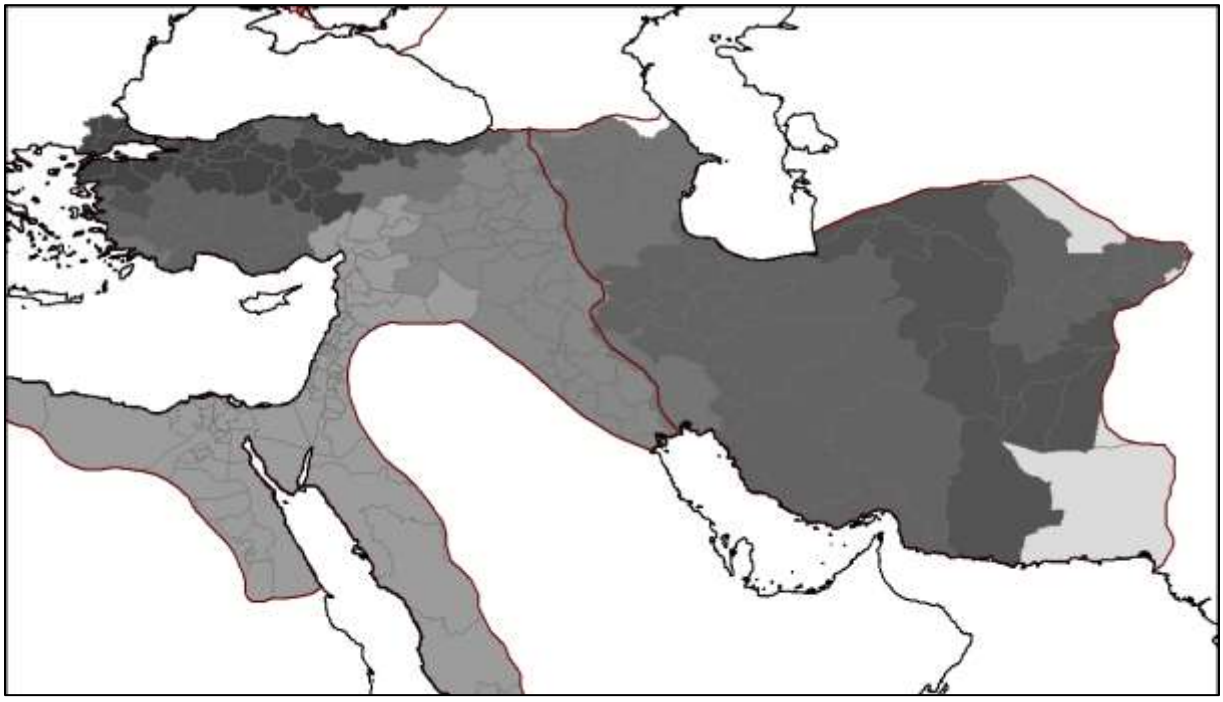
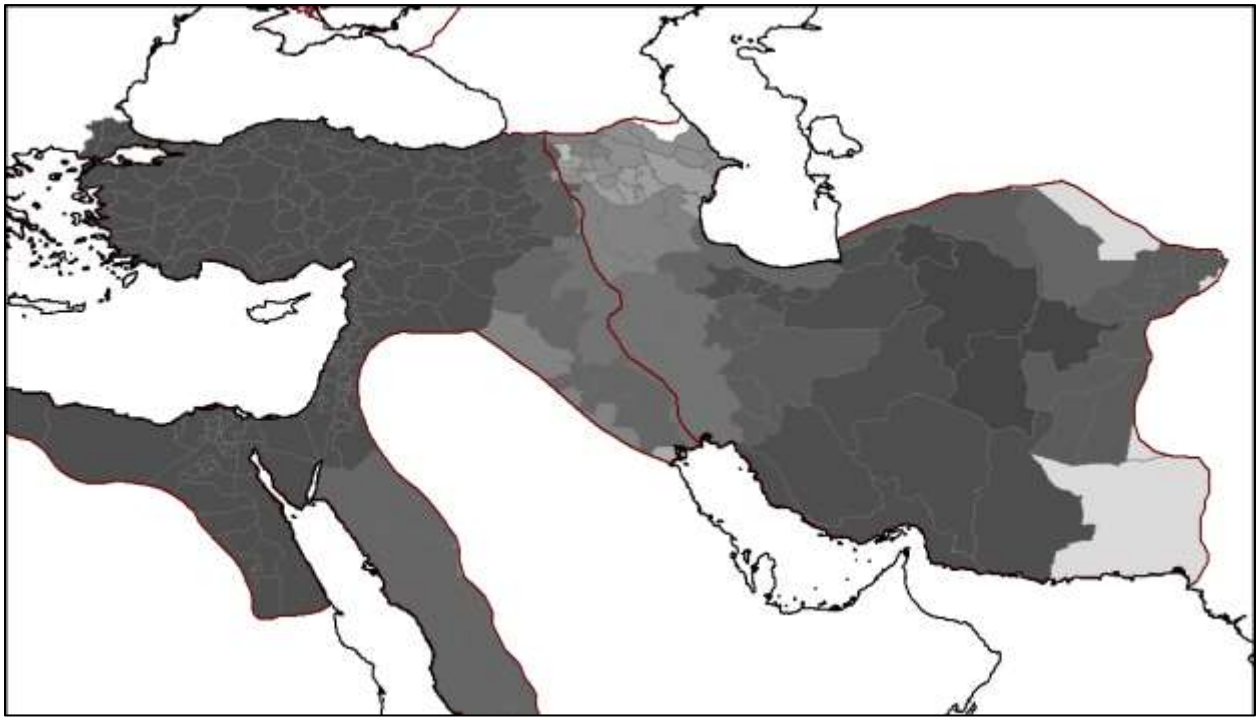


Figure 2A
Political Stability Before the Sunni-Shia Divide



Note: The darker shades correspond to greater degrees of political stability.

Figure 2B
Political Stability After the Sunni-Shia Divide



Note: The darker shades correspond to greater degrees of political stability.

Figure 3
Middle Eastern Cities in the Historical Urban Population Dataset

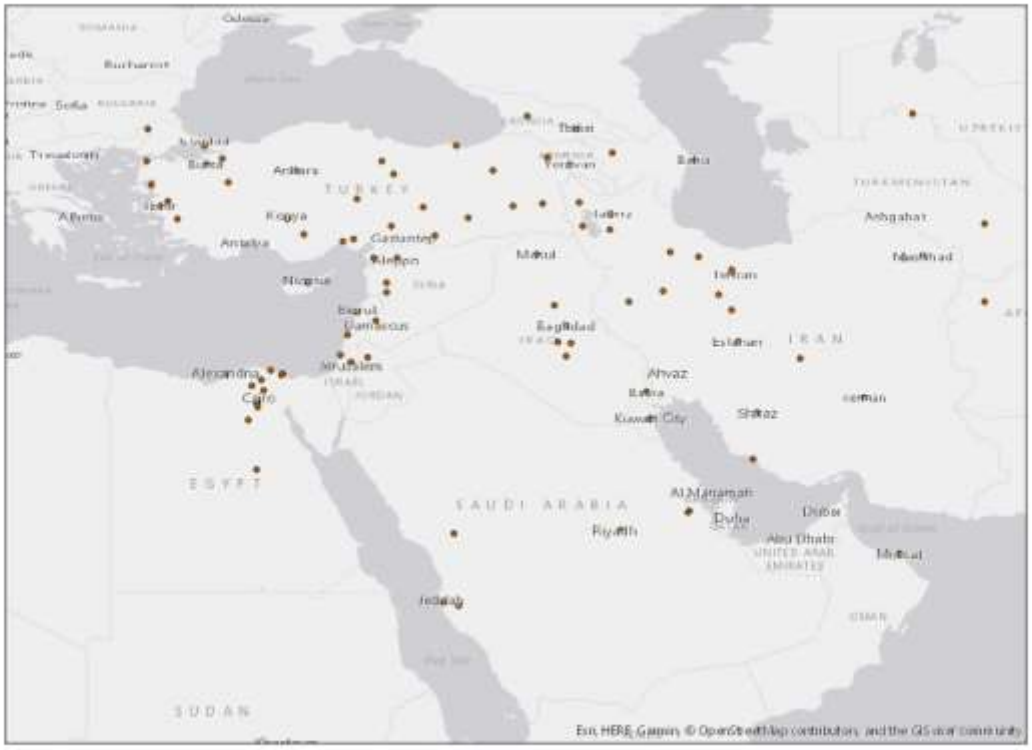


Figure 4
Population of Major Cities over Time

1550

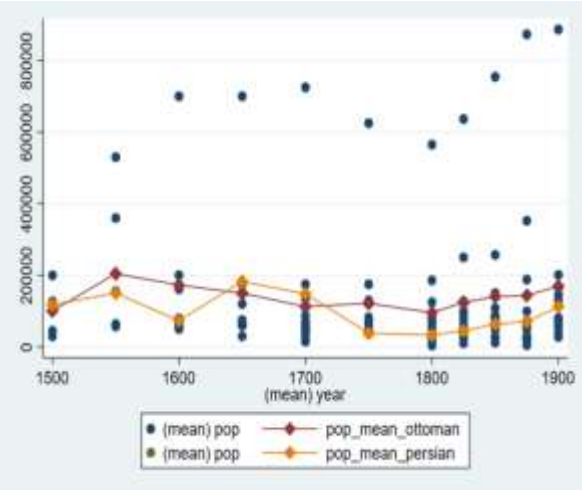
1650

1750

1850

Figure 5
Comparison of Averages over Time

All Cities **(b) Istanbul Excluded**



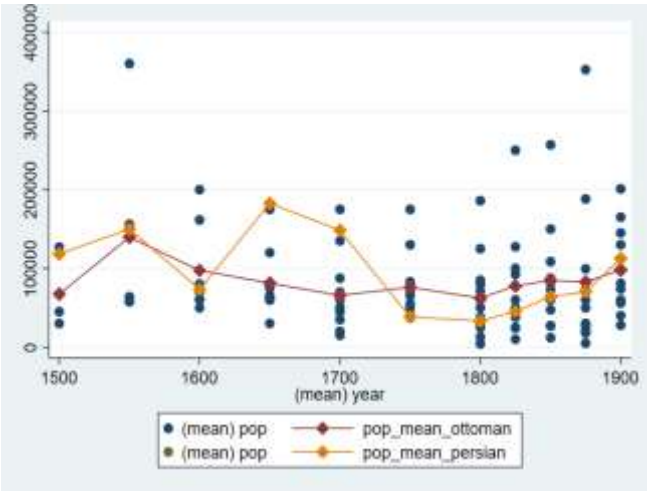
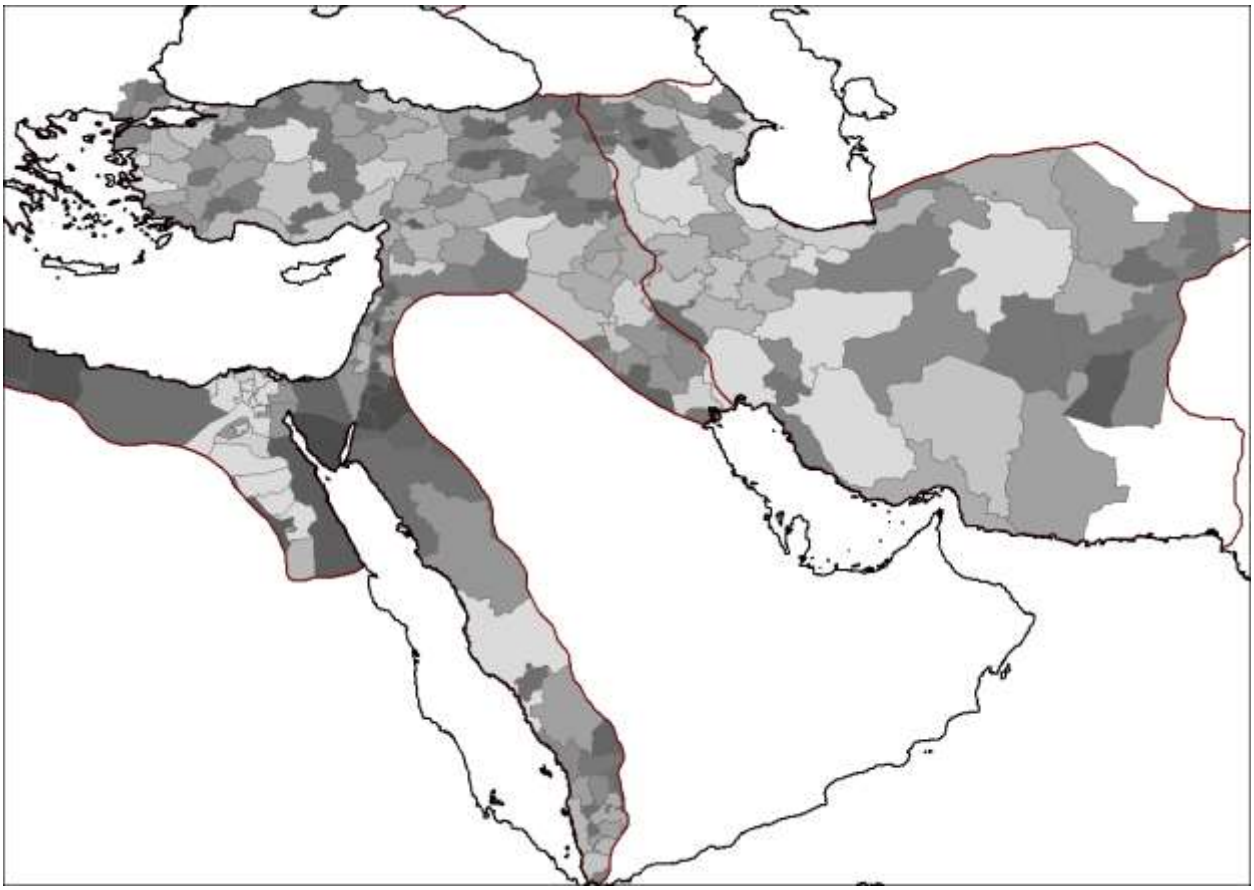


Figure 6
Current Population of Settlements in the Middle East



Note: The darker shades correspond to higher population density.

Table 1
Political Stability in the Iranian vs Anatolian Plateaus before the Year 1555

VARIABLES	(1) All	(2) <500km	(3) <300km	(4) <200km	(5) <150km
Iranian Plateau	-0.035	-0.026	0.081***	0.071***	0.078**
	(0.034)	(0.048)	(0.024)	(0.022)	(0.029)
Distance to Istanbul	-0.000	-0.000	-0.000***	-0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Distance to Tehran	0.000***	0.000	0.000	0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Distance to coast	-0.000	0.000	-0.000***	-0.000**	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Distance to river	0.000***	0.000***	0.000***	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Distance to silk road	-0.000	-0.000	-0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Caloric soil suitability	0.000	0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Min. temperature	0.001	0.003	0.003	0.000	-0.000
	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)
Max. temperature	0.004	0.004	0.005	0.002	0.003
	(0.003)	(0.005)	(0.004)	(0.004)	(0.005)
Precipitation	-0.000***	-0.000**	0.000	0.000	0.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Mean temperature	-0.017***	-0.022***	-0.003	-0.004	-0.005
	(0.004)	(0.008)	(0.005)	(0.007)	(0.008)
Elevation	-0.000***	-0.000***	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Ruggedness	-0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Irrigation	-0.001***	-0.001	-0.000	0.000	0.001
	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)
Percent dessert	-0.000	-0.000	0.000	0.000**	0.001*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Oil resource	-0.035***	-0.033*	-0.024*	-0.028	-0.030
	(0.009)	(0.018)	(0.012)	(0.017)	(0.021)
Observations	236	114	85	60	52
R-squared	0.834	0.646	0.795	0.820	0.823

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 2
Political Stability in the Iranian vs Anatolian Plateaus after the Year 1555

	(1)	(2)	(3)	(4)	(5)
VARIABLES	All	<500km	<300km	<200km	<150km
Iranian Plateau	-0.168***	-0.160***	-0.129***	-0.127***	-0.110***
	(0.017)	(0.024)	(0.026)	(0.024)	(0.025)
Distance to Istanbul	0.000***	0.000*	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Distance to Tehran	0.000***	0.000	0.000	0.000	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Distance to coast	-0.000**	-0.000**	-0.000**	-0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Distance to river	-0.000	0.000	0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Distance to silk road	-0.000***	-0.000	-0.000	-0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Caloric soil suitability	0.000	0.000*	0.000	0.000	0.000*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Min. temperature	-0.001	0.000	0.002	0.003	0.004**
	(0.001)	(0.001)	(0.002)	(0.002)	(0.002)
Max. temperature	0.003*	0.001	0.000	0.000	-0.002
	(0.001)	(0.002)	(0.002)	(0.003)	(0.003)
Precipitation	-0.000	-0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Mean temperature	-0.002	0.001	0.003	0.002	0.004
	(0.002)	(0.003)	(0.004)	(0.005)	(0.006)
Elevation	-0.000	0.000	0.000*	0.000*	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Ruggedness	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Irrigation	0.000	0.000	0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)
Percent dessert	0.000***	0.000***	0.000**	0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Oil resource	0.009***	0.014	0.020*	0.012	0.005
	(0.004)	(0.009)	(0.012)	(0.017)	(0.020)
Observations	236	114	85	60	52
R-squared	0.928	0.927	0.924	0.928	0.944

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 3
Political Stability in the Iranian vs Anatolian Plateaus before the Year 1555
(spatial regression discontinuity design)

VARIABLES	(1) <300km	(2) <200km	(3) <150km
Shia state (1555)	0.086***	0.080***	0.088***
	(0.021)	(0.023)	(0.029)
Distance to Istanbul	0.000	0.000	0.001
	(0.000)	(0.001)	(0.001)
Distance to Tehran	-0.000**	-0.000	-0.000
	(0.000)	(0.000)	(0.000)
Distance to coast	-0.000***	-0.000**	-0.000**
	(0.000)	(0.000)	(0.000)
Distance to river	0.000***	0.000	0.000
	(0.000)	(0.000)	(0.000)
Distance to silk road	-0.000	0.000	-0.000
	(0.000)	(0.000)	(0.000)
Caloric soil suitability	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)
Min. temperature	0.001	-0.002	-0.003
	(0.001)	(0.002)	(0.002)
Max. temperature	-0.001	-0.003	-0.004
	(0.003)	(0.004)	(0.005)
Precipitation	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)
Mean temperature	0.005	0.002	-0.002
	(0.007)	(0.013)	(0.014)
Elevation	0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)
Ruggedness	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)
Irrigation	0.000	0.000	0.000
	(0.000)	(0.000)	(0.001)
Percent dessert	0.000*	0.000	0.001**
	(0.000)	(0.000)	(0.000)
Oil resource	-0.033***	-0.023	-0.017
	(0.011)	(0.016)	(0.021)
Observations	85	60	52
R-squared	0.861	0.862	0.871

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4
Political Stability in the Iranian vs Anatolian Plateaus after the Year 1555
(spatial regression discontinuity design)

VARIABLES	(1) <300km	(2) <200km	(3) <150km
Shia state (1555)	-0.131***	-0.125***	-0.106***
	(0.024)	(0.022)	(0.026)
Distance to Istanbul	-0.001*	-0.001	-0.000
	(0.000)	(0.001)	(0.001)
Distance to Tehran	0.000***	0.000***	0.000*
	(0.000)	(0.000)	(0.000)
Distance to coast	-0.000***	-0.000	-0.000
	(0.000)	(0.000)	(0.000)
Distance to river	-0.000	-0.000**	-0.000
	(0.000)	(0.000)	(0.000)
Distance to silk road	-0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)
Caloric soil suitability	0.000	0.000	0.000*
	(0.000)	(0.000)	(0.000)
Min. temperature	0.002	0.004*	0.003
	(0.002)	(0.002)	(0.002)
Max. temperature	-0.001	0.002	-0.001
	(0.003)	(0.003)	(0.004)
Precipitation	-0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)
Mean temperature	0.006	-0.003	-0.005
	(0.005)	(0.008)	(0.009)
Elevation	0.000*	0.000	0.000
	(0.000)	(0.000)	(0.000)
Ruggedness	0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)
Irrigation	-0.000	-0.000	-0.001
	(0.000)	(0.000)	(0.000)
Percent dessert	0.000	-0.000	0.000
	(0.000)	(0.000)	(0.000)
Oil resource	0.024**	0.002	0.006
	(0.012)	(0.019)	(0.026)
Observations	85	60	52
R-squared	0.935	0.943	0.951

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 5

Population in History, Settlements 1500-1900

	(1)	(2)	(3)	(4)
Shia State	-0.297**	-0.400**	-0.239	-0.353**
	(0.135)	(0.188)	(0.150)	(0.178)
Other Polity	-0.0847	-0.123	0.1000	0.124
	(0.0942)	(0.113)	(0.205)	(0.284)
(Omitted category: Ottoman Settlement)				
Settlement Fixed Effects		YES		YES
Year Fixed Effects			YES	YES
Constant	10.48***	10.31***	10.53***	10.34***
	(0.122)	(1.01e-13)	(0.240)	(0.308)
Observations	285	285	285	285
R2(overall)	0.0102	0.786	0.109	0.807

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 6
The Impact of Shia-Sunni Divide on population (log) in the year 2000
(border specification analysis)

VARIABLES	(1) All	(2) <500km	(3) <300km	(4) <200km	(5) <150km
Shia state (1555)	-1.511***	-1.433***	-1.426***	-1.630***	-1.704***
	(0.404)	(0.439)	(0.434)	(0.453)	(0.472)
Distance to Istanbul	0.000	-0.001	0.001	0.002	0.000
	(0.000)	(0.001)	(0.001)	(0.001)	(0.002)
Distance to Tehran	-0.000	-0.001	-0.000	0.001	0.000
	(0.000)	(0.001)	(0.001)	(0.001)	(0.002)
Distance to coast	-0.000	0.000	0.000**	0.000***	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Distance to river	-0.000	0.000	0.000*	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Distance to silk road	-0.000	-0.000	-0.000**	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Caloric soil suitability	0.000*	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Min. temperature	-0.046**	-0.053*	-0.026	-0.049	-0.028
	(0.023)	(0.030)	(0.030)	(0.035)	(0.041)
Max. temperature	-0.002	0.027	-0.018	0.022	0.005
	(0.044)	(0.061)	(0.062)	(0.067)	(0.074)
Precipitation	-0.000	-0.001*	-0.000	0.001	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Mean temperature	0.086	-0.064	-0.171	-0.144	-0.130
	(0.079)	(0.095)	(0.104)	(0.114)	(0.138)
Elevation	0.000	-0.001*	-0.002***	-0.001	-0.001
	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)
Ruggedness	-0.000	0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Irrigation	0.030*	0.018*	0.016*	0.017	0.006
	(0.017)	(0.010)	(0.009)	(0.010)	(0.015)
Percent dessert	-0.004	-0.001	-0.001	0.001	-0.001
	(0.007)	(0.004)	(0.004)	(0.005)	(0.008)
Oil resource	-0.207	0.264	0.210	-0.389	-0.192
	(0.439)	(0.219)	(0.331)	(0.353)	(0.375)
Observations	236	114	85	60	52
R-squared	0.293	0.642	0.756	0.782	0.793

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 7
The impact of Shia-Sunni Divide on population (log) in the year 2000
(Spatial regression discontinuity analysis, location as forcing variable)

	(1)	(2)	(3)
VARIABLES	<300km	<200km	<150km
Shia state (1555)	-1.449***	-1.568***	-1.561***
	(0.433)	(0.566)	(0.510)
Distance to Istanbul	-0.010	-0.028**	-0.018
	(0.006)	(0.011)	(0.015)
Distance to Tehran	0.000	0.003	-0.002
	(0.002)	(0.003)	(0.004)
Distance to coast	0.000**	0.000**	0.000
	(0.000)	(0.000)	(0.000)
Distance to river	0.000	0.000	0.000*
	(0.000)	(0.000)	(0.000)
Distance to silk road	-0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)
Caloric soil suitability	-0.000	-0.000	0.000
	(0.000)	(0.000)	(0.000)
Min. temperature	-0.041	-0.047	-0.078
	(0.033)	(0.044)	(0.058)
Max. temperature	-0.025	0.046	-0.051
	(0.072)	(0.082)	(0.099)
Precipitation	-0.001	0.000	-0.003*
	(0.001)	(0.001)	(0.002)
Mean temperature	-0.270**	-0.348*	-0.414*
	(0.112)	(0.197)	(0.235)
Elevation	-0.002***	-0.003**	-0.003**
	(0.001)	(0.001)	(0.001)
Ruggedness	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)
Irrigation	0.014	0.010	-0.011
	(0.010)	(0.011)	(0.016)
Percent dessert	-0.000	-0.003	0.001
	(0.004)	(0.007)	(0.007)
Oil resource	0.242	-0.439	-0.110
	(0.359)	(0.334)	(0.458)
Observations	85	60	52
R-squared	0.770	0.828	0.852

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1