

Islam and Economic Development: The Case of Non-Muslim Minorities in the Middle East and North Africa

Mohamed Saleh¹

August 20, 2020

Abstract

This chapter investigates a long-standing puzzle in the economic history of the Middle East and North Africa (MENA) region: why do MENA's native non-Muslim minorities have better socioeconomic (SES) outcomes than the Muslim majority, both historically and today? Focusing on the case of Coptic Christians in Egypt, the largest non-Muslim minority in absolute number in the region, and employing a wide range of novel archival data sources, the chapter argues that Copts' superior SES can be explained by neither Islam's negative impact on Muslims' SES (where Islam is defined as a set of beliefs or institutions) nor by colonization's preferential treatment of Copts. Instead, the chapter traces the phenomenon to self-selection on SES during Egypt's historical conversion from Coptic Christianity to Islam in the aftermath of the Arab Conquest of the then-Coptic Egypt in 641 CE. The argument is that the regressivity-in-income of the poll tax on non-Muslims (initially all Egyptians) that was imposed continuously from 641 to 1856 led to the shrinkage of (non-convert) Copts into a better-off minority. The Coptic-Muslim SES gap then persisted due to group restrictions on access to white-collar and artisanal skills. The chapter opens new areas of research on non-Muslim minorities in the MENA region and beyond.

Keywords: poll tax, conversion, inequality, non-Muslim minorities, Copts, religion, human capital, Islam, Middle East, Egypt

¹ Toulouse School of Economics and Institute for Advanced Study in Toulouse: 1, Esplanade de l'Université, 31080 Toulouse Cedex 06, France. E-mail: mohamed.saleh@tse-fr.eu.

The conjecture that Islam has a detrimental impact on economic development in the Middle East and North Africa (henceforth, MENA) is an old one, dating back to the pioneering European scholarship on the region in the nineteenth century. During the twentieth century, Bernard Lewis put this conjecture in a more concrete form in his influential study of the region (Lewis 2002). There are typically two main historical puzzles to which this conjecture offers an answer. First, MENA is much poorer than Europe, which is known as the “Divergence Puzzle”: After the so-called “Golden Age of Islam” that lasted roughly from the seventh to the eleventh century, why did MENA lag behind Europe at some point in the early modern period, or during the late middle ages? Second, within MENA, Muslims tend to be poorer, more rural, and less educated, on average, than the native (non-European) non-Muslim minorities, such as Coptic Christians, Armenians, Greek Orthodox, Levantines, Rabbinic Jews, and Karaite Jews. The “Islam-based” set of explanations argues that there is something about Islam, either as a set of beliefs or as a set of institutions, that hindered the development of the MENA region as a whole or, at least, of its Muslim population, vis-à-vis Europe or non-Muslim minorities in MENA.

An alternative conjecture traces the two phenomena to European colonialism. Instead of tracing the cause of MENA’s or Muslims’ under-development to Islam, broadly defined, this conjecture seeks the cause in colonialization. Due to Europe’s increased influence in the Ottoman Empire starting from the eighteenth century, and the subsequent direct colonization of the region in the nineteenth and twentieth centuries, the region was kept behind Europe. European powers also favored the region’s non-Muslim minorities in various domains including the capitulations and access to European legal structures (Issawi 1981, Kuran 2004), as well as access to European missionary or secular schooling. The colonialism explanation tends to be the preferred explanation by the nationalist post-colonial historiography in the MENA region.

While both conjectures have their own merits and are consistent with some of the empirical facts, there is a surmounting need for empirical evidence that puts these theories under close scrutiny. This chapter thus has three objectives. First, it attempts to provide the reader with a critical evaluation of these two theories by focusing on evidence on the second puzzle: the socioeconomic (henceforth, SES) inequality between non-Muslim minorities and the Muslim majority in the MENA region. The chapter’s argument is based on the author’s published research on SES inequality between Copts and Muslims in Egypt, the most populous MENA country with its Coptic Christian population being the largest non-Muslim population (in absolute number) in the region. Using a wide range of novel primary data sources (see below), I argue that the Coptic-Muslim SES gap cannot be explained by a causal negative impact on Muslims’ economic development of “Islam,” defined as a set of beliefs (cultural explanation) or a set of institutions (institutional explanation). It is not explained either by the negative impact of colonization on Muslims. Instead, I trace the phenomenon to selection on SES during Egypt’s conversion from Coptic Christianity to Islam following the Arab Conquest of the then-Coptic Egypt in 641 CE. Specifically, Arabs introduced a tax system that imposed a poll tax on every adult male Copt (initially, all Egyptians) that was removed only if he converted to Islam, and this poll tax remained until 1856. Because of the

(quasi) lump-sum nature of the poll tax, it arguably led to the shrinkage of non-convert Copts into a better-off minority. I trace the subsequent persistence of the Coptic-Muslim SES gap to group restrictions on access to artisanal and white-collar occupations that led the initial positive selection of non-converts to perpetuate.

Two remarks are in order. First, while Islamic taxation is an Islamic institution, the tax-induced conversion explanation of the Coptic-Muslim SES gap differs from the institutional explanation that traces Muslims' under-development to "Islamic institutions" in an important way. Specifically, the impact of taxation on the Coptic-Muslim SES gap operates only via screening/sorting of converts on SES during the historical formation phase of religious groups (Muslims and Copts). However, Islamic taxation does not impact converts' SES, once they become Muslims. This is in contrast to the institutional hypothesis that we find in the previous literature (e.g., Kuran 2004), where Islamic institutions affect Muslims' SES, taking their religious affiliation itself as exogenous. Second, taxation is not the sole cause of conversions or of the Coptic-Muslim SES gap. There are many other processes that impacted the conversion process, and that altered the Coptic-Muslim SES gap, such as modern schooling and state industrialization. However, unlike the other explanations, the tax-induced conversion explanation offers a coherent explanation to both conversions and the Coptic-Muslim SES inequality. More importantly, it emphasizes the endogeneity of the formation of religious groups, and the ever-changing membership in these groups via conversions. This is often an over-looked fact in the recent literature on the economics of religion, which in its attempt to identify the causal impact of religion on economic outcomes, tends to understudy the (self-)selection of individuals into religions.

The second objective of the chapter is to highlight the importance of relying on primary archival sources and the need for large-scale research projects that digitize the unearthed and under-studied data sources of the MENA region. There is a long-standing belief among researchers in Western academia that MENA is poor with respect to data. This is an unfounded belief. By and large, MENA possesses rich sources of data that are even on par with Western Europe and North America. Specifically, the chapter employs a wide range of novel data sources for Egypt (digitized by the author), including papyrological poll tax records in 641–1100, a dataset on occupations and religious affiliation constructed from the papyri in 641–969, a dataset on locations of Christian churches and monasteries in 1200 and 1500, and two nationally-representative individual-level samples from Egypt's population censuses of 1848 and 1868. It also employs the subsequent village-level population census reports in 1897–1986 (CEDEJ 2003), and individual-level samples of Egypt's population censuses of 1986, 1996, and 2006 (available on IPUMS-International).

The third and final objective of the chapter is to introduce the reader in the conclusion section, to future areas of research and other archival data sources that remain undigitized and that can potentially shed light, not only on the question of inter-religion SES inequality in the MENA region, but also on within-group inequality.

Copts' population share and the Coptic-Muslim SES gap

Descriptive statistics in 1800–2000

The proportion of non-Muslim minorities in the MENA region is a topic of heated and probably never-ending debate. In Egypt, the widely accepted figure of 10% is not based on any population census or household survey. In Lebanon, the last population census was conducted in 1932, due to the inter-religious tensions over the population share of each religious group.

In a similar vein, the socioeconomic superiority of the native non-Muslim minorities in the region in comparison to the Muslim majority has been long noted, albeit qualitatively, by various scholars including Tagher (1951), Issawi (1981), and Courbage and Fargues (1997). Copts, Maronites, Greek Orthodox and Catholic Levantines, Armenians, and Jews, all tend to outperform Muslims in educational and occupational attainment during the nineteenth and twentieth centuries. They tend to have better health outcomes and to have witnessed the mortality and fertility decline earlier than Muslims (Courbage and Fargues 1997).

Understanding the facts about this phenomenon: its existence, magnitude, causes, and how it was impacted by colonization and state-led modernization over the last two centuries, is of major interest. This is not driven by mere historical curiosity, but also because of its implications for today's economic and political problems. Religious affiliation is still among the major sources of social segmentation in the region. In many ways, it is similar to race in the Americas. It is an inherited social marker that individuals do not typically choose. Inter-religion tensions, often caused by conflict over economic resources, have recently resurfaced and have made the democratic transition following the uprisings in 2010–2011 challenging (along with the Sunni-Shiite division among Muslims).²

Yet, we lack comprehensive individual-level evidence on this phenomenon. What we have are historical narratives that tend to over-represent the urban elite of each religious group. We also have scattered statistics based on the published aggregate statistics in population census reports or statistical yearbooks that mostly come from the colonial/mandate period. Even the latter sources remain in their most part undigitized and under-studied. Saleh (2013) attempted to fill this gap in the literature by digitizing two nationally-representative individual-level samples of the Egyptian population censuses of 1848 and 1868, from the original Arabic manuscripts that are preserved at the National Archives of Egypt. These are the earliest precolonial modern population censuses in the MENA region. They include information on every household member, including females, children, and slaves, and not

² This is not to say though that socioeconomic inequality across religious groups is more salient than inequality within groups. In fact, intra-group inequality may well be much higher. However, inter-group inequality has been often used by the elites of each group to maintain their socioeconomic privileges vis-à-vis the masses. I come back to this point in the conclusion.

only adult free males as was the case with the Ottoman tax registers from the period.³ They are in fact two of the earliest precolonial population censuses from any non-Western country.

Using this source, Saleh (2015) documents the educational and occupational differences across religious groups in mid-nineteenth-century Egypt. Egypt was an autonomous Ottoman province at the time under the rule of Muhammad Ali Pasha (reigned from 1805 to 1848) and his successors. The two censuses come from the precolonial period before the British colonization of Egypt in 1882. About 7% of the population was non-Muslim; 94% of these were Coptic Christians, 4% were non-Coptic Christians who included Levantines, Greeks, and Armenians, and 2% were Jews, both Rabbinic and Karaite.

The population census samples reveal that school enrollment in 1848 was the highest among Jews, followed by non-Coptic Christians, Coptic Christians, and Muslims. The data also reveal that non-Muslims were over-represented among white-collar workers and artisans and under-represented among farmers and unskilled (non-farmer) workers. But there were important differences across non-Muslim minorities. Whereas non-Coptic Christians and Jews were entirely urban minorities, Copts were mostly rural. And while the occupational advantage of non-Coptic Christians and Jews over Muslims stemmed from their over-representation among merchants, moneychangers, and jewelers, Copts' occupational advantage stemmed from their over-representation in the fiscal bureaucracy, in both urban and rural Egypt, and in artisanship such as jewelers, carpenters, tailors, and weavers. If anything, Muslims were more likely than Copts to be merchants.

Saleh (2016) examines the urban quarter/village level data in the subsequent published population census reports for Egypt from 1897 to 1986. These data enable us to document the long-term evolution of the proportion of non-Muslims and of the inter-religious educational and occupational differences during the twentieth century.⁴ First, the proportion of non-Muslims increased slightly between 1897 and 1927, due to European immigration into Egypt, and then declined to reach 6% of the population in 2006, which is not very different from the proportion of non-Muslims in 1848. Second, examining the correlation at the quarter/village level between the proportion of non-Muslims and each of the male literacy rate (the proportion of the male population that is able to read and write), and the proportion of males who work in the non-agricultural sector, enables us to estimate the difference between non-Muslims and Muslims with respect to these outcomes.⁵ The data reveal that both the educational and occupational gaps between non-Muslims and Muslims declined during the second half of the twentieth century.

³ The earliest Ottoman population census was conducted in 1881–1892. It covered the Levant and Iraq within the MENA region, but not North Africa, which had already been under direct colonial rule (Egypt, Algeria, and Tunisia) by 1881. I do not know if Libya was enumerated in this census. The pre-nineteenth century Ottoman tax registers are from the sixteenth century and are at the village level.

⁴ The 1882, 1996, 2006, and 2017 population censuses do not report the religious composition at the urban quarter/village level, although the religious affiliation is available at the individual level in the IPUMS 10-percent individual-level samples for 1996 and 2006 (urban quarter/village of residence is not recorded though).

⁵ The urban quarter/village-level tabulations in the population census reports from 1897 to 1986 do not report literacy and occupational composition by religious group. They only report the religious composition and the proportion of the population that is literate (or works in a specific sector). Regressing these outcomes on the proportion of non-Muslims gives us an estimate of the inter-religious gap with respect to these outcomes.

A further piece of evidence comes from the 10-percent individual-level population census samples for 1986, 1996, and 2006. We are able to examine the differences in literacy, years of schooling, and in being in a white-collar occupation by cohort of birth and religious affiliation.⁶ Hence, we can trace the long-term evolution of the Christian-Muslim gap with respect to these outcomes among survivors in 1986, 1996, and 2006. This exercise reveals similar trends to those that we find in the urban quarter/village-level exercise. The literacy and years of schooling differentials went down among cohorts born in the second half of the twentieth century. The white-collar gap also declined. However, there is an interesting pattern here. While the proportion of white-collar workers was going up among both Christians and Muslims, it started to decline among the 1950s and 1960s cohorts of birth. This is likely because of the abolition in the 1980s of the employment guarantees in the government and public sectors for university and secondary schools graduates.

Descriptive statistics before 1800

A more daunting task is to trace the population share of non-Muslims, let alone, the inter-religious educational and occupational gap, before 1800. We know that non-Muslims constituted 100 percent of MENA's population before the Arab conquests of the region that started in 632. But we do not know the evolution of this share between 632 and 1848 for Egypt (or 1881–1892 for the Levant and Iraq). The reason is that there are no population censuses before 1848 in Egypt, and before 1881–1892 in the Ottoman Empire. The sixteenth-century Ottoman tax registers provide further data point on the religious composition of households at the village level in the Levant and Iraq. The aggregate statistics from this source reveal that non-Muslims were around 5-9% in Iraq and the Levant by 1600. The sixteenth-century Ottoman tax registers for Egypt are preserved at the National Archives of Egypt but have not been digitized yet.

To produce plausible estimates of MENA's religious composition during the millennium that elapsed between the Arab and the Ottoman conquests, we need to rely on other (non-census) sources. For Egypt, Saleh (2018) employs two medieval Coptic chronicles in 1200 and 1500 that list Christian churches and monasteries by location. They include both Coptic and non-Coptic ones. Using these lists, it is possible to estimate the proportion of villages that had at least one Christian church or monastery in 1200 and 1500, which can be used as an estimate of the proportion of non-Muslims under certain assumptions. The findings suggest that villages that had at least one Christian church or monastery were 16 percent of the total number of villages in 1200 and about 3 percent in 1500. This suggests that the majority of Copts' conversions to Islam happened between 641 and 1200.

Studying the Christian-Muslim occupational gap is more difficult because it requires having data on both religious affiliation and occupational title. The Arabic Papyrology Database (APD) offers some solution. Saleh (2018) collected all mentions of occupational

⁶ The 1986, 1996, and 2006 population census samples do not distinguish among Coptic and non-Coptic Christians. The proportion of the population who have "other" religious affiliation is negligible. This is because of Jewish exodus and deportation from Egypt in the aftermath of the 1956 Suez crisis and the 1967 Egyptian-Israeli war.

titles and names of workers in the papyri between 641 and 969 (date of the Fatimid conquest). I then inferred religious affiliation from names. This dataset reveals two findings. First, the Coptic-Muslim occupational gap first emerged between 641 and 969 and persisted through 1848 and 1868, as Copts are over-represented among white-collar workers and artisans and are under-represented among farmers and unskilled workers. Second, Copts were *not* a top political elite but rather an *apolitical (technocratic) middle class* in both rural and urban areas. The top white-collar jobs, such as high bureaucracy, judiciary, military, police, and (Muslim) clergy, were actually monopolized by Muslims by law. The source of Copts' occupational advantage over Muslims stemmed from their over-representation in the mid-low (fiscal) bureaucracy, such as scribes, tax collectors, accountants, and land surveyors, and in certain skilled artisanal jobs such as carpenters, jewelers, tailors, and weavers.

Does “Islam” explain why Muslims are worse off?

Why were non-Muslim minorities better off than the Muslim majority in the nineteenth and twentieth centuries, and even before? The first set of explanations traces the inter-religious SES inequality to Islam, either as a set of religious beliefs or as a set of institutions. If Muslims are poorer than non-Muslims, it is plausible that this is because Muslims endorse a specific set of beliefs about life that hinders economic success. Three beliefs generally stand out in the literature as being pro-economic success: (1) the work ethic, and related beliefs such as thrift and the view of wealth as God's reward to individuals for exerting effort, (2) individualism which facilitates the emergence of impersonal exchange, and (3) the salience of human capital formation. The work ethic explanation is due to Max Weber (1905), who traced Protestants' superior economic outcomes in Europe to their stronger work ethic in comparison to Catholics. Extrapolating his thesis to other regions, he argued that the latter were not conducive to capitalism. The individualist/collectivist cultural belief can be found in Greif (1994), who postulated that collectivist cultures, including Islam, were less conducive to the emergence of impersonal exchange and third-party contract enforcement. The human capital formation belief has been suggested by recent scholarship in the economics of religion literature. Botticini and Eckstein (2005) argued that the literacy requirement introduced by Rabbinic Judaism in the second century CE led to the conversion of Jews with a weaker taste for education out of Judaism, and thus to the shrinkage of Rabbinic Jews into a better-off and educated minority. Becker and Woessmann (2008) showed that Protestants were better off than Catholics in nineteenth-century Prussia, not because of their stronger work ethic, but rather because of Protestants' emphasis on literacy and the formation of human capital.

The second explanation of the under-development of Muslims traces the phenomenon to Islam, not as a set of beliefs, but rather as a set of institutions. The argument is that Islamic institutions subjected Muslims to certain constraints or rules that prevented them from economic growth, at least after a certain point in time. Lewis (2002)'s influential thesis on Islam and economic development traces MENA's under-development to the incompatibility between Islam and modernization, due to the inseparability of religion from the state in Islam, which (according to Lewis) dates from the prophet Muhammad's lifetime. The pioneering work of Timur Kuran offers a more nuanced institution-based explanation, where Islamic institutions may have been pro-economic growth in the pre-modern period but had hindered

the economic growth of the region in the modern period. Kuran (2004) traced the rise of non-Muslim minorities to the fact that they had access to European legal systems via the capitulations system, unlike Muslims who did not have this access and thus had to resort to Islamic courts.

I argue that both the cultural and institutional explanations do not account for the superior socioeconomic outcomes of Copts in Egypt. Starting with the cultural explanation, it is widely accepted that Coptic Christianity, as a set of beliefs, does not put a particular emphasis on work ethic, individualism, or the formation of human capital, in comparison to Islam. First, Copts actually share with Egyptian Muslims (who were mostly Sufi Sunnis up to the mid-twentieth century) a mystic outlook on life that attributes materialistic success to metaphysical factors rather than to effort. The salience of saints and martyrs in popular Coptic Christianity resembles the salience of Sufi saints among Egyptian Muslims, and in fact many of the festivals of Coptic and Muslim saints are attended by both Muslims and Copts, especially in rural Egypt. Second, family values and collectivism are arguably equally salient among Copts. Third, the Coptic Church does not make any particular emphasis on literacy or human capital formation. Unlike non-Coptic Christians, such as Armenians, Greeks, Jews, and Levantines, who are urban and educated minorities and are thus over-studied in the literature, Copts are mostly rural and less educated. In particular, despite Copts' superior educational level than Muslims, illiteracy remains sizable among Copts, reaching 21% of Coptic males in 2006.

The institutional interpretation is not capable either of explaining why Copts are better off than Muslims for two reasons. First, Copts' superior occupational status long predates the rise of Europe. As I showed in the previous section, papyrological evidence suggests that the occupational gap between Copts and Muslims emerged between 641 and 969. Second, I attempt to test Kuran (2004)'s explanation that traces non-Muslims' advantage to their access to European legal systems. The 1848 and 1868 population census samples indicate that among non-Muslims, only Jews and non-Coptic Christians had a relatively sizable proportion of "protégés", those who purchased access to European consulates' courts. Copts and Muslims had essentially no protégés. Moreover, the proportion of protégés among non-Coptic Christians and Jews is low, between 10 and 20 percent, and cannot on its own explain their economic advantage over Muslims. The reason for this difference in protégés across non-Muslim minorities is likely driven by their occupational differences. While non-Coptic Christians and Jews were over-represented among merchants, where European law mattered to resolve conflicts with European traders, Copts' advantage stemmed from artisanship and mid-low fiscal bureaucracy, where European law played less of a role.

This is not to say though that the cultural and institutional explanations of why Muslims fell behind non-Muslims are not consistent with *any* empirical fact about non-Muslim minorities in the MENA region. It is only to say that both explanations do not appear to explain the Coptic-Muslim SES difference in Egypt. However, Kuran (2004)'s hypothesis may explain why certain Jews and non-Coptic Christians in Egypt were better off than both Copts and Muslims. But even for non-Coptic Christians and Jews, we need to collect data on

the pre-1800 period in order to understand how their SES advantage evolved both before and after the emergence of the capitulations system.

Does colonization explain why Muslims are worse off?

The second set of explanations trace the SES superiority of non-Muslim minorities to colonization. European powers favored non-Muslims whether during the “indirect colonization” episode under the Ottoman Empire or under the direct colonization/mandate episodes in the late nineteenth century and the first half of the twentieth centuries (Issawi 1981). One version of this theory overlaps with Kuran (2004)’s institution-based explanation that I outlined above. It postulates that the capitulations system favored non-Muslims because they were able to purchase access to European consulates’ court system, but Muslims were not.

Given that the Coptic-Muslim SES gap emerged long before colonization, this explanation does not fully account for the gap that we observe in the nineteenth and twentieth centuries. However, this is not to say that colonization did not have any effect, but that we rather need to be specific on what is meant by colonization, which is in fact a large bundle of institutions and policies. For example, one aspect of colonization is the rise of European schools, whether missionary or secular. The 1848 and 1868 population census data reveal that non-Muslim children in Egypt were more likely to enroll in school than Muslim children in 1848. Almost all students (Muslims and non-Muslims) were enrolled in religious traditional schools, with a tiny proportion of Muslim students enrolled in public modern schools, which were established by Muhammad Ali Pasha starting from 1818 (non-Muslim students were not allowed though to enter public modern schools until 1873). However, non-Muslim students significantly shifted from religious schools to modern private schools in the subsequent decades: In 1868, 40 percent of non-Muslim students were enrolled in modern private schools, in comparison to only 4 percent among Muslim students who were enrolled in public modern schools. But contrary to the colonialism explanation, these modern private schools were not only European, let alone missionary, schools. In fact, Egyptian non-Muslim minorities started to respond to European missionary and secular schools by establishing their own communal (private) modern schools, and this response was faster than that of the Muslim community. The school censuses in 1906/07–1951/52 reveal that most Muslim students continued to rely on religious schools until 1951, whereas most non-Muslim students in 1951 were enrolled in modern schools, both public and private, European and native. Hence, while European schools may have indeed contributed to increasing the educational gap between non-Muslims and Muslims between 1848 and 1951, the full effect of modern schools was not only due to European schools but also included the (under-studied) private native schools.

Colonization and the role of the local institutions

The colonization explanation implicitly presumes that colonization emerged within a vacuum and typically underestimates the effect of the precolonial local institutions or the local institutions that emerged (or evolved) in response to colonization. First, non-Muslim religious schools were of better quality than those of Muslims long before colonization. Coptic and

Jewish schools in Egypt taught arithmetic and geometry to students, whereas Muslim schools lacked this training. Second, as I indicated above, modern private schools that enrolled non-Muslim students in Egypt were not only European schools. Copts, Jews, and non-Coptic Christians responded to European schools by establishing their own modern schools.

The role of the local state between 1800 and independence in the post-WWII period is typically absent in the colonization explanation. In Egypt, Muhammad Ali and his successors embarked on an ambitious, yet coercive, program of state-led modernization that spanned agriculture, education, manufacturing, and the military, long before the British colonization in 1882. Saleh (2015) examines the impact of state industrialization in 1816–1868 on the Christian-Muslim occupational difference. The paper finds that while the first wave of state industrialization in 1816–1848, which focused on textiles, was upskilling among Christians, it was deskilling among Muslims. The second wave in 1848–1882, which focused on transportation, was upskilling among both groups. Both waves of state industrialization did not reduce the Christian-Muslim occupational gap that we observe in the traditional sector. The reason is that, state manufacturing and transportation firms in both waves hired people based on their preexisting skills that they acquired from the traditional sector. State firms did not train (Muslim or Christian) workers to improve their occupational status, though.

In a similar vein, the role of the post-colonial state is important to examine. In the schooling domain, Egypt's post-colonial expansion of public mass modern education in 1951–1953 contributed to the decline of the Christian-Muslim educational and occupational differences in the second half of the twentieth century (Saleh 2016).

Taxation and the self-selection of converts on SES

The two explanations that I discussed above implicitly assume that “Muslims” and “non-Muslims” are exogenously formed groups that are fixed over time. This is not valid historically, though. While in today's world, religious affiliation is mostly inherited (although non-Muslims have the choice of converting to Islam), this was not the case historically. Any religious group is, by definition, formed via the conversion of an initial population to that religion. MENA's local populations were entirely non-Muslims in the early seventh century: mostly Christian with a small Jewish minority. Over the centuries that followed the Arab conquests, MENA was Islamized, meaning that a majority of its local population became Muslim. This process can be due to either conversion of the local population to Islam or to Arab immigration from the Arab peninsula into other parts of MENA.⁷ Historical evidence suggests though that Islamization was driven by voluntary conversion of the local population to Islam. The reason is that Arab immigration was small in comparison to the local populations of MENA. The full population of the Arab peninsula was much smaller than that

⁷ Other demographic processes that can drive Islamization are mortality and fertility differences between Muslims and non-Muslims and inter-marriage between Muslim males and non-Muslim females (opposite scenario is prohibited under Islamic law). Demographic evidence from the 1848 and 1868 censuses suggests that there were no statistically significant mortality and fertility differences between Copts and Muslims. Inter-marriage (without prior conversion of one of the partners) was extremely rare.

of the Levant, Iraq, and Egypt. Within these territories, Arab immigrants were not a sizable proportion.

Saleh (2018) argues that the Coptic-Muslim socioeconomic gap can be partially attributed to the tax system that was imposed upon the Arab conquest of the then-Coptic Christian Egypt in 641 CE and that was enforced until 1856. Arabs imposed a discriminatory poll tax (*jizya*) on adult non-Muslim males, a tax that was removed upon an individual's conversion to Islam. Due to the (quasi) lump-sum feature of the poll tax,⁸ the incentive to convert to Islam was likely stronger among poorer Copts holding other factors (notably, Coptic religiosity) constant. The paper thus documents that the poll tax led to the conversion of poorer Copts to Islam (who since then became Egypt's "Muslims") and to the consequent shrinkage of non-convert Copts into a better-off minority.

The empirical evidence on this hypothesis is based on exploiting the local variation in the poll tax rate. A simple model in which a Coptic Christian chooses whether to convert or not by comparing the (psychological) cost of conversion to the lump-sum poll tax predicts that poorer Copts are more likely to convert at a given level of religiosity, and that less religious Copts are more likely to convert at a given level of income.⁹ It thus follows (unsurprisingly) that the proportion of non-convert Copts is decreasing in the poll tax rate. It also follows that the magnitude of the Coptic-Muslim average (before-tax) income gap is increasing in the poll tax rate.¹⁰ Put differently, high-poll-tax areas are expected to have relatively fewer non-convert Copts but a greater Coptic-Muslim income gap.

Constructing a novel dataset from papyrological poll tax registers and receipts in Egypt in 641–1100, Saleh (2018) first documents that Egypt's high-poll-tax districts in 641–1100 were less likely to have any Coptic churches or monasteries in 1200. Given that all districts were 100% Copt in 641, this finding suggests that these areas witnessed relatively more conversions to Islam among Copts between 641 and 1100. Second, these districts had a larger Coptic-Muslim occupational gap in the 1848 and 1868 population census samples, which are the earliest data sources with *localized* individual-level data on both religious affiliation and occupational titles. Specifically, while Copts in all districts were more likely than Muslims to be white-collar workers and artisans and less likely to be farmers and

⁸ Following the emergence of Islamic jurisprudence circa 750 CE, the poll tax was imposed in three brackets: 1 dinar on the poor, 2 dinars on the middle income, and 4 dinars on the rich. Despite this variation, the poll tax was regressive in income.

⁹ The model predicts that the poorest non-convert will be richer than the richest convert, at a given level of religiosity. This prediction does not hold, though, if religiosity varies in the population. In particular, the model allows for poor Copts who do not convert because of their high religiosity, and for rich Copts who convert because of their low religiosity. The model generates though the prediction that non-converts are richer, on average, than converts, which is the main empirical fact that the paper is interested in. Importantly, rich Copts may have converted to Islam for non-tax reasons (say to access high bureaucracy). However, their population share was presumably not large enough in order to offset non-converts' SES privilege over converts.

¹⁰ The latter result is not trivial. As the poll tax rate rises, the proportion of non-convert Copts will go down. Non-converts will be richer on average as they lose their poorest members. The same holds for converts, though, who will be richer on average as they gain new converts who are richer than any previous convert. Hence, the Coptic-Muslim income gap may go up or down depending on the shape of the income distribution. It is increasing in the poll tax rate if the density of income is everywhere decreasing.

unskilled non-agricultural workers, the Coptic-Muslim occupational gap was greater in high-poll-tax districts.

This theory emphasizes the endogenous process of the historical formation of religious groups that may be characterized by (self-)selection on SES. A deeper understanding of the inter-religious SES differences in the MENA region thus arguably requires studying how non-Muslim groups were formed (and evolved) historically. This stands in contrast to the existing literature on non-Muslim minorities in MENA which treats Copts, Armenians, Greeks, Jews, and Levantines as exogenously formed groups that do not change over time (except via migration). In this regard, self-selection of converts is also implied by Boticinni and Eckstein (2005)'s hypothesis about Rabbinic Jews' higher SES status: Rabbinic Jews with a weaker taste for education convert out of Judaism (and thus lose their Jewish identity), whereas those with a stronger educational taste continue to hold the group's identity.

Persistence of the Coptic-Muslim socioeconomic gap¹¹

The empirical evidence in Saleh (2018) suggests that non-convert Copts shrank into a minority by 1200 and that the initial positive selection of non-converts emerged in 641–969 and persisted through 1868. The persistence of the Coptic-Muslim SES gap for over a millennium poses a theoretical dilemma, though. Economic models of intergenerational mobility trace the correlation between parent's and child's outcomes to the parental investment in child's human capital (nurture) and the inheritance of biological and cultural traits (nature). These models typically predict that dynasties eventually regress to the mean after a few generations, even at high rates (<1) of intergenerational persistence (Becker and Tomes 1979). To be sure, since the poll tax was enforced from 641 to 1856, persistence can be possibly explained by repeated (negatively) selected conversion waves, even in the absence of poll tax rises, due to idiosyncratic shocks to SES and religiosity. Indeed, Copts' population share declined, albeit slowly, between 1200 and 1868, and so it is plausible that selected conversion on SES continued throughout the whole period leading the SES gap to perpetuate. Yet, this explanation fails to account for why non-convert Copts did not vanish. An additional mechanism, besides intergenerational transmission of SES within dynasties, is thus needed to explain not only the persistence of the gap but also the survival of non-convert Copts.

Saleh (2018) explains both the persistence of the Coptic-Muslim SES gap and the survival of Copts by group effects on children's SES. Group effects operated through allowing, or rather blocking, children's human capital accumulation via group's control over apprenticeships and schooling. In medieval Egypt, white-collar and artisanal occupations required learning occupation-specific skills from a young age. As human capital was job-specific, it was acquired primarily via apprenticeships, and to a lesser extent, schooling. The supply of both apprenticeships and schooling was mostly restricted though to the social networks of white-collar workers and artisans. For one, obtaining an apprenticeship, the gateway to most artisanal and white-collar occupations, required the approval of a master in a specific occupation. Masters were more likely to admit their family members and

¹¹ This section is taken from Saleh (2018, pp. 419–424).

acquaintances. For another, school enrollment that provided training for white-collar jobs (that had to be later augmented by apprenticeships), was limited to social networks of workers in these jobs. Conversions of Copts to Islam between 641 and 1200 arguably redefined social networks along religious lines. As conversions sorted Copts and Muslims on occupations, each group then attempted to exclude the other from apprenticeships and schooling that would qualify a child to the white-collar and artisanal jobs in which the group was over-represented. Put differently, a child's occupational attainment depended on two factors: intergenerational transmission of SES via both nature and nurture, and family's religious group.

This mechanism is supported by historical evidence. Copts restricted access to skills that were required for jobs in the mid-low bureaucracy. While Coptic elementary schools taught arithmetic and geometry in order to train Coptic children for jobs in the mid-low bureaucracy, Muslim schools failed to provide this training (Heyworth-Dunne 1938, pp. 2–7, 84–92). However, it was primarily apprenticeships, not schools, that trained Coptic children for bureaucratic jobs. In Fatimid Egypt (969–1171), “the persistence of Coptic administrative personnel [was because] the agrarian administration was very complex and not easily mastered. In it the Copts played an important role at the local level as well as at the central offices in the capital. . . The administrative knowledge was passed on by the officials in their families when fathers employed their sons, thus maintaining the hold of the family over posts,” (Samir 1996, p. 190). In the words of Lord Cromer, the British consul of Egypt in 1883–1908, the Coptic accounting system was “archaic” and “incomprehensible to anyone but themselves” (Tagher 1951, p. 213). Copts used fractions and “ambiguous abbreviations” in accounting based on units of measurement in use in rural Egypt. Group effects on acquiring human capital were not limited to Copts in the mid-low bureaucracy, though. Copts were legally banned from the judiciary, military, police, and Muslim clergy, and these jobs were thus monopolized by Muslims. Muslims were banned from brewing that became a Coptic specialization. The 1848 and 1868 censuses reveal that Copts were over-represented among jewelers, dyers, carpenters, weavers, and tailors, whereas Muslims were over-represented among blacksmiths, sawyers, bakers, and butchers. Raymond (1973, pp. 544–51) suggests that the reason for the persistence of this occupational specialization was restricting apprenticeships to group members. The Coptic-Muslim occupational gap may have increased in the late nineteenth century with the expansion of modern (European and private non-Muslim) schools, it later declined in the late twentieth century with the expansion of public mass modern education in 1951–1953 that relaxed each group's restrictions on access to skills (Saleh 2016).

Conclusion

This chapter examined a well-known phenomenon in the MENA region: the superior SES of its native non-Muslim minorities, in comparison to the Muslim majority, both historically and today. Employing a wide range of novel data sources, I argue that the Coptic-Muslim SES gap in Egypt is not driven by a negative causal impact on Muslims' SES of Islamic beliefs, Islamic institutions, or colonization. Instead, I trace the phenomenon to the Islamic tax system, which arguably provided stronger pecuniary incentive among poorer Copts to convert

to Islam, leading to the shrinkage of non-convert Copts into a better-off minority. The Coptic-Muslim SES gap then persisted because of group restrictions on skill formation.

The chapter opens new and exciting areas of research. First, there is a question of the external validity of the tax-induced conversion argument beyond the case of Coptic Christians in Egypt to other non-Muslim minorities of the region and beyond. There are two remarks to make here: (1) The poll tax was not limited to Egypt. It was introduced in all the conquered territories of the Arab Caliphate including Iran and India, and subsequently, in all Muslim-ruled territories up to the nineteenth century. It is thus important to investigate its effect on the historical formation of other non-Muslim minorities (e.g., when and why did Christians shrink into a minority in Lebanon, why did certain Hindus and Zoroastrians convert to Islam, and why was Christianity but not Judaism wiped out from North Africa, west of Egypt?). (2) When evaluating the Islam-based and colonization-based theories, it is important to examine each historical context in depth, allowing for potentially context-specific conclusions. For example, MENA countries went through different forms of colonization. French colonization of Algeria and Tunisia was probably different from the mandate colonization of Syria and Lebanon during the interwar period. Egypt had been an autonomous Ottoman province since the early 1800s, and its British colonization was primarily focused on controlling the Suez Canal. Capitulations may have also had different, potentially larger, effects on non-Coptic Christians and Jews in Egypt and elsewhere.

Second, and relatedly, studying this topic requires measuring the long-term trends of the religious composition and of the socioeconomic advantage of other native non-Muslim minorities in MENA, both before and after 1800. A promising future area of research is to expand the descriptive analysis to non-Muslim minorities in other MENA countries with sizable non-Muslim populations during the nineteenth and twentieth centuries. This includes Syria, Palestine, Israel, Jordan, Lebanon, Iraq, Algeria, and Tunisia. We know that Christians and Jews in these countries were all better off than Muslims (Courbage and Fargues 1997). The individual-level (or at least sub-country level) data sources that can be used to quantify this argument for the Levant and Iraq are the Ottoman population censuses of 1881–1892 and 1914. Later statistics for the Levant and Iraq include the French mandate statistical yearbooks and population censuses for Syria and Lebanon, and the British mandate statistics for Iraq, Jordan, and Palestine. Sources for Tunisia and Algeria include the French colonization statistical yearbooks and population censuses.¹² Finally, the national population censuses and statistical yearbooks are available for the post-colonial period for most MENA countries.

Third, while this chapter focused on SES inequality across religious groups, within-group inequality is an important area of future research. While inter-group inequality typically receives more attention in the public debate, probably because of the salience of inter-religious tensions, it is not obvious if its contribution to overall inequality actually exceeds

¹² I exclude Morocco because I was not able to locate its pre-independence statistics. Morocco was not under Ottoman rule. It fell under French/Spanish joint rule in 1912, but I am not aware of French/Spanish population statistics for Morocco between 1912 and its independence in 1956. To the best of my knowledge, Italian statistics for Libya did not enumerate the local population. The Arab peninsula did not have a sizable non-Muslim population, perhaps with the exception of Yemen.

that of within-group inequality. It is thus important to evaluate the relative weight of inter-group and within-group inequality in overall inequality.

Fourth, this chapter examined educational and occupational inequality across Muslims and Copts. Yet, there are other important outcomes that are worth studying. For example, income and wealth inequality are of utmost significance, both across and within groups, although they are more challenging to study. In Egypt, data on earnings are only available for the most recent period (1988–2012) and even then, do not record religious affiliation. Data sources on wealth are primarily the agricultural and real estate tax registers (cadasters) that extend from 1813 to the present day but are challenging to digitize and require a collaborative data collection effort. Equivalent cadastral data for the Levant and Iraq are available from the sixteenth and nineteenth Ottoman tax registers in the pre-colonial period, the British and French cadasters during the mandate period, and the national cadasters in the post-colonial period. French cadasters for Algeria and Tunisia are important to investigate. Another example is health outcomes which can be observed in the Demographic and Health Surveys, such as the female genital cutting practice which went down faster among Copts than among Muslims during the second half of the twentieth century (Blaydes and Platas forthcoming).

Fifth, the chapter examined two colonization institutions or policies: capitulations and schooling. A more complete examination of the impact of colonization is an exciting area for future research, though. This research agenda must study one colonial institution or policy at a time and examine in depth how it interacted with local institutions, both in the pre-colonial period and during colonization.

Finally, the analysis focused on outcomes of men. This is justified because enumeration of women's schooling and employment was extremely low in the pre-1900 population censuses. However, women's outcomes improved drastically during the twentieth century and it is an exciting area of research to examine how the evolution of women's outcomes may have varied across religious groups in the MENA region.

Bibliography

Becker, G. S. and N. Tomes. "An Equilibrium Theory of the Distribution of Income and Intergenerational Mobility." *Journal of Political Economy* 87.6 (1979), 1153–1189.

Becker, S. O. and L. Woessmann. "Was Weber Wrong? A Human Capital Theory of Protestant Economic History." *Quarterly Journal of Economics* 124.2 (2009), 531–596.

Blaydes, L. and M. R. Platas. "Religion, Patriarchy, and the Perpetuation of Harmful Social Conventions: Explaining Women's Attitudes toward Female Genital Cutting in Egypt." *Journal of Demographic Economics*, forthcoming.

Botticini, M. and Z. Eckstein. "Jewish Occupational Selection: Education, Restrictions, or Minorities." *Journal of Economic History* 65.4 (2005).

Centre d'Études et de Documentation Économiques, Juridiques, et Sociales (CEDEJ). *Century Census CD-ROM: Egypt 1882–1996*, Cairo: CEDEJ, 2003.

Courbage, Y. and P. Fargues. *Christians and Jews under Islam*. J. Mabro (Tr.). London-New York: I. B. Tauris Publishers, 1997.

Greif, A. "Cultural Beliefs and the Organization of Society: A Historical and Theoretical Reflection on Collectivist and Individualist Societies." *Journal of Political Economy* 102.5 (1994): 912-950.

Heyworth-Dunne, J. *An Introduction to the History of Education in Modern Egypt*. London: Luzac & Co., 1938.

Issawi, C. "The Transformation of the Position of the Millets in the Nineteenth Century." In *The Arab World's Legacy*, C. Issawi (Author) (Princeton: The Darwin Press, 1981).

Kuran, T. "The Economic Ascent of the Middle East's Religious Minorities: The Role of Islamic Legal Pluralism." *Journal of Legal Studies* 33 (2004), 475–515.

Lewis, B. *What went wrong?: Western Impact and Middle Eastern Response*. Oxford University Press, 2002.

Raymond, A. *Artisans et Commerçants au Caire au XVIIIe Siècle*. Damascus: Institut Français de Damas, 1973.

Saleh, M. "A Pre-Colonial Population Brought to Light: Digitization of the Nineteenth-Century Egyptian Censuses." *Historical Methods: A Journal of Quantitative and Interdisciplinary History* 46.1 (2013), 5–18.

_____. "The Reluctant Transformation: State Industrialization, Religion, and Human Capital in Nineteenth-Century Egypt." *Journal of Economic History* 75.1 (2015), 65–94.

_____. "Public Mass Modern Education, Religion, and Human Capital in Twentieth-Century Egypt." *Journal of Economic History* 76.3 (2016), 697–735.

_____. "On the Road to Heaven: Taxation, Conversions, and the Coptic-Muslim Socioeconomic Gap in Medieval Egypt." *Journal of Economic History* 78.2 (2018), 394–434.

Samir, S. K. "The Role of Christians in the Fatimid Government Services of Egypt to the Reign of Al-Hafiz." *Medieval Encounters*, 2.3 (1996), 177–199.

Tagher, J. *Christians in Muslim Egypt: A Historical Study of the Relations between Copts and Muslims from 640 to 1922*. Altenberge: Oros Verlage, 1998 [1951].

Weber, M. *The Protestant Ethic and the Spirit of Capitalism*. Talcott Parsons (Tr.). New York: Charles Scribner's Sons; London: George Allen & Unwin Ltd., 1930 [1905].